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The Hobart Cat Centre
The RSPCA
The Tasmanian Farmers and Graziers Association
The Tasmanian Conservation Trust
The Australian Vets Association
The Cat Association of Tasmania
Landcare Tasmania
Local Government Association of Tasmania
Tasmanian Natural Resource Management Regional bodies (represented by NRM South)
University of Tasmania

In addition to the Reference Group members a number of individuals with expertise in particular areas were also invited to participate in working groups to look at the issues related to socialised cats and feral cats – The contributions from Nick Mooney, Eric Woehler (Birds Tasmania), John Toohey (Clarence City Council), Kaylene Allan (Kingborough Council), Brian Baxter (Landcare Tasmania), Bruce Jackson (DPIPWE), Sue Robinson (DPIPWE) and Danielle Madden-Hallett on the working groups and the members of the Reference Group is greatly appreciated. Thanks also to Jack Davey who wrote much of the information on cat-borne diseases as part of a study placement to DPIPWE from the Charles Sturt University.
1. INTRODUCTION

Cats are an integral part of Tasmanian society but the role they play is a complex one. This one species can be many things to different people, including much-loved pets valued for enjoyment and companionship; useful animals that control rats and other vermin; nuisance animals that annoy neighbours, and invasive animals that spread disease and impact on native wildlife and agriculture. The polarised view of cats in the community makes cat management a difficult and often emotive issue.

Despite cats being in Tasmania for approximately 200 years, the depth of understanding of the role cats play as a predator and competitor with other species, native and introduced to Tasmania, is not strong. This limits the effectiveness of attempts to manage many cat-related issues.

In Tasmania initiatives to improve awareness about the issues associated with the ownership and management of cats have been underway through a range of public awareness programs. This includes use of television media, published information and web-based information. Some councils, vets and volunteer organisations have supported discounted and free microchipping events for cat owners. However, there is still much to do, especially in increasing levels of responsible ownership of cats and in defining roles and responsibilities.

State and Local Government are the two tiers of Government that can support regulatory actions related to the management of cats. State Government has a role administering the Cat Management Act 2009, but Local Government is able to appoint authorised officers under the Act and can create by-laws covering cats. However, the roles and responsibilities for State and Local Government in relation to cat management are not clear and need to be better clarified.

Non-government organisations such as the RSPCA and the Hobart Cat Centre play a central role in managing unwanted and stray cats. Not only do both organisations play a role in finding new owners for unwanted animals, they also play a crucial role in educating people about their responsibilities as pet owners.

There are gaps in our knowledge of the actual impacts of cats, especially that of stray and feral cats. Understanding how cats behave and respond to the presence of prey and other predators (including other cats) is integral to designing effective programs to protect vulnerable species and control feral cats. The approach to improving the way in which we manage cats in Tasmania and addressing the gaps in knowledge is intended to be collaborative with the aim of bringing the community, different levels of Government, industry and research institutions together.
Nationally, the Australian Government has published the *Threat Abatement Plan for Predation by Feral Cats* (Department of Environment 2015a). This plan establishes a national framework to guide and coordinate Australia’s response to the impacts of feral cats on biodiversity. This plan identifies a range of actions, including research needs, that are required to help ensure the long-term survival of native species and ecological communities that are being impacted upon by feral cat predation. Supporting this plan is the *Background Document for the Threat Abatement Plan for the Predation by Feral Cats* (Department of Environment 2015b). The background document contains information on feral cat characteristics, biology and distribution; impacts on environmental, social and cultural values; and current management practices and measures. The *Threat Abatement Plan* is linked closely to the Australian Government’s *Threatened Species Strategy* (Department of Environment 2015c).

The *Draft Tasmanian Cat Management Plan* and this supporting *Background Paper* describe how the management of cats in Tasmania should occur. They have been prepared with extensive consultation and input from a range of stakeholders, including recommendations provided to the DPIPWE from the Tasmanian Cat Management Reference Group, and addresses the management of feral (wild) and domestic cats.
2. OVERVIEW and SCOPE

This Paper provides background to the management and impacts of cats in Tasmania and supports the objectives and recommendations of the Draft Tasmanian Cat Management Plan. That draft plan aims to increase the levels of responsible ownership, clarify roles and responsibilities, improve our knowledge and understanding of various aspects of cats, and improve the effectiveness of legislation.

The Draft Tasmanian Cat Management Plan is built around seven objectives, although a number of the issues identified in this plan cross multiple objectives. The draft plan’s objectives are summarised below:

Objective 1: Encouraging responsible ownership of pet cats
Objective 2: Promoting best practice techniques to guide the planning, management and control of stray and feral cats
Objective 3: Increasing community awareness and involvement
Objective 4: Improving the knowledge about feral cats to better inform management
Objective 5: Minimise impacts of cats in areas of high conservation value and agricultural assets
Objective 6: Undertake legislative amendments to facilitate and support other objectives
Objective 7: Clarify roles and responsibility of Local Government and State Government regarding cat management

Categories of cats

It is important for public debate that it is recognised that all cats in Tasmania are the same species (*Felis catus*) and the categorisation of domestic, stray and feral are labels of convenience. The categories and definitions used in this Background Paper are:

- **Feral cats** are those that live and reproduce in the wild, largely or entirely removed from humans, and survive by hunting or scavenging; none of their needs are satisfied intentionally by humans.

- **Stray cats** are those found in and around cities, towns and rural properties; they may depend on some resources provided by humans but have no identifiable owner.

- **Domestic cats** are those which are identifiable as owned; most of their needs are supplied by their owners. They may roam beyond their owner’s property, including into bush and park land, but they spend most of their time with a specific person/family/property.
3. **CAT MANAGEMENT in TASMANIA – CURRENT SITUATION**

As a species that is both a widespread introduced pest and a much loved companion animal, cats play a complex role in the Tasmanian community. This one species fulfils numerous roles including valued pets; useful animals that control rats and other vermin; nuisance animals that annoy neighbours, and invasive animals that spread disease and impact on native wildlife and agriculture. The formal management structures around cats reflect these contradictory roles.

In July 2012 the *Cat Management Act 2009* was proclaimed, along with the *Cat Management Regulations 2012*, with the aim of achieving the following objectives:

- promote the welfare and responsible ownership of cats;
- provide for the effective management of cats, allowing for the humane handling and management of unidentified, stray and feral cats; and
- reduce the negative effects of cats on the environment.

The Department of Primary Industries, Parks, Water and Environment (DPIPWE), has primary responsibility for administration of the legislation, but the legislation also provides for the involvement of Local Government through the appointment of authorised officers (under this Act or under the *Dog Control Act 2000*) and the ability to make by-laws under the *Local Government Act 1993*. Currently Latrobe Council is the only Local Government area to establish cat management by-laws, but a number of other councils are currently exploring their options. Some councils have or are in the process of establishing prohibited areas on land they manage. This will give councils the capacity to trap and seize stray and feral cats.

The legislation identifies the RSPCA and Hobart Cat Centre as cat management facilities and details their management responsibilities, including the management of seized, unclaimed and surrendered cats. These two organisations bear the majority of the daily cat management responsibility and are usually the first contact for cat management in Tasmania.

Community groups and councils have initiated a number of cat management projects in recent years. Kingborough Council, in partnership with the Tasmanian Conservation Trust has hosted a Cat Management Officer. That initiative has delivered several valuable outcomes including: a responsible cat ownership awareness campaign focusing on microchipping; desexing and confining cats to their owner’s property; community attitudes survey; and projects to reduce the impacts of cats on the environment (Boronia Reserve and Bruny Island).
Community feral cat trapping programs have been undertaken in a number of areas around the State including the Upper reaches of the Meander Catchment and in the Weymouth and Bellingham areas of the north-east. Tamar NRM has been active in promoting the problems caused by feral cats by sponsoring a number of forums on feral cat management and control.

In recent times there has also been significant amount of research undertaken into the impacts of feral cats on native fauna, feral cat behaviour and feral cats and the spread of toxoplasmosis. This research has provided us with important insight into how feral cats behave across different landscapes and how that might influence the success or failure of control and trapping programs. Nonetheless, further research is required to address a variety of cat-management related issues.

### 3.1 Owned Cats

Australia has one of the highest rates of pet ownership in the world, and cats are the second most common pets with 29% of households owning a cat (Animal Health Alliance 2013). This equates to 15 in every 100 people in Australia having a cat. In Tasmania, it is estimated that 34% of households own a cat, the highest rate in Australia (Roy Morgan Research 2014). This highlights the fact that cats play an important role in the social fabric of Tasmanians.

This relationship between cats and people, as with other companion animals, is complex and often conflicting. Cats provide companionship for their owners and are valued as animals that will also help control rats and mice. However, cats are also inherent wanderers and their agility allows them to move easily between different properties. Cats that roam can be a nuisance and the cause of conflict between neighbours. They can bother and even attack other people’s pets, including other cats; defecate in other properties; risk spreading diseases such as toxoplasmosis; and kill native wildlife.

Cats that roam persistently effectively become stray cats and may be fed by and/or even live with multiple owners. Stray cats, as opposed to feral cats, remain at least partly habituated to humans but can be found hunting in adjoining bush and reserve areas where they kill native wildlife and contribute to the spread of various cat-borne diseases.

#### 3.1.1 Principals of responsible ownership

A key objective of improving the way in which cats are managed in Tasmania is to ensure that cat ownership occurs in a responsible manner. It is important that people who choose to own a cat understand what their responsibilities are. The notion of being “responsible” relates to many different aspects of owning cats. It includes being responsible for what your
a cat does, including impacts on wildlife and the nuisance it may cause to other people and their properties. Being responsible also includes the health and wellbeing of the cat. Cats that are allowed to wander may not only create a nuisance but are also at risk of being injured by vehicles or other animals, of contracting diseases or becoming pregnant. Desexing helps prevent unwanted pregnancies and microchipping ensures a lost animal can be returned to its owner. By providing a safe environment within the property and confining the cat so it doesn’t wander helps protect the animal’s well-being.

### 3.1.2 Cats kept for breeding purposes

An important aspect of cat ownership relates to cats that are kept for breeding. Breeding of cats occurs for a range of reasons – personal ownership of particular breed types; showing of cats; and commercial breeding for sale. In Tasmania, breeders of cats are required to be registered, and this can occur either through the recognised breeder associations or with the Department of Primary Industries, Parks, Water and the Environment (DPIPWE). The breeder associations play a different role to that of DPIPWE in terms of the requirements for registration and the type of breeders registered. The breeder associations have a strong focus on protecting the integrity of breeds and encouraging responsible ownership, whereas DPIPWE’s focus is more towards preventing uncontrolled breeding of cats and the risk of un-desexed and non-microchipped cats being sold. For those who wish to breed non-pedigree cats, the opportunities outside of the DPIPWE registration process are more limited, especially if the breeder believes the formal cat breeder associations are not appropriate to their needs.

The breeder associations operate under a constitution with a code of ethics and a defined set of rules and regulations. The associations have the power to cancel the membership of any member who breaches the code of ethics or rules and regulations. Whilst the DPIPWE can de-register breeders it has registered, it has no power to de-register those breeders registered with a cat association.

In the interests of encouraging responsible cat ownership, there is a need for a clearer framework to be established for the registration of breeders that covers non-pedigree breeding and reduces the level of uncontrolled cat breeding.

### 3.1.3 Animal welfare

The *Cat Management Act* requires that cats be treated humanely whenever they are the subject of cat management actions. These actions include the trapping, seizing and humane destruction of cats. Currently cats can be trapped and/or euthanased when found on properties involved in livestock grazing for primary production, or are more than one
kilometer from the nearest residence, or are found on prohibited land. The destruction of an animal must occur quickly and without causing the cat undue suffering.

The welfare of a cat is also protected through the *Animal Welfare Act 1993* – Part 2 of this Act covers the welfare of animals including duty of care, management of animals, cruelty and the use of traps.

### 3.2 Feral Cats

#### 3.2.1 Introduction

Cats were introduced to Tasmania in 1804 (Abbott 2008) and by the 1840s were reported as ‘feral in some parts of the Colony’ (Breton 1846). Records of predation by cats on native animals were first made in the 1840s and 1850s (Abbott 2008). Recent genetics studies (e.g. Spencer *et al.* 2015) have determined that cats took approximately 70 years to spread across mainland Australia; they can therefore be assumed to likely have occupied all suitable habitat in Tasmania fairly rapidly. Cats are now considered firmly established across the state and eradication of cats from mainland Tasmania is not considered feasible with the tools and techniques currently available.

While the impacts of feral cats on (small) island environments are well documented and understood, the impacts of feral cats on ‘mainland’ environments (including big islands such as Tasmania) are generally poorly understood. Therefore a key challenge for cat management in Tasmania is addressing the extensive knowledge gaps regarding the impact of feral cats on wildlife and agriculture. Potential impacts on the environment are likely to be wide ranging and include livestock and poultry losses from predation and disease transmission, and wildlife impacts from disease transmission, competition and predation of native species. Diseases associated with feral cats, such as toxoplasmosis, are known to affect humans. These issues will be discussed in detail in the subsequent relevant sections.

#### 3.2.2 Distribution

The distribution of feral cats in Tasmania is effectively statewide. Cats are now considered to be widely distributed throughout all ecosystems in the state with the highest densities in urban and peri-urban areas, particularly around Hobart and Launceston, and lowest in the more remote and wetter regions of the southwest. There are no accurate population estimates for feral cats in Tasmania, and limited value in making them as from a management perspective, the density and the potential impact of cats are more important considerations. There is, however currently limited data available on both of these factors.
Figure 1. Feral cat records (red dots are spatially suspect) for Tasmania from the Atlas of Living Australia database (www.ala.org.au). Image produced on 1st March 2016.

3.2.3 Feral cats and Tasmania’s natural environment

The problem

Feral cats are generally considered to be a serious and widespread vertebrate pest in Australia, and have been linked to the decline and extinction of a number of species of fauna. There is substantial evidence of cats preying on a range of Tasmanian species, however there is little clear data on whether cats have had a significant impact on any species, at a state-wide level. While there have been no extinctions of potential prey species in Tasmania, there is substantial anecdotal evidence of cats having significant effects on vulnerable wildlife populations at a local level.
Management of vertebrate pests needs to take into account the capacity to achieve effective outcomes and to direct efforts to those priorities where the greatest gains can be made. The “invasion curve” provides a means by which realistic priorities can be established for the control of introduced vertebrate pests, including cats. After an initial incursion of an animal(s) there may be a brief window of opportunity where eradication is achievable. However, over time that initial population will grow and may eventually reach a level where eradication is no longer feasible. At this point management switches to containment and then, at some point, to asset protection.

Figure 2. Species Invasion Curve (Agriculture Victoria 2015)

The invasion curve also provides a guide to the costs of control compared to the amount of effort required to control the pest. This ‘return on investment’ diminishes the further along the curve you go. In Tasmania, in terms of cat management, we have progressed towards the further end of the curve; i.e. cats are established across the state and should be managed on the basis of ‘asset protection’ with a focus on reducing the impact of cats, rather than focusing on the numbers of cats.

As previously discussed, eradication of cats from mainland Tasmania is not considered feasible with the tools and techniques currently available. Consequently strategic targeting of priority areas, such as areas with specific vulnerability to cat impacts (e.g. shearwater colonies) and offshore islands is appropriate. An additional and significant component of managing feral cats will be the effective regulation of the domestic and stray cat populations and a concurrent change in cat owner behaviours.
Realistically, the greatest benefit will come from targeted and well planned programs that may reduce the impacts of feral cats in areas where natural values or agricultural assets need to be protected. Local councils, rural stakeholder groups, and regional natural resource management groups should be encouraged to develop local or regional feral cat management strategies to assist with coordinating activities and reducing impacts over the longer term.

The Impacts

The knowledge and level of understanding of the dynamics of feral cat impacts in non-island environments, such as mainland Tasmania, is not great. However, Tasmania has been settled by Europeans for over two hundred years and the domestic cat can be assumed to have been present in most areas for much of that time, yet Tasmania has a relatively intact native fauna, including several species that have become extinct or extremely rare on the mainland. The two major differences between the settlement process in Tasmania and the Australian mainland are a lower level of habitat clearance and the absence of the fox.

Considering this, there is therefore strong evidence that Tasmania’s indigenous fauna can cope with the presence of the domestic cat as long as the original habitat is reasonably intact. While there is ample evidence that predation by feral cats does have an impact on Australia’s native fauna and has caused local if not total extinctions (e.g. Dickman1996), the absence of cat-related extinctions in Tasmania’s fauna indicates that the distribution and abundance of species in this state is largely determined by factors other than predation by cats; the most typical being habitat availability (Frith 1979). However, as land is cleared or the native vegetation becomes degraded, resulting in smaller more isolated populations, the impact that cats have is likely to increase. In this situation predation by cats may become the proverbial “last straw”, driving the species to local extinction. There are a number of other potential “last straws” however, including wildfire (an increasingly significant factor given climate predictions), disease, and in the longer term, inbreeding (King 1984).

Cats are considered opportunistic carnivores, with a diverse diet, although one Tasmanian study found indications of selective predation on small native marsupials (Schwarz 1995). Cats are generally considered to directly predate on vertebrates weighing up to 3kg (Dickman 1996), and there is limited evidence that individuals may occasionally take prey up to approximately 4 kg in weight (e.g. Fancourt 2015). However, mammals weighing up to 220g and birds less than 200g are likely most impacted by cats (Dickman 2015). Bird species which forage or nest on the ground are the most vulnerable. Cats may also kill and eat a broad range of reptiles, amphibians and invertebrates (Dickman 1996).

Much of the Tasmanian fauna, particularly mammals less than 3kg and burrowing seabirds, are considered to be key targets for predation and notwithstanding the absence of extinctions, feral cats are likely to contribute to localised extinctions of fauna under certain
circumstances, including (i) of burrowing sea bird colonies and (ii) through exacerbating the effects of habitat loss by preying on vulnerable remnant populations (Schwarz 1995).

The impacts of feral cats on native fauna are thought to be wide ranging and not restricted to predation, with competition and associated changes in ecosystem function also being significant consequences of their presence. The potential risks to native wildlife are clear though and have resulted in ‘predation by feral cats’ being listed as a Key Threatening Process under the *Environmental Protection and Biodiversity Conservation Act 1999*.

The interaction between cats, *T. gondii*, and native wildlife are not understood although it has been surmised that there may be negative impacts in terms of recruitment, health and/or survivorship for some species as a consequence of infection with *T. gondii*. The potential impact of *T. gondii* needs to be considered on a species-by-species basis as the impact is likely to vary considerably. Overall, marsupials are considered highly susceptible to toxoplasmosis and infection can cause a range of symptoms including lethargy, unnatural daytime activity, loss of appetite, respiratory distress, neurological disturbances, and death (Eymann *et al*. 2006). These symptoms may change the potential vulnerability of individuals and/or species to predation; research is required to assess the impacts on species of conservation significance.

A relatively recent complication in cat management is the impact of the Tasmanian Devil Facial Tumour Disease (DFTD). First observed in the late 1990s in north east Tasmania, DFTD has led to total population of >60%, and in some instances, such as the northeast, in excess of 90% (McCallum *et al*. 2009). The broader impacts stemming from this require substantial research to ascertain if and how it has changed relationships between Tasmanian devils, cats and the rest of Tasmania’s fauna.

Indirect changes in the environment can potentially alter environmental relationships, and consequently inter-species interactions. For example it has been suggested that declines in Tasmanian devil (*Sarcophilus harrisii*) populations, due to the DFTD, have released cats from competitive suppression resulting in increased predation on species, by cats, such as eastern quoll (Fancourt *et al*. 2015) and has also led to an increased spread of toxoplasmosis (e.g. Fancourt and Jackson, 2014).
3.2.4 Feral cats and Tasmanian agriculture – cat-borne diseases

Introduction

The cat’s distribution now includes all of Tasmania’s agricultural areas. As a host to a number of significant diseases, which impact on stock and human health, management of the interactions between cats and agriculture needs to be a major component of cat management in Tasmania.

Common disease-causing parasites utilize the cat as a host to reproduce and propagate disease: *Toxoplasma gondii*, *Sarcocystis* and *Cryptosporidium* species are the most prevalent of the various cat-borne diseases affecting livestock. Not only do these parasites affect the livestock industries through direct economic impacts from lost production, but also through a number of indirect impacts such as increased meat inspection, herd health management, feral cat control and even the potential impacts on human health. As a result, management strategies and control programs are required to mitigate these deleterious effects. Each of these three parasites will be individually addressed in the following sections.

Background

The increasing rural-urban interface has resulted in a large overlap between the territory of cats (feral and domestic) and agricultural land. Subsequently, a number of infective diseases transmitted by the cat are being more readily identified in Tasmania.

Toxoplasmosis, the disease caused by *T. gondii*, can cause sheep and goats and occasionally pigs to abort. Contaminated meat can lead to infections in humans consuming undercooked meat. Sheep can become infected with toxoplasmosis if they eat feed or drink water contaminated with cat faeces. The level of toxoplasmosis in feral and stray cats in Tasmania is some of the highest in Australia and worldwide (Fancourt and Jackson 2014). Other pathogens that cats can transmit include sarcosystosis (sarcosporidiosis) and cryptosporidiosis which can infect cattle and sheep.

In recent years outbreaks of *T. gondii* infections have been identified with cases of ‘abortion storms’ causing severe impacts on affected farmers and many subclinical losses going unnoticed. Equally, detection of the presence of *sarcocystis* by abattoirs during processing has resulted in the need for carcass trimming and even entire carcass condemnation resulting in substantial financial losses. Management of feral, domestic and stray cats needs to account for these impacts on Tasmania’s agricultural industry.

Feral cats are not commonly recognized by national environmental legislation as an agricultural pest, although the Tasmanian legislation does permit primary producers and private land holders to manage cat populations, including destruction of the animal(s) if the
land is used for livestock grazing or more than one kilometer from any place genuinely used as a place of residence.

**Toxoplasma gondii**

*T. gondii*, commonly known as 'Toxo', is a parasitic protozoa in which the cat is required for sexual reproduction (i.e. it is the definitive host). As a result only the cat can excrete environmentally resistant oocysts (Dubey 1995). Whilst it occurs globally, Tasmania has high rates of *T. gondii* infection; reports of greater than 60% of Tasmanian blood donors had antibodies to the parasite compared with Australia’s national average of 30 to 50% of the adult population (Milstein 1997). A study of feral cats sampled from Tasmanian sheep grazing areas found 96% tested positive (Gregory 1976), while a second study found 84% of feral cats tested across the state were carrying *T. gondii* (Fancourt and Jackson 2014). Sheep and pigs have been identified as more susceptible to infection than cattle with antibodies titres significantly greater than those of cattle (Munday 1970, Munday 1975). Tasmania’s cool climatic conditions have been shown to be favourable for *T. gondii* oocyst survival in the environment, potentially being a major contributor to the increased prevalence in Tasmania’s livestock (25.7% of sheep) compared to that of other states (Munday 1970, Fancourt and Jackson 2014).

![Toxoplasmosis life cycle](source Jackson Fact Sheet no. 10)

Even though the lifecycle of *T. gondii* relies on the cat as its definitive host, the parasite has been found to infect almost all warm blooded animals (Ferguson 2009, Berfer-Schoch 2011). The intermediate host becomes infected by consuming infective oocysts on contaminated
food, soil, or water (Dubey 2004, Dubey & Jones 2008, Elmore et al., 2010). The parasite further develops in the infected intermediate host finally forming latent tissue cysts (Dubey and Frenkel 1976).

Clinical toxoplasmosis can occur in susceptible species, or immunocompromised animals resulting in acute signs however most healthy, non-pregnant individuals remain asymptomatic. Within 1-2 weeks of tissue cysts being consumed by the cat, millions of oocysts are passed into the environment through the faeces, completing the lifecycle (Dubey et al 1970, Buxton et al 2007, Fancourt and Jackson 2014). If infection occurs during pregnancy, the parasite may be transmitted vertically from the mother to the progeny (Figure 1) (Langham and Charleston 1990, Tenter et al 2000, Buxton et al., 2007).

**Disease impact: Toxoplasma gondii**

Infection of *T. gondii* is typically asymptomatic (no signs) although infection of naïve (un-exposed) animals, including humans, can result in a number of deleterious effects. If naïve animals become infected with the parasite during pregnancy vertical transmission (from mother to progeny) may occur resulting in abortion, still birth, or congenital disease leaving the neonate weak (Jackson and Hutchinson 1989, Charleston 1994, Tenter et al., 2000). In addition to the obvious detrimental effects on humans, this process can result in large losses in livestock. An early study conducted in the mid 1960’s indicated toxoplasmosis contributed to a large proportion (46%) of outbreaks of ovine abortion/neonatal death in Tasmania (Munday 1970).

A number of papers have assessed potential risk factors for stock including farm size, feed storage, animal gender, animal age, and housing with varied results (Berger-Schoch et al., 2011, Buxton et al., 2007, Klun et al. 2006). It was implied by Klun, et al. (2006) that although these variables may have been shown to have significance, it is still merely the presence of infected cats and rodents that results in disease spread (Klun et al. 2006). An unpublished DPIPWE (2015) assessment of the costs imposed by *T. gondii* in Tasmania estimated annual economic losses of approximately $1.7 million. This compares with an extensive study conducted in Uruguay, which estimated the annual economic losses to be approximately US$1.4-4.7 million (Freyre et al. 1997).

**Sarcocystis**

There are currently over 100 species of Sarcocystis described in the literature with most species relying on an obligatory two-host life cycle. The lifecycle relies on the transmission of the parasite between the cat and the sheep via faecal-oral transmission from the cat to the sheep and then back to the cat via consumption of the developed cysts within the sheep. It should be noted that these feline species of sarcocystosis cannot be transmitted to humans via either route.
The two species most relevant for cat management purposes are *S. ovifelis* (formerly *S. gigantean*) (Formisano 2013) and *S. medusiformis*, both of which rely on the cat as the definitive host and the sheep as the intermediate host in which macroscopic sarcocysts may be seen (Charleston 1994). The two cat-born species may potentially be carried by foxes (Levine 1986).

In comparison with many other internal parasites, *sarcocystis* is remarkably resilient to environmental conditions making the management of pastures, feed and carcasses more difficult. Infected cats shed large numbers of sporocysts in their faeces (up to 7000 cysts per gram) commencing around 10 days after consuming infected sheep tissues. These cysts have been shown to survive a wide range of environmental conditions including various disinfectants. In contrast, extensive heating (over 50-60°C), ultraviolet radiation (4000 ET), or prolonged storage in water (at 24°C) either killed the cysts or reduced their ability to encyst (McKenna and Charleston 1992). To a lesser extent, freezing (-18°C) and desiccation reduced the survival of the sporocysts with an inverse relation between survival and humidity. Other research has demonstrated that the macrocysts can withstand heating to 50 and 52.5°C and still possess the ability to infect kittens (Collins and Charleston 1980). Likewise, metabolic activity of the parasite was not compromised after freezing cysts at minus 14°C for two months.

The survivability of faecal cysts should be considered when reviewing management and grazing strategies. Equally, cat management strategies should consider the prevalence and survivability of the sarcocysts in sheep carcasses in order to prevent the continuation of the life cycle.

The small macroscopic sarcocysts that develop throughout the sheep appear as small ‘grains of rice’ visible to the naked eye around 10 to 14 months after infection with cysts reported
as early as 8.5 months (Ford 1986, Munday and Obendorf 1984). Sites include muscles of the esophagus, tongue, masseter, larynx, pharynx, diaphragm, and abdominal muscles (Charleston 1994, Lindsay et al. 1995). Due to the slow growing nature of the parasite within the sheep the cysts are typically seen in sheep greater than one year of age (Ford 1986).

**Disease impact: Sarcocystis**

Unlike *T. gondii*, the cat-borne species of *Sarcocystis* does not cause clinical disease in sheep, rather the cysts render parts or all of the carcass unacceptable. The cysts themselves must be removed during carcass processing to ensure meat and offal products comply with market standards. This results in increased carcass trimming, downgrading, or condemnation of carcasses and/or offal. Research has suggested that over 90% of Tasmanian sheep and cattle are infected by *Sarcocystis* spp. which possesses negative implications for the carcass quality of older stock (Munday 1975b). Research through a Tasmanian abattoir identified between 6 to 21% of stock slaughtered had visual evidence of *Sarcocystis* cysts in the carcass, and hence trimming or condemnation was required (Hernandez-Jover and Jackson 2014). On Kangaroo Island (South Australia) an abattoir estimated $15,000 worth of stock has been condemned due to excessive contamination with sarcocysts. The same abattoir estimated trimmings to cost on average $1.50 per sheep across a total of 150,000 head equating to $225,000 or $2,000 per average flock in 2003 (Kangaroo Island Cat Control Committee).

Indirect effects of *Sarcocystis* can be identified in both abattoirs and by primary producers. In 1994 an assessment of the financial impact of sarcocysts on abattoirs in New Zealand revealed cost of the labour required to detain and re-inspect carcasses was on average NZD$0.17 per carcass resulting in a national cost of NZD$100,000 per year (Charleston 1994). It was described that the economic loss due to detained and devalued carcasses was difficult to accurately determine as a large number of variables were involved. Likewise, the indirect costs of managing cats, both feral and ‘barn cats’, is difficult to directly assess: many difficult to measure factors, such as the farmers’ labour, resources, infrastructure, and even the health care of ‘barn cats’, would contribute to such costs.

**Cryptosporidium**

*Cryptosporidium* species are parasites which have the ability to infect many species of mammals, birds, and reptiles, with zoonotic potential (i.e. they can be passed between animals and humans) (Angus 1983, Juranek 1995). This pathogen typically manifests in scouring (diarrhea), mild fever, dehydration, acid-base deficits, and sometimes lethargy (Fleming et al. 1997). Typically young stock is the most susceptible with infection of calves commonly occurring after two weeks of age. *Cryptosporidium* has been shown to be transmitted through a large number of methods including surface water (opposed to ground water), manure, sewage treatment plant discharge, wildlife, treated drinking water, and
other sources of sewage (Fleming et al. 1997, Wallis et al. 1996). Contact with livestock is an important risk factor for zoonotic transfer of cryptosporidium (Savioli 2006), opposed to companion animals (dogs and cats) which were identified as having a negative association (Hunter and Thompson 2005). Other commonly handled hosts shown to carry the parasite include mice, rabbits, guinea pigs, foals, parrots, snakes, and monkeys (Angus 1983).

### 3.3 Adverse Human Health Impacts from Cats

Of the different cat-borne parasites, *T. gondii*, has the most significant, potential disease implications for humans. Cats are the primary host for the parasites *T. gondii*.

Toxoplasmosis can have detrimental effects on pregnant women and immune compromised people. Toxoplasmosis can cause illness in the very young, the old, and those who are immunosuppressed. Pregnant women who become infected with *T. gondii* can suffer miscarriages or pass the infection onto the unborn infant resulting in problems for the new born later in life. Nationally, an estimated 520-650 babies are born each year with congenital toxoplasmosis (Gideon Online 2012).

Recent work in Tasmania by Fancourt and Jackson (2014) found 84 per cent (224 of 266) of feral cats trapped from across the state tested positive for Toxoplasma antibodies. This level of toxoplasmosis is some of the highest in Australia and globally (Fancourt and Jackson 2014).

Research over the past 20 years has indicated that toxoplasmosis can cause changes in human behaviour in those who are infected (Flegr 2007, 2013, Flegr et al. 2003, Havlicek et al. 2001). Toxoplasmosis has also been implicated in the development of schizophrenia (Celik et al. 2015, Webster et al., 2012) and a prevalence to self-harm (Pederson et al., 2012).

A number of other parasites can also be transmitted to humans via cats, including Cryptosporidium (*C. felis*) and Giardia. Cats can also be a source of cat scratch disease (*Bartonella henselae*), ringworm and roundworm (Toxocariasis).
4. ACHIEVING BETTER CAT MANAGEMENT in TASMANIA

4.1 Roles and Responsibilities

Tasmania has a two-tiered Government system, with a State Government structure and a Local Government structure composed of twenty-nine councils. Responsibilities between the two levels of Government in relation to the management of cats is not clearly defined.

The *Cat Management Act* reaffirms that councils can make by-laws under the *Local Government Act 1993* in relation to the management of cats within its municipal area. Local councils may also declare council-controlled land as “prohibited areas”, or declare “cat management areas” to support local management initiatives. There is also nothing in the *Act* that prevents council officers from being authorised under the *Act*.

Additionally, the State Government and its statutory land management authorities (including business enterprises) have responsibility for the management of land including environmental matters such as feral cats. This broad range of organisations that have responsibility for the management of different land tenures and implementation of different pieces of legislation creates a complex mosaic of responsibilities that limits the effectiveness of cat management in Tasmania.

4.2 Managing Environmental Impacts of Feral Cats

Any management response adopted for feral cats must acknowledge the polarised views of the community towards this animal. Whilst some in the community regard cats negatively due to perceived environmental and other impacts, others have a positive perception of cats due to their role as a companion animal and predator of other invasive species. Some may also be generally opposed to control activities on animal welfare grounds.

Observational data indicates that feral cats are widely established in Tasmania and consequently eradication state-wide is not considered feasible with current resources and techniques. Eradication on mainland Tasmania is not possible due to the inability to prevent recruitment from within the feral and domestic cat populations during the process, the high costs and extreme difficulty associated with attempting eradication of a large well-established feral cat population from across an extensive area. Once feral cat populations have become established and widespread, focus for management and control becomes largely focused on asset protection. In addition, the eradication of feral cats may be achievable in limited areas such as offshore islands or fenced (predator proof) reserves where biosecurity may be achievable.
For the most effective outcomes when managing widespread feral cat populations, management must focus on mitigating impacts in specific areas such as islands and small reserves (Dickman et al. 2010) or on protecting priority species where there are significant threats to biodiversity (or agricultural production). The key priority is to suppress or eradicate (in the case of islands) cats in areas containing high priority assets that cats can directly affect.

In areas of high conservation value, where measurable declines in native fauna populations have occurred (e.g. burrowing seabird colonies and coastal strips with shore birds), protection and improved breeding success can be achieved through programs aimed at controlling several threats at the same time (e.g. rats and mice, vehicle and dog access, habitat loss, weeds) as well as feral cats.

The most effective pest management option is not always focused solely on the destruction of the target species. Trapping and shooting can be effective whilst baiting is considered to have had variable success as a control measure (Denny and Dickman 2010) and can be a risk to non-target species.

Progress in control programs must be monitored to ensure that objectives of the program are being achieved and to allow management actions to be adapted to changing circumstances. The importance of this with regard to cat management was highlighted in a recent study (Lazenby et al. 2014) assessing the impact of low intensity cat control, which found that the removal of dominant adult cats from a wild population actually resulted in a significant increase in the local cat population; the perceived ‘benefit’ achieved by control was, in fact not achieved and instead significantly increased the number of cats, and therefore potential predation levels, in the study areas. Unfortunately, what constitutes an effective or worthwhile level of control was not determined.

In parallel to managing impacts, it is a desirable aim to limit the number of cats entering the feral population through a range of community education and awareness programs, and enforcement of effective cat management legislation.

**Controlling Feral Cats**

A number of new technologies are currently being developed that will potentially provide more humane and effective means of trapping and humanely destroying feral cats. The *Background Document for the Threat Abatement Plan for Predation by Feral Cats* (Commonwealth of Australia 2015b) provides detailed information on the range of different options for controlling feral cats, including determining feasibility of eradication. Information on the different methods covered in the *Background Document* include trapping, shooting, exclusion fencing, baiting, alternative methods to deliver toxins, lures, other predators as deterrents, biological control, fertility control and habitat management. Consequently, only some of the newer methods are detailed in this *Background Paper*. 
Development work and trialling is currently occurring with a number of new and innovative methods. Grooming traps provide a target-specific trap that uses sensors to detect the presence of a feral cat and sprays a lethal dose of toxic gel onto its fur from up to four meters away. The feral cat ingests the gel when it is grooming. New options for baiting have been developed and registration for use in Australia is being sought. Curiosity® uses para-aminopropiophenone (PAPP) which is encapsulated in a hard plastic pellet and is inserted into a small meat-based sausage. Feral cats, which are highly susceptible to PAPP tend to swallow without chewing, whereas native animals tend to chew and will reject the capsule. Unfortunately, PAPP may not be suitable for use in Tasmania as trials have shown Tasmanian devils will take up the capsules. An alternative bait known as Hisstory, which, as with Curiosity®, also uses a hard plastic pellet, but with sodium monofluoroacetate (compound 1080) rather than PAPP is being field trialed. Native Tasmanian carnivores such as quolls and Tasmanian devils have a high tolerance to 1080 poison and would need to be exposed to a substantial number of baits in a short period of time to be at risk of poisoning.

**Best Practice Control and Management of Cats**

There is a demand in Tasmania for the use of traps to catch stray or feral cats but not everyone understands what their obligations are with regards the welfare of the trapped animal, which at times will include non-target species such as native animals. The development of codes of practice around the handling, trapping and humane destruction of stray and feral cats will provide a mechanism to ensure the humane treatment of cats occurs. In relation to feral cats, the *Model code of practice for the humane control of feral cats* (Sharp and Saunders 2012) could be adopted.

The adoption of best practice control methods will produce more effective and sustainable outcomes, especially where land managers work together. The success of control activities can be assessed by monitoring invasive and native species populations or disease transmission before, during and after control activities.
4.3 Managing the Impacts of Cats on Agriculture

The diseases described in section three have unique host relationships and modes of transmission, and therefore control may be achieved through effective cat management programs and appropriate livestock programs that reduce disease transmission rates between cats and livestock. Control methods to reduce the spread of Toxoplasmosis, Sarcosystis and Cryptosporidium are outlined below.

**Toxoplasmosis**

The control of this parasite is important not only for the economic impacts on primary producers but also for the impacts on human health. The life cycle of this parasite allows for management strategies to be implemented for both the cat and livestock which may reduce the spread of this disease.

The management and control of cats may significantly reduce the prevalence of this disease by reducing the environmental contamination by oocysts (Buxton *et al.* 2007). This can be achieved through methods that reduce the number of cats around grazing areas. Feral cats may be controlled by limiting their breeding, limiting the spread of cats, and limiting the total number of cats around grazing areas.

It is important to adopt an integrated approach that includes several control strategies to minimise the risk of Toxoplasmosis because relying on the lethal control of the feral cat population alone is unlikely to be effective in preventing *T. gondii* spread and outbreaks of abortions (Tracey *et al.* 2015).

Socialised and semi-socialised cats can be managed by feeding parasite-free commercial diets or processed food (cooked or frozen) and hence breaking the lifecycle of the parasite. Although farm cats may be beneficial at deterring feral cats, they may in fact be a source of *T. gondii* due to consumption of infected rats, mice or rabbits, and hence propagating the disease (Charleston 1994) — consequently, feeding them “safe” food can reduce this risk. Since cats are territorial animals, in some cases ‘immune’ desexed cats can be utilised around barns, food stores, and other places that may otherwise attract feral and potentially infected cats (Abu-Dalbou *et al.* 2010).

In other countries such as New Zealand and the United Kingdom the use of Toxovax® has significantly reduced losses to the sheep industry from congenital toxoplasmosis (Charleston 1989; Mévélec *et al.* 2010). The vaccine has been developed to utilise a strain of *T. gondii* (strain 48) that is able to produce immunity in sheep but is unable to form cysts or complete the life cycle (Wilkins and O’Connell, 1992). As a result there are no potential human health effects of eating the meat of sheep that received the live vaccine. Reports indicated an average increased lambing percentage of 3% and decrease in dry ewe percentage of 13.5% (Wilkins and O’Connell, 1992; Charleston 1994). The vaccine is currently not registered
under the APVMA. And therefore, until such time as it becomes available, alternative strategies are required. Ultimately, a large proportion of control and management strategies rely on the efforts of primary producers and the rural communities around them, therefore education of both groups is fundamental in achieving a significant level of control.

_Sarcocystosis_

Due to the two host lifecycle, it is possible to break the spread of feline Sarco through two major pathways; (1) through the faecal-oral route from the cat to the sheep, and (2) through the consumption of ovine cysts by the cat. Theoretically, if the faecal contamination of pastures could be prevented the lifecycle would no longer continue in livestock, but without this ability other methods must be employed in addition to control of cat populations (Collins and Charleston 1979). In addition to controlling cat numbers, the access of cats to livestock feed stores should be stopped to prevent supplementary feeds becoming a vector for infection. This is particularly important in drought years as the proportion of supplementary feed use increases, hence increasing the potential spread of _Sarcocystosis_.

There is currently no available vaccination available for the _Sarcocystosis_ species for either cats or sheep.

Emphasis should be placed on the prevention of feline infection. This crucial step in the lifecycle may be prevented through removing carcasses from paddocks or other areas accessible by cats. Cat proof carcass pits, bins, or containers may be used in an effort to completely prevent feral cat infection. Socialised and semi-socialised cats may be fed commercial feeds or animal meat cooked so that all parts are exposed to at least 60°C for 20 minutes (Collins and Charleston 1980).

_Cryptosporidium_

Due to the large number of hosts and transmission methods, it is unlikely that the control of feral cats will significantly reduce the spread of _Cryptosporidium_ and hence reduce the number of cases of cryptosporidiosis in livestock. There is therefore, little that can be done to manage this species, in respect of cats.

### 4.3.1 Recommendations to reduce disease spread

- Feral cat control should be systematic, strategic and ongoing.
  - Limiting the presence of feral cats on and around grazing land should be considered as a method of reducing the prevalence of these diseases but first the viability of such an effort should be assessed.
• Promptly dispose of carcasses preventing cats (and other animals) from consuming the meat. Carcasses should be buried, burnt, or suitably disposed of to minimize access to this potential source of infection (Scott et al. 1993).

• Government and industry to investigate the introduction of the Toxovax® vaccine in high risk areas for Toxoplasmosis to reduce losses to the sheep industry from congenital toxoplasmosis (Mévélec et al. 2010).

• Management of socialized and semi-socialized cats
  o Cats can be used to protect barns, food stores, and other places that may otherwise attract feral and potentially infected cats (Abu-Dalbou et al. 2010).
  o Feed commercial diets or processed food to domestic or ‘barn cats’
  o If animal meat is to be fed to cats it should be cooked so that all parts are exposed to at least 60°C for 20 minutes (Collins and Charleston, 1980).
  o Ensure cats are desexed to prevent the repopulation of feral cat populations.
  o Rodent control using rodenticides containing diphacinone or coumatetralyl should be part of a cat control program

• Ensure owned cats are desexed.

4.4 Reducing the Adverse Impacts of Cats on Human Health

In order to reduce the risk of being exposed to or infected by a cat-borne disease and in conjunction with control programs to reduce the prevalence of diseases such as Toxoplasmosis, the following measures should be implemented to prevent the spread of the Toxoplasma parasite to humans:

• Handling of potentially infected cats, particularly their faeces, should be done with caution (Hill and Dubey 2002). Gloves should be worn while handling faeces, litterboxes, and any faecal contaminated items which may extend to gardens, children’s sandboxes, and livestock feed.

• T. gondii oocysts can survive for months in faeces or water (Dumère and Dardé 2003) and require constant freezing (for 1 or 7 days at -21°C and -6°C respectively) (Frenkel and Dubey 1973), or heating to 60°C for 1 minute (Dubey 1998).

• Pregnant women, children and immunocompromised individuals should not handle high risk items such as cat litterboxes due to the increased likelihood of infection occurring (Hill and Dubey, 2002).

• Contaminated meat can lead to infections in humans consuming undercooked meat. Undercooked and raw meat should not be consumed.
4.5 Guidelines for More Effective Decision-Making

Governments at both a state and national level are increasingly focused on the impacts of cats, especially feral cats. The Australian Government, in supporting the delivery of the *Threatened Species Strategy* and other similar initiatives along with investments at the State level are potential sources of funding and resources to encourage responsible cat ownership and tackle feral cats. However, it is important that where public funds and resources are being allocated to projects and programs that there are clear and achievable outcomes identified. Management actions need to be able to demonstrate that they are capable of delivering the planned outcomes and they are sustainable into the long term. For example, projects that aim to protect particular native species should be able to clearly demonstrate that those species will actually benefit from the proposed management actions; or projects that aim to reduce the incidence of toxoplasmosis in sheep can demonstrate that the proposed management actions will be effective. To achieve these outcomes alternative solutions may be required, such as; establishing feral cat exclusion areas; habitat modification to favour native species; or vaccinations to protect stock from disease (when available).

It is important to consider all options and have a good understanding of the extent and nature of the impacts being caused. Only limited benefit may accrue if the strategy defaults to simply ‘culling’ a feral cat population without first identifying the impacts of the target species and the most effective and efficient methods to nullify those impacts. Often the focus is only on trapping and shooting but the use of alternatives to lethal control measures such as managing farm cats and exclusion fencing should be considered. Activities that lead to more resilient native species populations or encourage post-control recovery of the native species have a role to play.

Over-arching principles that underpin a planned approach to feral cat management include:

- Identification of the actual problem.
- Identification of natural values to be protected including areas of high conservation value and threatened species impacted by feral cats.
- Identification of agricultural assets to be protected.
- Identifiable human health issues.
- Clear and measureable methods to be able to demonstrate that the expected outcomes are being achieved.
- Evidence that the proposed activities represent the most effective means of achieving the expected outcomes.

The criteria would seek to ensure that effective, sustainable long-term solutions are implemented; that projects can demonstrate “value for money” and in general have support
of governments, the community and industry. These criteria would not over-ride criteria that have been established for specific funding programs, but should help to inform them.

4.6 Recommendations for Future Regulatory Change

As part of the development of the Draft Tasmanian Cat Management Plan a review of the existing legislation was undertaken. From that review, which includes feedback from a range of stakeholders and community members, as well as the members of the Tasmanian Cat Management Reference Group recommendations for regulatory changes have been developed. Whilst these recommendations will have an impact on cat owners it is considered that these changes will importantly, improve the effectiveness and functionality of the regulatory arrangements governing cat ownership. The proposed amendments and inclusions to the Act are detailed below.

Compulsory desexing of cats

It is recommended that compulsory requirements are introduced for a cat owner to have their cat desexed by a certain age with penalties for non-compliance. Currently there are no such penalties, making compliance difficult to enforce. Two exceptions are provided for:

- if a vet has certified that desexing would affect the health and welfare of the cat; or
- if the cat is owned by a registered breeder for the purpose of breeding.

This recommendation contributes to preventing unplanned breeding and unwanted litters, and works to prevent unwanted cats which are abandoned or destroyed. It also removes the ambiguity in the existing desexing arrangements by clearly establishing what the cat owner is required to do and the penalties that apply for failing to do so.

Age to desex

The Act currently prescribes the maximum age (six months) at which cats should be desexed. However, cats are capable of breeding once they reach puberty, which may be as young as four months of age.

Consideration should be given to better defining the most appropriate age or age range (eg. 4-6 months) at which compulsory desexing should occur. Necessary welfare provisions would also need to be considered, such as where a vet has certified that desexing would adversely affect the health and welfare of the cat. This would ensure that necessary welfare and ethical standards are incorporated into management provisions.
Compulsory Microchipping of cats

Under the current legislation there are no penalties that would ensure it is compulsory for a cat to be microchipped. This recommendation would require that all cat owners must have their cat microchipped once their cat reaches a certain age. It also includes the provision of penalties to assist enforcement. It is proposed that one exception be provided, and that is where a vet has certified that microchipping would affect the health and welfare of the cat. This recommendation is expected to help ensure that cats can be identified and returned to their owner if they are found away from their home property. It also helps to prevent cats being unnecessarily re-homed, sold, or destroyed at cat management facilities because their owner cannot be identified; and additionally it supports cat management more broadly by determining whether a cat is feral or not.

Furthermore, this recommendation removes the existing ambiguity of the current microchipping arrangements by clearly specifying what cat owners must do.

Remove the option of a Care Agreement

Under the existing legislation, a person may sell a cat that is not desexed or microchipped by entering into a care agreement. A care agreement is a written agreement made between the seller and the buyer to have the cat desexed or microchipped at a later date. Care agreements are not easily monitored nor are they registered with any organisation. As such, these agreements are difficult to enforce and have been identified by stakeholders as an ineffective management strategy.

It is recommended that all provisions for care agreements are removed from the legislation. This will remove the existing loophole by which a person can claim they will enter into a care agreement to microchip or desex a cat at a later date in order to buy or sell a cat. It also supports the recommendations regarding enforceable microchipping and desexing.

This recommendation provides for greater control over the sale of cats but it does not mean that all cats sold have to be microchipped or desexed.

No compulsory registration of cats

Based on stakeholder advice through the Cat Management Reference Group, the registration of cats is considered to be an ineffective way of controlling the roaming of cats. The issue of securing roaming cats and then identifying them and their owner is very difficult, and a different proposition to dogs. Feedback from Local Government indicates that dog registration fees do not cover the costs to operate the service. However, the option for individual councils to register cats should continue to be available.

If other measures recommended here are adopted, such as compulsory microchipping, limiting the number of cats at a property (see below) and the requirement to confine a cat
to the property (see below) the issue of roaming cats and the need for registration should become less of an issue.

**Confining cats to premises**

Cat owners are not required to contain their cat within their property under the current arrangements unless required by a local council by-law. Some current provisions of the Act provide restrictions on cats (eg. prohibited areas and cat management areas) but do not impose requirements on cat owners to prevent their pet leaving their property.

This recommendation introduces the requirement that the owner of a cat(s) confine their cat(s) to their property. Non-compliance could result in enforcement action including seizure of the cat(s) and fines.

This recommendation supports cat welfare measures and helps to stop cats wandering from an owner’s property, and potentially being injured or killed by traffic, or suffering injuries from other animals. It also takes measures to prevent cats becoming a nuisance within neighbourhoods, such as fouling gardens, creating noise, odour, damage, attacking other pets, or impacts on native wildlife, or spreading diseases such as toxoplasmosis.

It can be expected that the introduction of such requirements will require a significant shift in attitude the owners of cats that currently allow their animals to roam. Whilst constructing outdoor cat runs or enclosures may pose a challenge and cost to the owner, it should be noted that there are several good examples of cost-effective enclosures available.

It is recommended that if this measure is adopted that it is phased in over time and is supported by an education and awareness strategy. The length of phase-in period is still to be discussed in detail.

**Limiting the number of cats allowed at a property without a permit**

There is currently no limit to the number of cats a person may keep in the absence of a by-law by a local Council. This recommendation limits the number of cats a person may keep. The number of cats is not specified here (suggested limits have ranged from 3-5 cats per property). A person would only be able to keep more than the specified number of cats if they had a permit to do so or if they were a registered breeder.

This recommendation supports existing management measures by reducing the number of cats per owner. It discourages hoarding of cats and recognises the financial and animal welfare implications associated with responsible cat ownership. It does not prevent people from having more than the prescribed maximum number of cats, but requires that they have a permit to do so or otherwise are a registered breeder.
This recommendation would have a direct impact on registered breeders of cats, all of who are required to properly house their animals as part of membership to a breeders association. Registered breeders would need to be able to obtain a permit to keep more than a prescribed number of animals in order to ensure genetic diversity is maintained. Costs associated with the permits also need to be considered.

**Improve arrangements to support landholders undertaking cat management actions**

Under the current legislation only primary producers involved in livestock production can trap, seize, or humanely destroy a cat on their property, all other primary producers are required to be at least a kilometre from the nearest residence before they can undertake cat management actions. This proposal allows all landowners involved in primary production to be able to undertake cat management actions. Additionally, landowners not involved in primary production were also constrained by the one kilometre rule and this proposal removes that distance criteria but only allows for trapping and seizing of a cat found on their land.

Recommended amendments to the protection of property from roaming cats would include:

- on any land used for primary production cat management action (trap, seize, humanely destroy) can be undertaken regardless of proximity to nearest residence;
- on any other private property type the affected landowner is able to trap/seize a cat, but not destroy.
- Exceptions would be on prescribed land such as reserves and cat prohibited areas where cat management action could be undertaken regardless of proximity to nearest residence.

**Improving arrangements for registered cat breeders**

In Tasmania, breeders of cats can be registered by cat breeding associations as well as the State Government. The cat breeding associations have a focus on pedigree cats, and are particularly interested in protecting the pedigree lines for the various breeds. The role of the State Government in the registration of breeders differs to that of the breeder associations in that its primary interest is to reduce the level of unregulated breeding and by that reduce the numbers of unwanted cats. This potentially brings the Government into conflict with the cat breeding associations.

The role of State Government in registering breeders potentially creates a number of other problems. The capacity of Government to properly regulate the breeders that are registered through its process is limited. This includes both undertaking the proper checks of individuals applying for registration as well as the capacity to ensure compliance. There
have been instances where the Government registration has been advertised as part of the sale of cats that appear to be being mis-represented as a pedigree breed. The current arrangements are not effective and difficult to enforce.

Development of a code of practice the operation of cat management facilities

Currently there is no code of practice to guide the operation of cat management facilities. Two organisations operate cat management facilities in Tasmania, the RSPCA and Hobart Cat Centre. The development of a code of practice would codify the manner in which existing and future cat management facilities are expected to operate from both an animal welfare perspective and in relation to the legislation. A code of practice would also provide a framework around which animal refuges that deal with cats could operate.

Amendments to the Act covering administrative components

In addition to the changes and amendments listed above, a group of amendments were identified from a Departmental review of the Cat Management Act completed in 2014. They have been included as a cluster of recommendations as they relate largely to administrative components of the Act. One exception is proposal 3 – recommencing section 24 of the Act. This affects the operation of cat management facilities and further thought needs to be given to how this should operate. This section of the Act aims to ensure that a cat cannot be re-claimed unless the animal has been microchipped and desexed.

Proposal 1: Amend the definitions for feral cats and stray cats

This proposal seeks to change the definition of “feral cat” to be consistent with the terms defined in this Background Paper for cats (Section 2).

Proposal 2: Define the term “breeding”.

It is proposed that the term “to breed” is defined as the intentional breeding of cats to produce offspring for any purpose including for commercial gain, showing, maintenance of a breed or personal ownership.
**Proposal 3:** Commence section 24 of the Act, under which cats are to be microchipped and desexed before being reclaimed from a cat management facility

This proposal would commence section 24 of the Act, preventing an owner from reclaiming their cat from a cat management facility unless it is microchipped and desexed.

Commencing this section helps to ensure that cats claimed from cat management facilities are desexed and microchipped. It also means that cats that have strayed or escaped once will be more easily identified and incapable of contributing to unwanted cat populations were they to stray or escape again. In commencing this section of the Act, consideration needs to be given to the implications it has for existing cat management facilities.

**Proposal 4:** Simplify minimum holding time requirements at cat management facilities

Holding times for cats at cat management facilities vary depending on whether the cat is microchipped, not microchipped, or is a surrendered or stray cat.

This proposal simplifies holding time provisions based on whether the cat has an identifiable owner or home and a potential ambiguity between section 25(1) and section 25(3). Under this proposal, there would only be two holding periods defined for cats at cat management facilities.

**Proposal 5:** Remove reference to ‘working days’ for holding times at cat management facilities

Current holding times of cats at cat management facilities are based on working days.

This proposal removes the requirement that holding days have to be working days. It would include weekends and public holidays as part of the holding period.

**Proposal 6:** Notification of owners in writing by cat management facilities to be amended to verbal notification

Currently, Section 23 of the Act requires the operator of a Cat Management Facility to notify the owner of a cat, where the owner is identifiable, in writing that the cat is held at the facility.

Under this proposal, the requirement to notify an owner in writing would be amended to allow the notification to occur verbally or by any other means, including in writing.

**Proposal 7:** Define what is meant by the term primary production as it relates to undertaking cat management action.

This proposal seeks to create a definition for ‘primary production’. The definition for primary production would be consistent with its use in other Tasmanian legislation (eg Land
Tax Act 2000) and would determine under what circumstance cat management action could be undertaken to protect property.

Proposal 8: **Provide for a person acting on behalf of a landowner to trap, seize or humanely destroy a cat found on private land under certain conditions**

Under section 17(2), only the owner of the private land may trap, seize or humanely destroy a cat found on their land. This prevents a person acting on behalf of the landowner (e.g. a manager, tenant, contractor etc.) to carry out cat management actions such as trapping or seizing. This proposal allows for a third person, including any occupier of the land, to act on behalf of a private landowner.

Proposal 9: **Provide for authorised persons to issue a notice requiring a person to undertake cat management action**

The Act outlines powers of authorised persons, but restricts the ability of an authorised person to require or direct a person to rectify breaches of the Act.

This proposal would allow an authorised person to serve a notice on an individual who breaches the legislation. The notice would require the person to take reasonable measures within a specified period, to comply with the requirements of the legislation. This would be similar to requirement notices found in other legislation. Failure to act on a requirement notice would result in an infringement notice being served and a possible fine.
USEFUL WEBSITES


Idea for cat enclosures/runs:


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