# Draft New Zealand National Cat Management Strategy

**Strategic Implementation Consultation Document** 

## **Draft New Zealand National Cat Management Strategy**

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## **Purpose**

To proactively address the positive and negative impact of cats in New Zealand. Key national organisations have agreed to develop a humane cat management strategy through a collaborative and proactive approach as they recognise the significant positive benefits of cat ownership but also acknowledge that there are concerns regarding the impact cats have in New Zealand.

## **Strategic vision**

Cats in New Zealand are are responsibly owned and valued and humanely managed in a way that protects their welfare, and our unique environment, by 2025.

## Strategic goals and outcomes

Table 1: New Zealand National Cat Management Strategy strategic goals and outcomes

Strategic Goals	Strategic Outcomes				
All cats are responsibly	The intrinsic value of owning a cat is recognised				
owned, valued and the benefits of cat ownership are	All cats are responsibly owned				
recognised	The benefits of cat ownership are recognised				
	Appropriate legislative and regulatory framework enables humane cat management				
Cat management is supported through an appropriate	Responsible agencies are identified to implement legislative and regulatory requirements				
legislative, regulatory and educative framework	Cat owners understand their legal obligations				
	Responsible cat ownership is defined, understood and complied with				
The protection of the paties	There are no feral cats in New Zealand				
The protection of our native species and ecosystems is enhanced through the humane management of cats	There are no stray cats in New Zealand				
numane management of cats	The public understand the potential impacts of cat predation on our unique environment				
Minimising the negative	The effects of cats on human health are recognised, understood and addressed				
impact of cats on the community and our shared environment, both urban and	The effects of cats on New Zealand pastoral industries are recognised, understood and addressed				
rural	Nuisance behaviours of owned cats on communities are reduced				

Project Owner: National Cat Management Strategy Group (NCMSG)

## The National Cat Management Strategy Group

The National Cat Management Strategy Group (NCMSG) was formed in November 2014 by eight national organisations to develop a national overarching strategy for responsible, caring and humane cat management in New Zealand through a collaborative and proactive approach. The NCMSG recognises there are significant benefits to cat ownership but also acknowledges there are concerns regarding the impact cats have in New Zealand, particularly on native wildlife. The key principles of the strategy are the promotion of responsible cat ownership, humane cat management, and environmental protection.

The NCMSG consists of representative national organisations that have an interest in cats. The members are the New Zealand Veterinary Association (NZVA); NZVA Companion Animal Veterinarians (CAV); New Zealand Companion Animal Council (NZCAC); Royal New Zealand Society for the Prevention of Cruelty to Animals (RNZSPCA); Morgan Foundation; and Local Government New Zealand (LGNZ). The Ministry for Primary Industries (MPI) and the Department of Conservation (DOC) are technical advisory members.

It is difficult to numerically quantify the extent of the cat population in New Zealand as exact cat numbers are unknown. There are estimates indicating that there is a significant cat overpopulation problem in New Zealand. There are approximately 1,134,000 owned cats (New Zealand Companion Animal Council 2016), an estimated 196,000 stray cats (NZVA 2013). It is impossible to accurately quantify the number of feral cats in New Zealand as their densities vary widely. Feral cat densities in New Zealand (which is is 268,021 square km in area ) have been reported to vary from between 0.19-0.27 /km² on private conservation land on Stewart Island (Harper 2007) to 3-5.6/km² on farmland with an abundant food supply (Langham & Porter 1991). There is extensive evidence demonstrating the impact that feral cats have on native birds, lizards and insects. Tens of thousands of cats are rehomed, euthanased or trap-neuter-returned by veterinarians and animal shelters annually. In addition, lethal control is carried out by the DOC, Regional Councils, private land owners, and private trapping groups. Data concerning the cat problem are largely unavailable or estimated, as there is no central depository for the numbers of cats rehomed, euthanised, trap-neuter-returned or trapped and killed.

The NCMSG recognises the many inherent positive benefits and value of cat ownership, and supports responsible cat ownership, despite the problems associated with cat overpopulation and feral cats. The NCMSG recognises that the issue of cat management is complex, and that the interests of all species must be considered. Collaboration between the diverse national

stakeholder organisations in the NCMSG and many others not yet involved, is the key to addressing this important issue. There is no 'one solution' for humane cat management and environmental protection, instead there are a range of possible solutions dependent on numerous factors. The NCMSG feels strongly that when stray cat management is necessary non-lethal methods of removal (e.g. rehoming or best practice trap-neuter-return [TNR]) must always be the first option. However, even best practice TNR should not occur near sensitive wildlife areas. The NCMSG preference is for stray cats to be rehomed but it is acknowledged that this will not always be possible as many of the cats lack human socialisation. If cats must be euthanased, the NCMSG firmly believes that only the most humane, best practice methods should be utilised.

The long term strategic vision of the NCMSG is for all cats in New Zealand to be responsibly owned and valued; and that cats are humanely managed in a way that protects their welfare, and our unique environment. To achieve this vision, given the importance and sensitivity of this issue, the NCMSG has proceeded cautiously and is in ongoing consultation with identified interested parties on all aspects of the proposed draft national cat management strategy and will pursue a range of actions to implement the required change.

#### National Cat Management Stakeholders

**National Cat Management Strategy** 

**Group Members** 

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Arnja Dale, Sarah Zito

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MF: Geoff Simmons

**Abbreviations** 

RNZSPCA - Royal New Zealand Society for

the Prevention of Cruelty to Animals

LGNZ - Local Government New Zealand

MPI – Ministry for Primary Industries

MF - Morgan Foundation

DOC - Department of Conservation NZVA -

New Zealand Veterinary Association

CAV - NZVA Companion Animal

Veterinarians

AC - New Zealand Companion Animal

Council

**National Cat Management Strategy** 

**Group Technical Advisors** 

DOC: Allan Ross, Herb Christophers, Simon

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**National Cat Management Strategy** 

**Group Observers** 

MPI: Marie Guigou

**Interested parties** 

Regional and Territorial Authorities

Cat groups

Landcare New Zealand

**Federated Farmers** 

AgReserach

Academics

Environmental groups

New Zealand public (both cat owning and

nocat owning)

Animal welfare groups

## 1. Executive Summary

The National Cat Management Strategy Group (NCMSG) recognises the instrinsic value of cats and their value to people, the community and to New Zealand society. The NCMSG also recognises the need to balance the needs of cats, cat owners and cat carers with the negative impacts of cats on other species and communities. There is a need to humanely manage cats in New Zealand in a way that protects their welfare and our unique environment. The Draft New Zealand National Cat Management Strategy outlines recommendations and supporting evidence from the NCMSG on ways to achieve this goal.

The cat population categories used in this report are:

- Feral these cats are unowned, unsocialised, and have no relationship with or dependence on humans.
- Domestic cats
  - Companion (owned) cats these cats are considered to be owned by a specific person, sociable, and are directly dependent on humans.
  - Stray cats- these cats are unowned, of varying sociability, have varying interactions with humans and dependence on humans. This category has been subdivided into:
    - Socialised stray cats- this category is further subdivided into managed and unmanaged socialised stray cats.
    - Unsocialised stray cats this category is further subdivided into managed and unmanaged unsocialied stray cats.

Managed strays cats may be socialised or un-socialised cats. This category includes but is not limited to cats referred to as:

- Colony cats these managed stray cats are managed within a specific registered cat colony.
- Semi-owned these managed cats are of varying sociability but are usually socialised to humans, they interact with people regularly and are directly and indirectly dependent on specific humans but are not part of a cat colony.

The National Cat Management Strategy Group has assessed the existing literature and available resources concerning feral and domestic cat management strategies and taken into consideration feedback from the first phase of consultation to devise an evidence based draft cat management plan for New Zealand. Key recommendations have been agreed by the NCMSG and are outlined below:

- Any legislation and plans to control feral and domestic cats must recognise that all cats are sentient animals capable of experiencing positive affective pleasure and pain, suffering and distress..
- Effective management of stray and companion cats requires an integrated, consistent and long-term approach focusing on non-lethal control methods. Changing community attitudes, beliefs and behaviours must be a foundation of every strategy to manage cat populations. Key components of this approach must be:
  - Nation-wide responsible cat ownership education programs and legilsation to encourage and reinforce responsible ownership with the aim of:
    - Increasing acceptance and implementation of cat containment, especially in areas of high conservation value. Measures to ensure suitably enriched containment for cats to safeguard cat welfare must be included.
    - Increasing the number of cats who are identified through mandatory
      microchipping and physical identification. In addition, cat owners and carers
      need to be made aware of the importance of both microchipping and physical
      identification (collar/tag) for cats.
    - o Increasing the number of cats who are desexed.
  - Introduction of nation-wide mandatory microchipping and chip registration.
  - Education programs which focus on increasing public understanding of the need for cat management and acceptance of critical cat management measures.
  - Desexing initiatives for companion cats and stray cats that are accessible for all those who need access to these services.
  - Introduction of wide-spread pre-pubertal desexing of cats.
  - Desexing initiatives for companion cats that are accessible for all those who need access to these services.

- Restrictions on the number of cats allowed to be kept on a property or by an individual.
- Nation-wide mandatory desexing and microchipping of cats and kittens at point of sale or transfer of ownership and prior to return to their owner if the cat or kitten is impounded.
- Implementation of a strong and ongoing education and community support program for important cat management measures.
- Identification of the different cat populations in separate categories (as described above) to provide the basis for a management framework:
  - Feral
  - Domestic cats
    - o Companion (owned) cats
    - Stray cats
      - Socialised stray cats (managed and unmanaged)
      - Unsocialised stray cats (managed and unmanaged)
- Specifically targeted education, desexing and other relevant cat management programs for stray cat carers, particularly encouraging desexing and identification (microchip and physical identification) of managed stray cats. Desexing of these cats must also be facilitated to make this viable.
- 5 Creation and implementation of Stray Cat Management Guidelines to faciliate implementation of best practice targeted and managed trap-neuter-return (mTTNR) programs for stray cats and active cat management.
  - Creation and implementation of Cat Colony Management Guidelines.
  - Creation and implementation of a managed stray cat registry with specific criteria (e.g. cats must be desexed, eartipped, microchipped and not in environmentally sensitive area exclusion zones as per the Colony Management Guidelines).
- 6 Communication with all stakeholder groups and involvement of stakeholders in decision making and solutions to ensure collaborative best practice humane cat management.
- 7 Significant inconsistencies in legislation, approach and level of commitment to cat

management at the local government level need to be urgently addressed.

- The implementation of a national cat management task force that addresses the contributions of feral, stray and companion cats. Allocation of resources, coordination and priority setting at a national level to support vital ongoing research to inform humane cat management strategies would be an important component of the task force work.
- 9 Creation and implementation of a national cat action plan and supporting legislation in the form of a National Cat Management Act and local bylaws. This plan must include provision for effective and ongoing evaluation and transparent reporting. The National Cat Management Act should allow for the creation and implementation of cat bylaws which will allow for cats to be managed through a variety of mechanisms as deemed appropriate by the relevant Council. This may include:
  - Cat curfew/containment and/or restriction in ecologically sensitive areas
  - The ability to deal with nuisance cat issues (for example, through an infringement system)
  - Setting a limit on the number of cats to be kept in each household, above which
    the owner would have to seek permission from the Council
  - The removal of stray cats if necessary with the proviso that non-lethal methods of removal (e.g. rehoming or TNR) will always be the first option where possible
  - A cat colony management register
- 10 Changes to legislation should be incremental to allow public education, acceptance and compliance with new requirements.
- Local governments should consider establishing cat management advisory groups with terms of reference that include:
  - Monitoring the implementation of cat management legislation and compliance with mandatory requirements
  - Consulting with key local stakeholders
  - Developing relevant codes of practice and SOPs for cat control methods
  - Identifying key metrics to evaluate the effectiveness of cat management

#### legislation

- Evaluation of cat management strategies is essential in order to determine their effectiveness. Key evaluation measures and processes for data collection need to be agreed by all stakeholders and applied to all new and existing initiatives.
- Evaluation outcomes should be reported and incorporated into the development of cat management plans at the national, state and local level.
- 14 Creation and implementation of a centralised national database of statistics relevant to cat management (including data on cat euthanasia, trapping, TNR, shelter intake, and killing methods).
- An integrated approach to the management of feral and domestic cats is vital.

  Assessment of the effect on feral cat numbers and their impacts on wildlife from management strategies which address owned and stray cats is needed to provide data supporting this approach. This framework should applied to any new initiative in cat management.
- Practitioners responsible for implementing feral (and domestic) cat management need to have an understanding of the animal welfare impacts of available methods, and be competent to implement strategies using best practice. This must be monitored and managed with a regular auditing and compliance framework.
- Nation-wide identification of areas of high conservation value and ecologically sensitive areas as outlined in local legislation and subsequent implementation of:
  - Comprehensive but humane pest removal from within those areas, including feral and stray cats.
  - Local authorities are given powers to implement as they see fit in zones of human habitation and development near areas of high conservation value, including: restriction of cat ownership, cat curfews and/or strict 24 hour cat cantonment laws and enforcement.

#### 2. Introduction

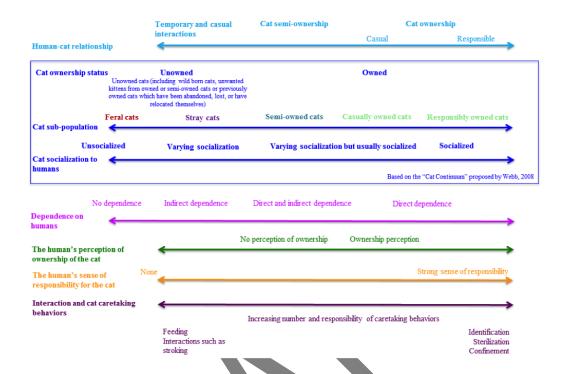
New Zealand is home to millions of cats which can pose a significant threat to wildlife and create a complex animal management problem causing many societal issues. These issues include ethical concerns about the euthanasia of thousands of healthy domestic cats and kittens every year and the humaneness of feral cat control methods, moral stress for the people involved, financial costs to organisations that manage unwanted domestic cats and feral cats, environmental and biodiversity costs, potential for disease spread, community nuisance, and welfare concerns for cats. New approaches to management of this complex issue require understanding of the cat populations, stakeholders involved and a critical assessment of previously management strategies.

Cats can be categorised into various population categories which, together, make up a larger, interconnected network called a 'meta-population' (Jarman et al. 1993; Slater 2001; Toukhsati et al. 2007; Webb 2008; Marston et al. 2009; Alberthsen et al. 2013b; Miller et al. 2014b; Miller et al. 2014a). In the scientific and popular literature related to the cat overpopulation and management, the terms used to categorise cats into different populations are inconsistent and sometimes more than one of the terms may be applied to some cats, resulting in some confusion (Slater 2001; Hughes et al. 2002; Toukhsati et al. 2007). However, all of these terms share a common basis: they describe some aspect of a cat's relationship with humans—whether they are 'owned', confined, socialised, or dependent on humans (Haspel et al. 1990; Moodie 1995; Zasloff et al. 1998; Levy et al. 2003a; Levy et al. 2003b; Toukhsati et al. 2007; Webb 2008; Marston et al. 2009).

The 'meta-population' is a similar concept to the cat continuum described in Australia (Webb 2008; Zito 2015a) which also includes elements pertaining to the human-cat relationships involved, such as the human's perception of ownership of the cat and feelings of responsibility for the cat, association time, attachment, caretaking and interaction behaviours, and the cat's dependence on humans. This concept is illustrated diagrammatically in Figure 1. Relationships are portrayed in this figure as linear, but in reality are multidimensional and interactive. The complex multidimensional nature of these relationships is illustrated in Figure 2 and should give an indication of why the cat management is so challenging.

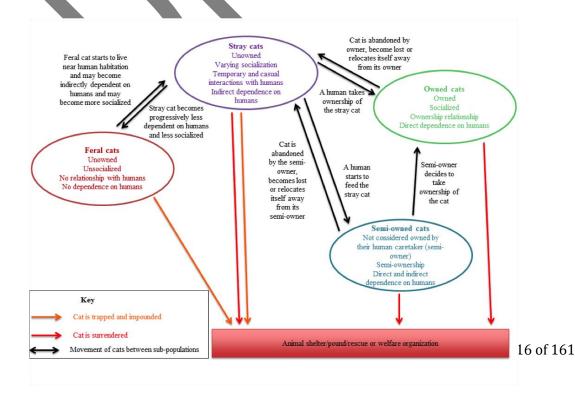
The different populations/categories of cats are of importance to cat management because strategies must be aimed at the source of the problem cats. For example, desexing programs that aim to reduce reproduction will have little impact on cats that do not have an owner or carer who is willing to facilitate the desexing process (Alberthsen 2014).

Figure 1: The human-cat continuum\*



<sup>\*</sup>The cat population terminology in these figures differ slightly from those used in New Zealand and in this document. Semi-owned cats are equivalent to managed stray cats and stray cats are equivalent to unmanaged stray cats.

Figure 2: Diagrammatic representation of the interactions between cat sub-populations, ownership status, socialisation to humans, relationship with humans, and dependence on humans\*



The cat population categories that have been most commonly referred to are those described by Moodie (1995) and the New Zealand Ministry for Primary Industries (2007):

- Feral cat a cat that is not a stray cat and that has none of its needs provided by humans. Feral cats generally do not live around centres of human habitation. Feral cat population size fluctuates largely independently of humans, is self-sustaining and is not dependent on input from the companion cat population.
- Stray cat a companion cat that is lost or abandoned and that is living as an individual or in a group (colony). Stray cats have many of their needs indirectly supplied by humans, and live around centres of human habitation. Stray cats are likely to interbreed with the un-desexed companion cat population.
- Companion cat a cat that lives with humans as a companion and is dependent on humans for its welfare.

The stray cat population includes a sub-population of cats that has been largely ignored in management strategies to date but which has been shown to make a significant contribution to unwanted cat numbers: managed stray cats which are are fed or cared for by people. These managed stray cats have been termed 'semi-owned cats' in the literaure; a precise definition was described by Zito et al. (2015c) as a cat that is fed or cared for often or always for at least one month by a person who does not perceive ownership for the cat. Some managed stray cats are part of a group of cats cared intentionally by humans; these are often termed colony cats. These cats all have a human carer who can be the target of initiatives to address this source of cats but need a different management approach to cat owners. Cat carers (or cat semi-owners) do not consider themselves to be cat owners and so will not comply with regulations and other measures directed at cat owners. Therefore, it is necessary to address this cat population and associated cat carers with strategies specifically designed for this group.

The cat population categories are referred to in this report are:

- Feral these cats are unowned, unsocialised, and have no relationship with or dependence on humans.
- Domestic cats
  - Companion (owned) cats these cats are considered to be owned by a specific person, sociable, and are directly dependent on humans.
  - Stray cats these cats are unowned, of varying sociability, have varying interactions with humans and dependence on humans. This category is subdivided into:

- Socialised stray cats this category is further subdivided into managed and unmanaged socialised stray cats.
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- Colony cats these managed stray cats are managed within a specific cat colony.
- Semi-owned these managed stray cats are of varying sociability but are usually socialised to humans, they interact with people regularly and are directly and indirectly dependent on specific humans but are not part of a cat colony.

In this document the term domestic cat is used to refer collectively to all the cats with some dependence (direct or indirect) on humans; this comprises stray and owned cats.

Although considerable efforts have been made to address cat overpopulation and the adverse impacts of feral cats, the complexity of the problem makes effective cat management very challenging. It is of great importance and urgency that new strategic approaches to cat management are adopted to mitigate the serious negative consequences of the stray and feral cat problem in New Zealand.

## 3. The value of cats

One of the desired outcomes of the The National Cat Management Strategy is that the value of cats is recognised.

Cats have a long history of association with humans dating back almost 10,000 years and both cats and humans have benefited from this association (Haye et al. 2004; Driscoll et al. 2007; Driscoll et al. 2009). Cats provide useful contributions to human societies, such as pest control, but above all they have become important in their role as peoples' companions (Driscoll et al. 2007; Lipinski et al. 2008; Australian Companion Animal Council 2009; Driscoll et al. 2009). Cats also benefit from their relationship with humans and may form unique and close relationships with people (Turner 2000). Humans may provide cats with food, shelter, medical care and social companionship but human–cat relationships and the care offered to cats are very diverse (Adamelli et al. 2005; Zito 2015a).

In addition to cats' extrinsic value due to their importance to people, they also have instrinsic value as complex and sentient beings. This has been recognised in New Zealand where the Animal Welfare Act was amended in 2015 to formally acknowledge the sentience of animals, including cats (New Zealand Government 2015).

## 3.1. Responsible cat ownership

One of the strategic goals of the The National Cat Management Strategy is that all cats are responsibly owned, valued and the benefits of cat ownership are recognised. In addition, one of the desired outcomes of the The National Cat Management Strategy is that responsible cat ownership is defined, understood and complied with.

Responsible cat ownership is considered to include providing appropriate care, shelter, exercise, training, socialisation, identification, registration, desexing and confinement (Fournier 2004; Marston et al. 2008). The Animal Welfare Act 1999 (New Zealand Government 1999) establishes the fundamental obligations relating to the care of animals in New Zealand. Under this Act, owners and persons in charge of cats are required to meet their physical, health and behavioural needs in accordance with good practice and scientific knowledge. Responsible owners acknowledge 'ownership' of their cat, provide care for their cat that meets the five domains of animal welfare (Mellor et al. 1994; Mellow 2004; Mellor et al. 2015; Mellor 2016a; Mellor 2016b) (Figure 3) and comply with the New Zealand Animal Welfare (Companion Cats) Code of Welfare 2007 (National Animal Welfare Advisory Committee, New Zealand 2007).

Figure 3: The Five Domains of animal welfare

#### **Physical/Functional Domains**

	Survival-Related Factors					Situation-Related Factors	
1: Nutrition		2: Environment		3: Health		4: Behaviour	
Restrictions on:	Opportunities to:	Unavoidable/imposed conditions	Available conditions:	Presence of:	Little or no:	Exercise of 'agency' impeded by:	'Agency' exercised via:
Water intake Food intake Food quality Food variety Voluntary overeating Force-feeding	Drink enough water Eat enough food Eat a balanced diet Eat a variety of foods Eating correct quantities	Thermal extremes Unsuitable substrate Close confinement Atmospheric pollutants: CO <sub>2</sub> , ammonia, dust, smoke Unpleasant/strong odours Light: inappropriate intensity Loud/otherwise unpleasant noise Environmental monotony: ambient, physical, lighting	Thermally tolerable Suitable substrate Space for freer movement Fresh air Pleasant/tolerable odours Light intensity tolerable Noise exposure acceptable Normal environmental variability	Disease: acute, chronic Injury: acute, chronic; husbandry mutilations Functional impairment: due to limb amputation, or lung, heart, vascular, kidney, neural or other problems Poisons	Disease Injury  Functional impairment  Poisoning  Body condition	Invariant, barren environment (ambient, physical, biotic) Inescapable sensory impositions Choices markedly restricted Constraints on environment- focused activity Constraints on animal-to- animal interactive activity	Varied, novel, engaging environmental challenges Congenial sensory inputs Available engaging choices Free movement Exploration Foraging/hunting Bonding/reaffirming bonds Rearing young Playing
		Unpredictable events	Predictability	Poor physical fitness: muscle de-conditioning	appropriate Good fitness level	Limits on threat avoidance, escape or defensive activity Limitations on sleep/rest	Sexual activity Using refuges, retreat, or defensive attack Sleep/rest sufficient

#### **Affective Experience Domain**

	5: Mental State						
Negative	Positive	Negative	Positive	Negative	Positive	Negative	Positive
Thirst	Wetting/quenching pleasures of drinking	Forms of discomfort: Thermal: chilling, overheating	Forms of comfort: Thermal	Breathlessness Pain: many types	Comfort of good health and high	Anger, frustration Boredom, helplessness	Calmness Engaged, in control
Hunger (general)	Pleasures of different tastes/smells	Physical: joint pain, skin irritation Physical: stiffness, muscle tension	Physical	Debility, weakness Sickness, malaise	functional capacity	Loneliness, isolation	Affectionate sociability Maternally rewarded
Hunger (salt)	Pleasure of salt taste Masticatory pleasures	Respiratory: e.g. breathlessness Olfactory	Respiratory Olfactory	Nausea Dizziness		Depression Sexual frustration	Excitation/playfulness Sexual gratification
Malnutrition malaise	Postprandial satiety	Auditory: impairment, pain Visual: glare/darkness eye strain	Auditory Visual	Physical exhaustion	Vitality of fitness	Anxiety, fearfulness, panic, anger	Secure/protected/confident
Bloated, over full Gastrointestinal pain	Gastrointestinal comfort	Malaise from unnatural constancy	Variety-related comfort	r nyacai exhausion	Vicality of Huress	Neophobia Exhaustion	Likes novelty Energised/refreshed

#### **Welfare Status**

The Five Domains model adapted to highlight survival-related and situation-related factors and their associated physical/functional domains, and examples of aligned negative or positive affects assigned to the mental domain. The overall affective experience in the mental domain equates to the welfare status of the animals. Note that an animal exercises 'agency' (domain 4: behaviour) when it engages in voluntarily, self-generated and goal-directed behaviours (Mellor et al. 2015).

Based on the American Veterinary Medical Association guidelines (American Veterinary Medical Association 2016) and in accordance with the Animal Welfare (Companion Cats) Code of Welfare (released under the Animal Welfare Act 1999 and which contains minimum standards and recommendations for best practice) it is suggested that potential cat owners consider a variety of different factors including:

- Cat ownership is a commitment for the lifetime of the cat which may be as long as 20 years.
- Finding an appropriate cat should involve careful deliberation and reflection on what qualities will suit the cat to the owner's home and lifestyle.
- Cat ownership requires an investment of time and money. Costs include food, veterinary care and ongoing care of the cat if the owner is away.
- It is important to keep only the type and number of cats for which an appropriate and safe environment can be provided (including appropriate food, water, shelter, health care and companionship).
- Cats should be properly identified with a microchip and external identification (collar and tag). The implanter and cat owner should both record the cat's microchip number. Other information (such as the owners' contact details) should be registered on the New Zealand Companion Animal Register [NZCAR] to make it easier to return lost, stray or stolen cats to their owners. A cat's microchip registration information needs to be kept up to date on the New Zealand Companion Animal Register [www.animalregister.co.nz].
- The are local by-laws and New Zealand central government law relating to cats which cat owners should be aware of and adhere to. For example, the Animal Welfare Act 1999 (New Zealand Government 1999), expanded upon in the New Zealand Animal Welfare (Companion Cats) Code of Welfare 2007 (National Animal Welfare Advisory Committee, New Zealand 2007). The law requires that cat owners:
  - ensure that the physical, health and behavioural needs of their cat are met in a manner that is in accordance with both good practice and scientific knowledge
  - where practicable, enure that a cat that is ill or injured receives treatment that will alleviate any unreasonable or unnecessary pain or distress being suffered by the cat or that it is killed humanely

- must not desert a cat in circumstances in which no provision is made to meet its physical, health and behavioural needs
- must not kill a cat in a manner that the cat suffers unreasonable or unnecessary pain or distress
- Cats should be desexed before they are able to start reproducing (at or before
  four months of age). This has health benefits for the cat, behavioural benefits
  and helps to address urban animal control and overpopulation problems. Kittens
  can be desexed as soon as they reach 1kg in body weight (or less under certain
  conditions).
- Cat owners should provide appropriate health care for their cat with a
  veterinarian's advice and support. Cats require both preventive and therapeutic
  health care (e.g. vaccinations, parasite control, and treatment and monitoring of
  health problems).
- Cats need adequate and appropriate socialisation, training, exercise and mental stimulation appropriate to the cats' age, breed, and health status. This improves their well-being and the well-being of other animals and people in their environment.
- Cats should be prevented from negatively impacting other people, animals and
  the environment. This necessitates proper waste disposal, noise control, keeping
  the cat confined indoors at least at night, and taking all responsible steps to
  avoid the cat straying.
- It is important to undertake some advance preparation to ensure the cat's wellbeing in the case of an emergency or disaster, including assembling an evacuation kit.
- Thought should be given to alternative arrangements for the cat if for some reason it is no longer possible for the owner or carer to look after the cat.
- Declines in a cat's quality of life should be recognised and acknowledged and decisions should be made in consultation with a veterinarian regarding appropriate end-of-life care (e.g. palliative care, hospice, euthanasia).
- Advice about responsible cat ownership can be sought from RNZSPCA centres and veterinarians.

## 3.2. The benefits of cat ownership

One of the desired outcomes of the The National Cat Management Strategy is that the benefits of cat ownership are recognised.

New Zealand has one of the world's highest cat ownership rates, with 44% of New Zealand households owning at least one cat (New Zealand Companion Animal Council 2016).

Many benefits have been associated with having a pet cat (Australian Companion Animal Council 2009). These include social enablement (Giles-Corti et al. 2005; Zimolag et al. 2009), companionship (Siegel et al. 1999; Castelli et al. 2001), increased quality of life for the elderly (Zasloff 1996; Senepa et al. 2004), improved ability to cope with grief and stress (Rohlf et al. 2005), specific health benefits (Anderson et al. 1992; Straede 1993; Friedmann et al. 1995; Jennings 1997; Allen et al. 2001; Anderson 2004; Janevic et al. 2007; Qureshi 2009), and general health benefits (Headey 1999; Grabka et al. 2007), as well as benefits to children's health and development (Nagengast et al. 1997; Platts-Mills 2002; Wu et al. 2002; Frederick 2003; Russell 2003; Gagnon et al. 2004; Caprilli et al. 2006; Robbins 2006), especially in nurturing and social skills (Triebenbacher 1999; Melson 2003).

Cats also provide benefits to society as working cats, for example, on farms and as occupational therapy animals (D'Arcy 2011; Rijken et al. 2011; Hasselman 2013). Although the impact of cats on ecosystems is generally considered to be negative cats may also have positive impacts on ecosystems. Cats can control pest species such as rodents and rabbits which, in large numbers, may cause considerable environmental damage (Bergstrom 2009).

## 4. The need for cat management

## 4.1. Protection of native species and ecosystems

One of the desired outcomes of the The National Cat Management Strategy is that there is no adverse effect of cats on native species in New Zealand.

#### 4.1.1. The impact of cats on biodiversity

Predation of cats on New Zealand's native species has been well documented, including native birds, lizards, frogs and invertebrates. Cats have been shown to have a significant negative impact on a number of rare and threatened native bat and bird species, particularly birds that rest, feed or nest on the ground or in low vegetation (Fitzgerald et al. 1985; Fitzgerald 1988; Gillies et al. 2003; Norbury et al. 2008; Gordon et al. 2010; van Heezik et al. 2010; Farnworth et al. 2013b).

Cats also prey on introduced species of small mammals, birds, lizards, frogs and invertebrates. These animals may have a singificant negative impact on native wildlife. Cat control measures may result in increased numbers of these species and this will often have a negative impact on native wildlife. This dynamic must be considered and addressed when planning cat control programs (Robley 2004; Farnworth et al. 2013b).

Any cat with outdoor access may prey on wildlife (including companion cats) but their prey varies depending on their location (Gillies et al. 2003; Farnworth et al. 2013b).

It is clear that effective cat control and mitigation of negative impacts of cats on New Zealand's native biodiversity is vital. This will necessitate control of feral and stray cat populations and measures to mitigate the impacts of domestic cats on wildlife.

#### i. Indentification and protection of ecologically sensitive areas

Urban environments are generally degraded, of low quality and consequently less able to support native species. Many sites are highly modified and fragmented with dense development and little green space. Introduced birds and mammals are prevalent in built up areas and some of these species such as rats, mice, rabbits and introduced bird species are commonly targeted by cats (Gillies et al. 2003; Farnworth et al. 2013b). In areas where native wildlife still persists the presence of cats will likely exacerbate local species decline and, consequently, cat population control is necessary. Caution must be applied when planning predator reduction programs as it may lead to an increase in

introduced birds and mammals and resultant negative environmental and community impacts (Farnworth et al. 2013b). Any predator control programs must be combined with control programs for other introduced species also (Farnworth et al. 2013b).

The islands from which feral cats have been eradicated provide examples of what can be achieved when the impacts of feral cats (and other predators) on native species are removed:

- Within six years of the eradication of feral cats and rats from Raoul Island, five seabird species that had become locally extinct were again breeding on the island (black-winged petrel; Kermadec petrel; wedge-tailed shearwater; sooty terns; red-tailed tropicbird). Additionally, spotless crake and the Kermadec parakeet had recolonised the island from nearby predator free islands (Bellingham et al. 2010; Veitch et al. 2011).
- Once cats were removed from Mangere Island in the Chatham Islands, Forbes
  parakeet and white-faced storm petrels recolonised the island (New Zealand
  Department of Conservation 2001; Bell et al. 2003). Chatham Island snipe were
  successfully reintroduced from Rangatira Island (Dowding et al. 2001).
- The eradication of cats allowed tuatara to be successfully introduced to Motuihe Island in the Hauraki Gulf (New Zealand Department of Conservation 2016).
- On Hauturu (Little Barrier Island), kokako and tieke (saddleback) were liberated following cat eradication and bred successfully (Bellingham et al. 2010). There was also an increase in the number of black petrels breeding on the island (Bellingham et al. 2010). However, the eradication of cats from Hauturu also highlighted the need to control other predators. While the eradication of cats reduced predation of adult Cook's petrels, there was an increase in predation of Cook's petrel chicks and eggs by kiore (Imber et al. 2003). Cook petrel breeding success increased once kiore were eradicated from the island in 2004 (Bellingham et al. 2010).
- Following the eradication of cats and rats from Tuhua in 2000, it has become a safe haven for threatened bird species from the mainland. North Island robins, Pateke (brown teal) and North Island brown kiwi have been released on the island and all appear to be establishing successful breeding populations (Bellingham et al. 2010). Orange Fronted Parakeets/kākāriki were introduced during 2009/10 (New Zealand Department of Conservation 2011).

#### ii. Containment of ecologically sensitive areas

The removal or exclusion of predators from an ecologically sensitive site is the only way to ensure the safety of vulnerable native species. Ongoing control is required to reduce and maintain cat numbers at low levels in remote and rural sites. For example, 479 cats were removed from the 1700 ha Pukaha/Mt Bruce buffer in the northern Wairarapa since 2008 and despite the intensive and ongoing nature of the control, the total number of cat captures continues to fluctuate between 50 to 90 cats per annum, with a total of 79 captured and humanely killed in 2014/15.

Predator exclusion fences such as the fence surrounding Wellington's urban sanctuary Zealandia are very expensive to build and maintain, and are restricted by land use and geography. Unfenced mainland islands such as Pukaha, which use intensive trapping and poisoning to protect the site, suffer from significant re-invasion.

## iii. Public education about the negative impact of cat predation on New Zealand's biodiversity

One of the desired outcomes of the The National Cat Management Strategy is that the public understand the potential impacts of cat predation on New Zealand's unique environment.

Although the impact of feral cats on wildlife is well documented and generally accepted by the public, the predation of companion cats on wildlife is less well recognised and accepted. Better evidence of the impacts of companion cats on native biodiversity in urban areas and the benefits of appropriate cat management to mitigate these negative impacts would be of use in designing education campaigns for cat owners. In addition to predation on wildlife, cats can transmit the protozoal disease toxoplasmosis to wildlife causing mortality and morbidity in native species (Howe et al. 2014).

While the prey intake of feral cats is approximately four times that of a companion cat, cats that receive food (directly or indirectly) from humans in the urban environment hunt nonetheless (Farnworth et al. 2013b). Although not all companion cats are active hunters and hunting patterns vary considerably between cats, outdoor access increases the likelihood of predation of wildlife (Farnworth et al. 2013b; Loyd et al. 2013).

Sites which retain native species, such as bush, wetland or coastal remnants, are often found on urban fringes and in rural locations and these may be in close proximity to housing and development (Farnworth et al. 2013b). The identification of these

ecologically sensitive areas is vital in determining where cat management will be most valuable. Organisations such as DOC, Queen Elizabeth II Trust and local authorities all have programs which identify and protect sites of high biodiversity (Predator Free New Zealand 2016). The Greater Wellington Regional Council Key Native Ecosystems programmecontrols pests and manages threats at high biodiversity sites across the Wellington region, many in urban areas. The growing abundance of native species in urban areas (Landcare Research 2015) shows the benefits of pest control in these areas. However, free-ranging companion cats make the mitigation of cat impacts on native species complex and difficult. The management of cats would complement existing pest control in these areas and greatly reduce the risk of predation for vulnerable native species. It is important that the public, particularly those people with companion cats, understand the potential impacts of cat predation on New Zealand's unique environment in order to increase the likelihood of acceptance and uptake of measures designed to mitigate companion cat predation.

It is vital that conservation campaigns aimed at mitigating companion cat predation of wildlife include properly designed communication campaigns to have the best chance at altering cat-owner behaviour. A recent study exploring the factors that drive cat-owner behaviour relevant to limiting domestic-cat impacts on native wildlife reported that campaigns should use veterinarians to advocate messages to emphasise the benefits of being inside to companion cats and the positive impact on the owner (MacDonald et al. 2015). For those cat owners who keep their cat outside exclusively, it was suggested that it would be more appropriate for a campaign to focus on social norms highlighting the positive actions of others bringing their cats inside (MacDonald et al. 2015).

Many stakeholders would need to be involved in such a campaign (for example, government, conservation groups, community groups, veterinarians, and animal welfare organisations). It is important that all stakeholders involved promote accurate and consistent information. Fact sheets could be produced on the negative impacts of cats on wildlife, how to mitigate these and the benefits of cat management for the welfare of both cats and wildlife. Social media, online video servers and interactive forums could be used to further promote this information.

## 4.2. The impact of cats on the community and environment

One of the desired outcomes of the The National Cat Management Strategy is that negative impacts of cats on the New Zealand community and environment are minimised. This can be achieved through effective and humane management of cats, in both urban and rural areas.

#### 4.2.1. Zoonotic disease

It is important that both the potential positive and negative effects of cats on human health are recognised, understood and addressed. Although many positive influences of cats on human health are documented (detailed previously in section 3.2 under The benefits of cat ownership), cats may also present a risk to the health of cat owners, those working with cats (such as veterinarians, veterinary nurses, cattery workers etc.) and the general public through the transmission of zoonotic diseases (diseases of animals that are naturally transmissible to man). The number of zoonoses that are endemic in New Zealand are relatively few compared to other countries and most zoonoses in New Zealand constitute minor risks to human health. However, the risks must still be acknowledged and addressed because some zoonotic diseases in New Zealand can result in serious disease. Certain groups within society are at increased risk of contracting zoonotic disease, including those who are immunocompromised, children and the elderly.

In general, the risks of contracting zoonoses from cats are outweighed by the positive benefits of cat ownership. Therefore, emphasis should be placed on educating the public about zoonotic disease risks, who is most at risk and how to reduce the risks of transmission of zoonotic disease by high standards of animal care and husbandry, management of environmental factors and good hygiene practices. In New Zealand the most common zoonoses of cats are ringworm and flea infestation.

Ringworm is a fungal skin infection frequently transmitted from cats to humans, particularly children, but infections in humans are usually low grade and easily treated. The primary agent in cats is *Microsporum canis*, although *Trichophyton* species are also implicated. Up to 30% of cats can be asymptomatic carriers of *M. canis*. Cats with clinical lesions represent the greatest risk of transmission to humans.

Flea infestation of cats and subsequent environmental contamination with flea larvae and eggs can result in flea bite allergy in humans, with women and children being most commonly affected.

Humans can also be affected by mites from cats. *Cheyletiella* spp. are the primary agent.

Inadvertent ingestion of intestinal worm eggs (*Toxocara* spp.) from faecal contamination of the environment by cats (particularly sand pits, gardens etc. where children play) can result in visceral larvae migrans. This is a syndrome of organ inflammation associated with the migration of worm larvae through the body. In some cases migration of the larvae can cause permanent loss of eye sight.

The larval stages of some hook worm species can migrate through the skin resulting in cutaneous larva migrans, although this is extremely rarely in New Zealand.

Transcutaneous infection with hookworm usually causes localised irritation of the feet and, occasionally, more generalised illness.

Adequate parasite control administration to cats will eliminate or significantly reduce the risk of all of the zoonotic diseases discussed above.

Cat bites and scratches represent a health risk to humans through the inoculation of feline oral bacteria in bite wounds creating localised pain and infection. Cat bites and scratches can also result in the transmission of the bacteria, *Bartonella henselae*, which is the causative agent of cat scratch fever (or cat bite fever). This infection can result in flu-like clinical signs, including fever and lymph node swelling and, in some cases, serious disease. This is most common in young people (children and adolescents).

The protozoal disease toxoplasmosis is an important zoonotic disease associated with cats. Cats are the only definitive hosts of the protozoa, and may shed millions of infectious oocysts in their faeces in to the environment. However, this only occurs during the first 2-3 weeks after the cat is first infected or, occasionally, if an infected cat becomes immunocompromised later in life. Oocysts can persist in the environment for 18 months or longer. Infection of humans occurs through two main pathways: ingestion of oocysts directly from the environment (for example, from garden soil, sand pits and unwashed vegetables) or from tissue cysts in improperly cooked meat (this is the most common mode of human infection). In most humans, infection is mild and self-limiting but in immunocompromised people generalised infection can occur and this can result in neurological disease. Another significant human health concern is the infection of

pregnant women who have had no previous exposure to the disease. This can lead to foetal infection and this may cause abortion, still birth or birth of children with central nervous system defects and other permanent damage. It is important to note that clinical toxoplasmosis in humans is uncommon and the risk of infection can be easily mitigated through high standards of animal care and husbandry, management of environmental factors and good hygiene practices.

There are also a number of gastrointestinal infections (for example, *Giardia*, *Cryptosporidia*, *Campylobacter*, *Salmonella* etc.) and other infectious diseases (for example, *Chlamydia* spp.) that can represent a zoonotic risk to those in contact with cats or their faeces.

The risk of zoonotic disease to cat owners can be minimised largely through simple husbandry and hygiene measures:

- Regular de-worming of cats as directed by a veterinarian.
- Regular flea treatment of cats as directed by a veterinarian.
- Good hygiene practices particularly encouraging children to wash their hands after playing in sand pits, playgrounds, the garden or after touching cats.
- Prompt collection and disposal of cat faeces from litter trays and the environment (where possible). Pregnant women should avoid emptying cat litter trays and wear gloves when handling litter or soil.
- Sandpits and other play areas should be covered when not in use where practical.
- Veterinary advice should be sought immediately for any unwell cat.

#### 4.2.2. Nuisance behaviours

Cat behaviours which are considered a nuisance by some members of the community include defectaion and digging in gardens, fighting, damaging property, noise, spraying and the existence of unwanted stray cats on private property.

Cat predation on wildlife is another cat behaviour which causes considerable community concern. Many communities are working hard to protect native animals through the removal of predators but are frustrated as they cannot prevent predation by companion cats. This is particularly a problem during the vulnerable fledgling period of native birds.

#### Existing response to nuisance problem

Nuisance is the main justification used by Local Authorities to manage cats under existing Animal Bylaws. Those Local Authorities that manage cats using this justification tend to have limits on the number of cats that are allowed to be kept on a property or by an individual. The following Local Authorities have bylaws limiting cat numbers allowed to be kept on a property or by an individual in place:

- Far North District Council limit of 5 cats
- New Plymouth District Council limit of 5 cats
- Marlborough District Council limit of 4 cats
- Hastings City Council limit of 4 cats
- Buller District Council limit of 3 cats
- Invercargill City Council limit of 3 cats
- Masterton District Council limit of 3 cats
- Palmerston North City Council limit of 3 cats
- Rangitikei District Council limit of 3 cats
- Proposed in Wellington limit of 3 cats, possibly fewer in sensitive wildlife areas

Limiting cat numbers also allows Councils to manage people who hoard cats because the charge of 'nuisance' is easily justified as such a concentration of cats is a problem for the surrounding community. Animal hoarders also pose a significant challenges from an animal welfare perspective.

Those Local Authorities that do not manage cats have traditionally argued that the lack of complaints about cats demonstrates that the nuisance caused by cats does not warrant action. However, it is well documented that animal welfare organisations are the recipient of most complaints about cat problems, including nuisance complaints. In 2015 the Society for the Prevention of Cruelty to Animals (SPCA) received 2341 cat nuisance complaints – 15% of their total animal welfare complaints.

Surveys can give a better idea of the true scale of the cat nusiance problem. A <u>survey</u> conducted by the Wellington City Council found that 45% of respondents had been "bothered by cat behaviours, including digging and toileting in gardens and lawns, attacking and killing wildlife and other people's pets, fighting, getting into rubbish, stealing property and producing unwanted kittens".

In order to facilitate reduction of cat nuisance to the community the person responsible for an owned cat causing nuisance must be able to be identified (for example, through microchipping +/- registration of owned cats). If the owner of the cat cannot be identified it is impossible to enforce any cat management requirements. In addition, the entity responsible for for managing stray cats when they are creating a nuisance problem must be identified. Like dogs, that responsibility is likely to fall to Local Authorities.

## 4.3. The impact of cats on pastoral industries and the marine environment

One of the desired outcomes of the The National Cat Management Strategy is that negative impacts of cats on New Zealand's pastoral industries are minimised.

The presence of cats (feral, stray and companion) in New Zealand impacts on New Zealand's pastoral industries through the transmission of disease to grazing species. The most important disease of concern in New Zealand is the protozoal infection toxoplasmosis. *Toxoplasma gondii* is one of the most successful parasitic organisms globally and is widespread throughout New Zealand. This protozoal parasite is capable of infecting all warm blooded animals but, in New Zealand, is most significant in sheep and goats as it results in substantial economic and welfare impacts. The cost of toxoplasmosis to the Sheep Industry was estimated at approximately \$18 million in 2014, just in the Hawke's Bay region of New Zealand (Walker 2014).

Toxoplasmosis can cause poor conception rates in ewes, foetal death during pregnancy, weak non-viable lambs and reduced numbers of lambs born per ewe. According to Beef and Lamb New Zealand (2016), toxoplasmosis is the second most common cause of abortion in sheep. A New Zealand monitoring programme found up to 30% of sheep carry toxoplasma (Cape to City 2016).

The costs of toxoplasmosis to the farming industry occur through:

- Loss of lambs through abortion low level insidious losses or large scale abortion storms
- The birth of weak non viable lambs which fail to thrive and subsequently die

- Culling of fertile ewes which are assumed to be barren through undetected abortions
- The cost of vaccination of ewes to reduce the impact of the disease

Faecal contamination of the environmental by cats (detailed above in Section 4.2 under The impact of cats on the community and environment) is the primary source of infection for pastoral species, through ingestion of both feed and water contaminated by oocysts from cat faeces.

There are two forms of control available to prevent the impact of toxoplasmosis on New Zealand pastoral industries: prevention of the transmission of toxoplasmosis from cats (the definitive host) to stock through cat population management; and vaccination of sheep to reduce the impact of the disease.

There is a single dose vaccine for toxoplasmosis available in New Zealand that is recognised as an effective tool for reducing ewe abortions and foetal loss. While this continues to be a primary means of addressing the impact of Toxoplasmosis, it cannot mitigate the risk of this disease alone, as even vaccinated ewes can be effected in situations of high challenge. Consequently, the control of cats, particularly feral and stray cats, in pastoral areas is also important in reducing the impact of this disease on pastoral industries. While the removal of feral and stray cats from farming communities is a key aspect of the control of toxoplasmosis it will not prevent the disease altogether as companion cats will continue to act as reservoirs for the disease. Therefore, education of the public, particularly those with companion cats, about this disease and their part in helping to reduce the risk of *Toxoplasma gondii* transmission by their cats would be of great benefit.

The presence of cats (feral, stray and companion) in New Zealand is also likely to impact on New Zealand's marine environment due to transmission of *Toxoplasma gondii*. *Toxoplasma gondii* infection is known to be a cause of mortality in the critically endangered Hector's dolphins (Cephalorhynchus hectori) (Roe et al. 2013). *Toxoplasma gondii* infection has also be suggested as a potential factor influencing reproductive failure in New Zealand sea lions, although not thought to be a major contributor to poor reproductive success (Michael et al. 2016). In addition, *Toxoplasma gondii* has been found in shellfish (Putignani et al. 2011).

The protozoal disease sarcocystosis has also been identified as a disease of potential significance to sheep and goats in New Zealand but its impact is less well understood.

## 5. Humane cat management

# 5.1. Legislative, regulatory and educative framework to support cat management

One of the strategic goals of the The National Cat Management Strategy to support cat management through an appropriate legislative, regulatory and educative framework. In addition, one of the desired outcomes of the The National Cat Management Strategy is that cat owners understand their legal obligations.

## 5.1.1. Existing legislative, regulatory and educative framework relating to cat management in New Zealand

The Animal Welfare Act 1999 is the main legislation relating to the welfare of animals in New Zealand. It establishes the fundamental obligations relating to the care of animals. These duty of care obligations are written in general terms with more details being found in the codes of welfare. Under this Act, owners and persons in charge of animals are required to meet their physical, health and behavioural needs in accordance with good practice and scientific knowledge.

However, The Act doesn't expand on these obligations; for example, it does not detail what constitutes an appropriate amount of food or water for any particular species. To include this information in the Act would make it a very lengthy and unwieldy legislation. Therefore, codes of welfare are produced for either a particular species, particular function, or for animals used in entertainment. The relevant code of welfare is the Animal Welfare (Companion Cats) Code of Welfare.

Key legislation relating to cats and cat management in New Zealand is listed with links to the full legislation in Table 2. In addition, the pertinent sections of each of the pieces of legislation relevent to cat management have been pulled out and compiled for reference in the appendices:

Appendix 1: Existing legislative, regulatory and educative framework relating to cat management in New Zealand

Appendix 2: NZ North Island Council Bylaws pertaining to cats

Appendix 3: International examples of existing cat control specific legislation

Table 2: Key legislation relating to cats and cat management in New Zealand

Legislation	Link to further details
The Animal Welfare Act 1999	http://www.legislation.govt.nz/act/public/1999/0142/latest/DLM49664.html
Animal Welfare (Companion Cats) Code of Welfare	https://www.mpi.govt.nz/protection-and- response/animal-welfare/codes-of-welfare/
Resource Management Act 1991	http://www.legislation.govt.nz/act/public/1991/0069/latest/DLM230265.html
Biosecurity Act 1993	http://www.legislation.govt.nz/act/public/1993/0095/latest/DLM314623.html
Conservation Act 1987	http://www.legislation.govt.nz/act/public/1987/0065/latest/DLM103610.html
Wildlife Act 1953	http://www.legislation.govt.nz/act/public/1953/0031/latest/DLM276814.html
National Parks Act 1980	http://www.legislation.govt.nz/act/public/1980/0066/latest/DLM36963.html
Local Government Act 2002	http://www.legislation.govt.nz/act/public/2002/0084/latest/DLM170873.html

## 5.1.2. Creating an appropriate legislative and regulatory framework to enable humane cat management

An appropriate legislative and regulatory framework is an important component of humane cat management.

This framework must include:

- Measures to protect the welfare of cats (particularly where lethal control methods are used for feral cats)
- Measures to ensure the humane treatment of cats (particularly where lethal control methods are used for feral cats)

Measures to encourage responsible cat ownership

There are many potential policies that can be included in a legislative and regulatory framework but not all will be equally effective in improving cat management. Each potential policy needs careful evaluation to assess its potential benefit to cat management, humaneness, cost effectiveness and potential for implementation.

## 5.2. Approaches to effective cat management

#### 5.2.1. Stakeholders

In order to devise effective cat management strategies it is essential to identify and have an understanding of all key stakeholders. Stakeholders in the complex area of cat management include: cat owners, cat carers, veterinarians, government, animal welfare organisations, animal control organisations, conservation groups and the community.

An understanding of the different stakeholders and their relationships with cats is essential to achieve stakeholder engagement in initiatives to address the unwanted cat problem which is in turn vital to the success of cat management programmes.

#### 5.2.2. Cat population categories

Cats are generally categorised into populations based on the cat's interactions with and dependence on humans (see Introduction) but not all cats will be perceived as owned by the people caring for them. Managed stray cats (or semi-owned cats) are cats cared for by people who do not perceive ownership for the cat. The distinction between 'owned' companion cats and managed stray (semi-owned) cats is a key component in the deciding what initiatives are appropriate to individual cat management situations.

#### 5.2.3. Managing feral cats

One of the desired outcomes of the National Cat Management Strategy is that there are no feral cats in New Zealand. This is linked to the desired outcome that there is no adverse effect of cats on native species in New Zealand. It is acknowledged that this will be challenging to achieve, if at all possible.

A feral cat lives in the wild and has none of its needs provided for by humans. Feral cats can be found in most terrestrial habitats from sea level to alpine areas but generally do not live around centres of human habitation (Gillies et al. 2005; Webb 2008; Alberthsen

2014). Feral cats are distributed throughout all the main islands of New Zealand and are also present on a number of outlying islands. The feral cat population is largely independent of human influence, and self-sustaining. Densities of feral cats vary widely and are largely dependent on the availability of prey (Gillies et al. 2005). Evidence indicates that feral cats are generalist predators (Farnworth et al. 2013b) and, while field studies have shown that feral cats predominantly prey on rats and rabbits (Gillies et al. 2005), they may also prey upon native bats, birds, reptiles, insects, and amphibians (Farnworth et al. 2013b). As New Zealand's native species evolved in the absence of mammalian predators, they are poorly adapted to respond to predation by feral cats. Consequently even low numbers of feral cats can have a significant impact on native species (Farnworth et al. 2011).

Feral cat control to protect New Zealand's native species falls under two broad categories – a) sustained control as is part of wider predator (mustelids, possums, hedgehogs and rodents) control programmes, and b) specific eradication of feral cats from offshore islands and fenced sanctuaries.

Examples of sustained feral cat control operations include kiwi protection in Northland, shore bird protection at breeding sites, and Otago and Grand skink protection. At these sites feral cat control occurs on an annual basis as there is an ongoing problem with reinvasion by feral cats living outside the area. Eradication of feral cats from offshore islands and fenced sanctuaries has allowed the re-introduction of native birds that would otherwise be unable to survive. The techniques used to control feral cats in both situations are similar but in an eradication programmethe control programme undertaken is more intensive. Adequate high level resourcing and financing is vital for any successful intensive predator management programme.

Although classed as a pest species, feral cats have the same declaration of sentience under the Animal Welfare Act 1999 as companion cats. There are also offences of wilfull and reckless ill-treatment of wild animals or animals in a wild state. Therefore, where cats must controlled through lethal means, it is of great importance that cats are treated and killed as humanely as possible and that the strategies used are effective and generally accepted.

## Techniques used to control feral cats

Three broad control techniques are currently used to control feral cats in New Zealand: poisoning, trapping and shooting. For all methods of feral cat control the relative

humaneness, effectiveness and practicality should be considered using the most current science and guidelines available to ensure best practice methodology is used. A brief explanation of each currently utilised technique is given below but the reader is advised to refer to detailed and up to date information, such as that produced by the Department of Conservation or the National Pest Control Agencies.

## 1) Poisoning

This control technique involves placing poison bait on the ground or in a bait station. It can be used at all feral cat densities and in all types of habitat. The use of poisons to control cats is strictly regulated in New Zealand. Currently there are two poisons (Vertebrate Toxic Agents) registered for use in the control of feral cats in New Zealand: sodium fluoroacetate (1080) and para-aminopropiophenone/4-aminopropiophenone (PAPP).

## 2) Trapping

Trapping involves catching a feral cat in some sort of device. Traps types include kill, leg-hold and cage traps. In New Zealand trap use is regulated by the Animal Welfare Act 1999 (New Zealand Government 2015). This Act permits any trap to be used for trapping any species, but the Minister for Primary Industries can recommend to the Governor General that certain traps should be prohibited because they cause unacceptable pain and suffering. All traps must be checked within 12 hours of setting, every day they remain set and beginning the day after they are first set. All traps and devices can be subject to regulations made under the Act. Examples are the Animal Welfare (Leg-hold Traps) Order 2009 and the Animal Welfare (Glueboard Traps) Order 2009. Cats found in traps must be removed, tended to appropriately, or killed humanely as soon as they are discovered.

In determining the method of killing cats that have been caught in a trap but not killed, best practice is to avoid unreasonable or unnecessary pain or distress, and cause irreversible loss of consciousness and death, as quickly and painlessly as possible.

The choice of method depends on individual confidence and skill, the species and age of the animal, the situation and whether the method can be applied properly in the situation.

Recommended methods in guidance provided by the National Pest Control Agencies and DOC are a blow to the head with a solid object or firearm. Euthanasia by a vet is also an option. There are animal welfare and human safety risks with all of these options. In all cases, death should be confirmed afterwards and if there is any doubt that the animal is not dead, all methods should be followed by a secondary method, e.g. throat cut to ensure that the animal dies from blood loss. Death can be confirmed by touching the eye to check for corneal reflex.

Drowning is never an acceptable kill method.

## a) Kill traps

There are a number of different kill traps available for feral cat control in New Zealand. With these traps, the cat is enticed into the trap, which is triggered when the cat touches a bait. Once triggered, the trap kills the cat without involvement of the person operating the trap. To help individuals and organisations undertaking feral cat control with kill traps the National Pest Control Agencies (NPCA) have produced kill trap best practice guidelines (National Pest Control Agencies 2015a).

The Animal Welfare Act 1999 gives the National Animal Welfare Advisory Committee (NAWAC) a role in outlining and promoting best practice in the hunting and killing of wild animals (including pests). NAWAC can also recommend the issue of regulations to restrict or prohibit certain traps or devices on animal welfare grounds. It has developed a guideline for assessing the animal welfare impacts of traps.

The NPCA kill trapping best practice guidelines (National Pest Control Agencies 2015a) include a section on welfare of trapped animals that gives practical guidance to people using kill traps.

# b) Leg-hold traps

These traps catch the cat by its leg and hold it until the cat is killed by the person operating the trap. For a leg-hold trap to be effective, it must catch and restrain the cat effectively while minimising injuries. The use of leg-hold traps is restricted through the Animal Welfare Act 1999 (New Zealand Government 2015) and the Animal Welfare (Leg-hold Traps) Order 2007 (New Zealand Government 2007).

To help individuals and organisations undertaking feral cat control using this technique, the National Pest Control Agencies (NPCA) have produced leg-hold trap best practice guidelines (National Pest Control Agencies 2015b).

## c) Cage traps

When using this technique, a feral cat is caught in a small cage. On entering the cage, the cat must touch a bait or step on a treadle to close the door of the cage behind it. The animal remains in the cage until the person operating the trap returns and either releases or kills the animal.

# 3) Shooting

As a stand-alone technique shooting is usually ineffective because feral cats are difficult to locate and shoot. Shooting feral cats tends to be either opportunistic during day time or spotlighting at night time. Shooting is usually used as a supplementary technique to trapping, primarily to target specific trap shy animals as a last resort.

## Summary of feral cat management

Despite the consideration of feral cats as pests it is vital that feral cat control techniques are assessed using a humaneness model, best practice is ensured through the development and use of Standard Operating Procedures, and the use of only the most humane effective methods of cat control and adherence to the Animal Welfare Act 1999 are mandated and enforced. There is an urgent and vital need for research and development of more humane control methods for feral cats. Allocation of resources, coordination and priority setting to support fundamental ongoing research to inform humane cat management strategies should be made a national priority.

# 5.2.4. Managing domestic cats

Currently there is no national strategy for cat management in New Zealand (Farnworth et al. 2013b). In order to be effective any management strategy for cats needs to include management of domestic cat populations as well as feral cat populations. The domestic cat population includes stray cats and companion cats.

Evaluation of cat management strategies is essential in order to determine their effectiveness. Potential evaluation measures for strategies to manage domestic cats are summarised at the end of this section in Table 3.

# Managing urban stray cats

One of the desired outcomes of the The National Cat Management Strategy is that there are no stray cats in New Zealand. This is linked to the desired outcomes that there is no adverse effect of cats on native species in New Zealand. It is acknowledged that this will be challenging to achieve, if at all possible.

Stray cats live in and around human habitations but have no identifiable owner. A proportion of these cats are likely to have been previously owned (but were then lost or strayed) or originally unwanted kittens of owned or managed stray cats (Casey et al. 2009; Marston et al. 2009). Stray cats often depend on resources supplied indirectly and unintentionally by humans (Aguilar et al. 2012; Finkler et al. 2012; Alberthsen 2014).

# Stray cats\* include:

- Socialised stray cats (managed and unmanaged)
- Unsocialised stray cats (managed and unmanaged)

\*For full details of the cat groups making up the stray cat population see Introduction

Stray cats make up a significant proportion of unwanted cats in urban areas and entering animal shelters (Marston et al. 2009; Alberthsen 2014; Zito 2015a).

Although the Animal Welfare (Companion Cats) Code of Welfare and the Animal Welfare Act 1999 make only limited mention of stray cats, all animals are recognised as being sentient under the Act; the Act is designed to protect their welfare and prevent ill-treatment. The Act mandates how all animals are treated in New Zealand, including stray cats. There is a statutory seven day holding period for stray cats that must be inacted by an appropriate delegated authority for stray cats required by the Animal Welfare Act 1999 (for example, the SPCA). This can pose a significant welfare issue for stray cats as they may become extremely stressed when confined in an animal shelter or pound. However, if there are immediate health and/or welfare issues for the cat, and/or wild-type behaviour, which would make treatment or care unreasonably stressful for the cat, and dangerous for personnel, cats may be euthanased before the statutory

seven day holding period is finished (New Zealand Government 1999; New Zealand Veterinary Association 2016).

There are only limited methods that can be used to reduce urban stray cat populations. These fall into three categories:

- Limiting the flow of cats from the owned and feral cat populations into the stray cat population
- Reducing the number of stray cats through removal of cats (by non-lethal or lethal methods)
- Reducing the number of stray cats by controlling reproduction of stray cats

## i. Limiting flow of cats into the stray cat population

Limiting the flow of feral cats into the stray cat population by controlling the feral population is largely achieved through killing feral cats. The control methods and management strategies are described in detail elsewhere (Denny et al. 2010; Sharp et al. 2012; Commonwealth of Australia 2015 a,b; Biosecurity Tasmania 2016) but a summary and assessment is provided for this report in the previous section (Section: Control of feral cats).

Limiting the flow of companion cats into the stray cat population involves reducing cat abandonment and reducing cats roaming and subsequently straying. These topics are addressed later in this paper (see Section: Managing companion (owned) cats).

## ii. Reducing the number of stray cats

# Adoption of stray cats

There is a limited capacity to absorb stray cats into the companion cat population particularly as there is already an oversupply of surrendered companion cats needing adoption. In an effort to reduce cat numbers it is usually policy for animal shelters to desex cats prior to rehoming. However, some private rescue groups and many council pounds do not desex cats prior to adoption. This adds to the number of unwanted cats and compounds the cat overpopulation problem.

Nonetheless, animal welfare organisations can increase adoptions of cats, including stray cats through measures such as creative marketing and advertising campaigns, off-

site adoption centres, adoption drives, and improving the accessibility and attractiveness of adoption centres (Fournier 2004; Marsh 2010; Lord et al. 2014; Zito et al. 2015). Examples include: 'Adopt Meow' \$50 cat adoption drive, Big Adopt-Out, Pop up adoption events and 'The Paws Awaken' \$20 adult cat adoption drive from RSPCA QLD in Australia, National Adoption Weekend from PetSmart Charities, the 'Adopt-ahuman' campaign from SPCA Tampa Bay, the 'Happy Cat Prescription Program' from the Animal Welfare League of Iowa and 'The Shelterpet Campaign' from the Ad Council, Humane Society of the United States (HSUS) and Maddie's Fund in the United States of America (USA).

A proportion of stray cats will not be of suitable temperament or socialisation status for rehoming to 'normal' domestic homes (Levy, 2012; Hurley and Levy, 2013) and alternative rehoming routes (for example, barn or farm cat placements) or other options should be explored for these cats (for example, trap-neuter-return programmes).

## Assessment

There is currently no data available on adoption of stray cats that is differentiated into cat population categories (socialised, unsocialised, managed and unmanaged). This data would be useful in terms of management planning. Therefore, shelter and pound stray cat statistics should be categorised into socialised, unsocialised, managed and unmanaged.

Despite the range of strategies used by welfare organisations like the SPCA to increase adoptions of cats, the available information showing large numbers of cats that are categorised as 'stray' still being euthanased in shelters indicates that this strategy alone is not sufficient to have a significant positive impact.

## Cat sanctuaries

Cat sanctuaries are extremely expensive to build and maintain. These facilities tend to fill up very quickly and can only care for a relatively small number of animals for an extensive period of time. Although there are some good cat sanctuaries, many sanctuaries are forced to close their doors every year due to insufficient funds, disease outbreaks or an inability to properly care for the cats in the existing confined space. Additionally, if the external cat overpopulation problem is not addressed the remaining cat population outside the sanctuary will continue to grow.

Sanctuaries, and other long-term animal sheltering facilities, generally result in poor animal welfare. The confinement, and large number of cats in small rooms or areas, cause physical and emotional stress to the animals and put them at high risk of disease.

Care-for-life in sanctuaries are recognised as the most expensive and least efficient method of population management. Most sanctuary programmes that permanently house a large number of feral cats also have an active TNR programme because the sanctuaries are always filled to capacity (Levy et al. 2004).

## Assessment

Placing cats in facilities, including sanctuaries and longterm no-kill shelters, for long periods is not in the best interests of the cats, nor is this approach helpful in addressing cat overpopulation. In general cat sanctuaries are neither a viable nor humane cat management tool. The money spent to house a few hundred cats could be used for more effective programs. Cat sanctuaries may be of limited use in some very special and specific situations.

# Lethal control of stray cats

The only practical options for lethal cat population management in urban areas are trapand-kill programs as these should have minimal impact on non-target animals (Palmer 2014). Trapping and subsequent humane killing is generally considered to be a relatively humane method of controlling cat populations. Nevertheless, even the use of humane traps cannot fully alleviate the significant welfare concerns associated with trapping cats, such as the severe stress inflicted on the animals and the potential for physical injury (Robertson 2007). In addition, recent research from Australia found that low-level culling of feral cats led not to a population decrease, but an increase in cat numbers (Lazenby et al. 2015). This evidence raises important considerations about traditional trap-and-kill efforts (typically triggered by nuisance complaints) undertaken by animal control agencies which are comparable to the low-level culling effort in the study as they do not constitute a sustained, multi-faceted, long-term downward pressure on the cat population.

## Assesssment

Years of data show that the current system of trap-and-adopt or trap-and-kill results in minimal overall reduction in cat numbers, due to the very small percentage of cats actually affected by these programs (Levy 2012; Hurley 2013), and the limited capacity of animal shelters and pounds to remove stray cats (Levy 2012; Hurley 2013). It is not possible to ensure that unconfined owned cats and managed stray cats will be unaffected by these measures (Robertson 2007) and the community is increasingly opposed to lethal cat control programs, particularly in urban areas (Robertson 2007; Marston et al. 2008; Wilken 2012; Hurley 2013; Paterson 2014).

Trap-and-kill activities in peri-urban and urban areas need careful consideration due to evidence that it is not an effective method of reducing the number and consequently the impact of cats. As a result, the future management of stray cats in urban areas may be best served by concentrating on non-lethal control methods.

# iii. Controlling reproduction of stray cats

# Desexing options for stray cats

Surgical ovariohysterectomy (or ovariectomy) and castration remain the mainstay and gold standard for inducing permanent sterility in cats in order to control the cat population (as well as having other health and behavioural benefits) (Murray et al. 2008). Recently vasectomy has been assessed as a theoretical alternative to castration (McCarthy et al. 2013) but there is no field evidence to support this alternative.

The development of a successful safe low-cost single-dose lifelong non-surgical sterilant that is effective for cats of both sexes and is amenable to delivery in a field setting would revolutionise cat population control. There have been many advances in this area over the last ten years and there is active research continuing into potential methods including immunocontraception with a single-administration vaccine against gonadotropin releasing hormone (GnRH), long-term therapy with GnRH agonists administered in controlled-release devices, targeting cells in the brain or gonads with cytotoxins, gene therapy which leads to protein expression that suppresses reproduction and gene silencing of peptides essential to reproduction (Johnston et al. 2015).

Recent research found that cats in managed cat colonies had good welfare of a comparative level to owned cats, while even unmanaged cats' quality of life scores were fair-good (Dale 2015). This evidence should provide some reassurance to those who are concerned that stray cats have poor welfare and consequently should be euthanased rather than desexed and managed in their environment.

# Preventing stray cat reproduction through trap-neuter-and-return (TNR) programs.

Trap-neuter-return programs are used as an alternative to trap and adopt or euthanase programs in many developed countries (Levy et al. 2004; Foley et al. 2005; Natoli et al. 2006). Indicators which have been used to assess the success of TNR programs include:

- Decrease in cat colony size
- Reduction in nuisance complaints relating to the cats
- Reduction in stray cat intakes into local animal shelters and animal control facilities

By these measures, TNR has been shown to be a successful cat management tool in specific circumstances but these examples are all international (Centonze et al. 2002; Levy et al. 2003a; Levy et al. 2003b; Levy et al. 2004; Stoskopf et al. 2004; Foley et al. 2005; Natoli et al. 2006; Weiss et al. 2013). For example:

- A TNR programme in Florida, USA, resulted in a reduction in shelter impoundment of cats and in the euthanasia rate of cats in shelters in the target area compared the non-target area over the two year study period (Levy et al. 2014). Only 0.5% of the cats in the TNR programme needed to be euthanased due to health issues and only 0.3% cats died peri-operatively.
- In Rome, Italy, a well-established longterm TNR programme consistently decreased the cat colony size by 24% over 6 years (Natoli et al. 2006). The constant abandonment of cats into the colonies kept the numbers relatively high despite 86% of the original number of cats being neutered over the 6 years (Natoli et al. 2006).
- Financial costs were not reported for either of these programs.

A recent study presented data from a simulation model that compared the potential effects on stray cat populations of TNR, trap-vasectomy-hysterectomy-release (TVHR) and trap-and-kill methods. The model demonstrated TNR's potential to stabilise and

reduce cat populations and the relative effectiveness of TNR in comparison to the traditional trap-and-kill method (Miller et al. 2014b). However, it is to be noted that this model assumed that the trapping efficiencies for trap-and-kill and TNR were identical and this may understate TNR's effectiveness. The authors acknowledged that economic, social and other considerations must factor prominently into the final choice(s) among multiple management options. One of the most important social considerations is the reported broad public support for TNR compared to trap-and-kill methods internationally (Lloyd et al. 2012) (unpublished data from New Zealand indicates support for the use of TNR for control of stray cats also). This indicates a significant disparity between the public opinion and the operating policy of the majority of local governments, animal control and welfare organisations (Lloyd et al. 2012).

Simulation model work suggests that trap-vasectomy-hysterectomy-release (TVHR) may outperform both TNR and lethal control in decreasing the size of cat populations (McCarthy et al. 2013) but there have been no field evaluations of TVHR.

There are also reports of unsuccessful TNR programs (Castillo 2003; Levy et al. 2004), seemingly due to immigration of cats and abandonment of more cats into the TNR colonies. In many places legislation is already in place to discourage abandonment, but enforcement is difficult to achieve (Robertson 2007). There is general agreement that TNR is likely to be successful in reducing and controlling cat numbers only if immigration into the cat colony can be prevented (Paterson 2014).

Managed and targeted trap-neuter-return (mTTNR) for stray cats and active cat management has been proven to be a successful component of urban cat management in some countries (Levy et al. 2014; Boone 2015). Active stray cat management includes adequate feeding to reduce predation, desexing, testing for FIV, euthanasia of FIV positive cats, vaccination, identification, regular health checks, veterinary treatment as needed, euthanasia of animals as required (for example, due to unmanageable disease/injury) and registration of the cat by the individual cat's carer or cat colony carer on a centralised register to allow the monitoring and assessment of the programme's outcomes. There are already some managed cat colonies in New Zealand that have management plans agreed with the landowner and/or the local council. Such a management plan should include means of identification; provision of food, water and access to shelter; a vaccination and parasite control programme; provision of veterinary

treatment; a desexing programme; and a long-term management strategy including continuity of care (National Animal Welfare Advisory Committee, New Zealand 2007).

## Assessment

Managed and targeted trap-neuter-return (mTTNR) for stray cats and active cat management has the potential to reduce the number of stray cats, improve cat welfare and decrease wildlife predation. Considering its generally wide community support and great potential to make a positive contribution to reducing the number of stray cats, improving cat welfare and decreasing wildlife predation, mTTNR has an important role to play in humane cat management in the urban setting. mTTNR programmes should include an option to rehome suitable cats where possible and euthanase unhealthy cats. Proper management of stray cats should result in improved cat welfare and reduced nutritional requirements which should mitigate their predation on wildlife.

There is great variability in how well TNR programmes are implemented and it seems likely that poor implementation has contributed to TNR programmes not producing substantial and persistent reductions in cat populations. In addition, those programmes that are effective often fail to effectively document or publicise their success (Boone 2015; RSPCA Australia 2016 (in press)). Improving the effectiveness of TNR as a cat population management tool has great potential benefit to both cats and wildlife. The improvement of TNR implementation will necessitate the use of tools like population modelling, population monitoring and adaptive management (Boone 2015).

Based on international (and unpublished New Zealand) evidence it seems likely that the public would support more extensive implementation of mTTNR over widespread cat management using lethal methods. However, wildlife advocates seem unlikely to support mTTNR as it is typically practiced. It is likely that the ongoing controversy over mTTNR as a management strategy could be mitigated by improving the effectiveness of mTTNR programmes. Therefore, it is necessary to implement standardised mTTNR approaches based on best-practice methods and these should be coordinated under the framework of 'adaptive management', where monitoring data are regularly evaluated in order to improve the management programme (Boone 2015). Cat Colony Management Guidelines would need to be created and adhering to the guidelines made a requirement of participating in mTTNR programs.

Stray cats that were managed individually or as part of a managed colony would need to be identified with a microchip so that cats can be returned to their carer and/or colony should they become dislocated from their normal location. This would also allow for data about managed stray cats to be gathered, stored and accessed at a later date, which can better inform decision making regarding their management in the future.

Permanent distance identification by ear tipping the cats should be also be carried out when the cats are desexed. This would avoid the stress associated with capture to identify that the cat is desexed.

Managed stray cats require regular care, ideally including routine vaccination and treatment to protect cat welfare and prevent transmission of diseases (Nutter et al. 2004). Of particular concern is Feline Immunodeficiency Virus (FIV). The National Cat Strategy Management Group position is that returning stray cats that test positive for FIV to their colony or location should be discouraged. Given the high level of cat ownership, the outdoor life-styles of our companion cats and the densities with which stray cats are found in many places in urban New Zealand, the risk of transmission to an companion (owned) cat, and to other stray cats, is a significant and unacceptable.

Return of cats to non-managed situations is a concern in terms of wildlife predation and cat welfare. Therefore, managed and targeted trap-neuter-return programmes (mTTNR) with active stray cat management are considered the only acceptable option. In addition, no cat colonies (including managed colonies) should be allowed in ecologically sensitive areas; in areas where demolition or development is impending; where cats are being subjected to harm or abuse; or, where despite best efforts, nuisance complaints cannot be satisfactorily mediated [in accordance with the American Society for the Prevention of Cruelty to Animals (ASPCA) guidelines for humane cat control (American Society for the Prevention of Cruelty to Animals 2016)].

It is also important to note that no assessments of success based on the impact on wildlife of TNR programs have been reported. This is of particular interest in the New Zealand context and is an area of research that would be highly beneficial.

## Preventing stray cat reproduction through targeted desexing programs.

Targeted desexing campaigns involve proactively encouraging and facilitating individual carers of stray cats to have the cats desexed. This differs from TNR in that specific cats

are desexed which are cared for by specific people who consent to having the cat desexed and returned to them.

Desexing initiatives for stray cats need to be priced to be accessible for all those who need access to these services in order to encourage stray cat carers to desex the cats in their care. These programs can be (and are) run by animal shelters, animal welfare organisations, local government and private veterinarians.

The success of such programs is likely to be increased by also implementing education campaigns targeted at stray cat carers, community engagement campaigns, and providing assistance for cats to be transferred to the veterinary surgery (e.g. volunteer support to pick up and drop off cats).

Recently geographic information systems (GIS) have been used to identify specific areas that are making disproportionate contributions of kittens to shelter intakes (Reading et al. 2014), and areas where there are high concentrations of stray cats (Aguilar et al. 2012) and unmanaged cat colonies (Aguilar et al. 2013). These areas can then be made the focus of targeted desexing and education campaigns (Aguilar et al. 2012; Reading et al. 2014), and used to assess the efficacy of implemented programs (Reading et al. 2014).

## Engaging stray cat carers in management

Entire stray cats without human carers (unmanaged stray cats) and entire stray cats with human carers (managed stray cats) can make a considerable contribution to cat overpopulation. Recent research demonstrates that feeding of stray cats by human carers is a significant factor influencing stray cat numbers entering animal shelters and in the community (Zito 2015a, b, c). Stray cat carers are clearly key stakeholders in the cat overpopulation problem (Toukhsati et al. 2007; Alberthsen 2014; Zito 2015c, 2016a, b). Therefore, stray cat carer engagement in potential solutions will be important to the successful management of cat populations.

Application of psychological theory and the results of recent research go some way towards explaining why some people will continue to feed stray cats regardless of education about the negative impacts of this behaviour. Cognitive dissonance theory explains why people often proceed with certain actions despite the knowledge that those actions may have negative outcomes (Aronson 1969, 1998; Aronson et al. 2015).

An example relevant to stray cat carers (often termed cat semi-owners in the literature) is explained by Zito et al. (2015c): "when informed about the negative consequences of cat semi-ownership, some semi-owners will accept this and change their behaviour to avoid the cognitive dissonance that is common when performing a behaviour that they believe to be wrong, they might take ownership of the cat, they might surrender the cat to a shelter, or they might just stop feeding the cat. Other semi-owners may justify the behaviour through changing the dissonant cognition. For example, they might convince themselves that the evidence of negative consequences from cat semi-ownership is inconclusive. Other semi-owners will attempt to justify the behaviour by the addition of new cognitions; for example, they might focus on their love of cats and their perceived altruism toward cats 'in need' and convince themselves that their actions are benevolent. These concepts explain why some people continue semi-ownership behaviours despite education about the negative impacts of this behaviour."

Despite a growing recognition of the contribution of stray cat feeding to cat overpopulation, the implementation of strategies designed specifically for individual stray cat carers have been rarely reported in the literature. Many of the reports relating to management of stray cats that are fed by humans relate to management of cat colonies, where often large numbers of cats are cared for by cat colony caretakers (Centonze et al. 2002; Levy et al. 2003a; Levy et al. 2004; Stoskopf et al. 2004; Natoli et al. 2006; Weiss et al. 2013) rather than individual stray cat carers (or semi-owners) who tend to care for just one or a few individual cats.

Since carers of stray cats do not consider themselves owners, they are unlikely to comply with any legislation requiring owners to desex their cats. Stray cat carers are likely to be more amenable to non-lethal than lethal cat management strategies since they are reported to be attached to the cats they care for and feel protective of the cats (Zasloff et al. 1998; Centonze et al. 2002; Zito 2015c, 2016a, b). Consequently, efforts to reduce the contribution of stray cat carers to cat overpopulation should concentrate on engaging these stakeholders in non-lethal control methods.

A potential tool to address the contribution of cat carers to cat overpopulation is a customised education programme designed to acknowledge and connect with the perceptions and emotions of cat carers. Recent research indicates that education campaigns specifically aimed at cat carers are likely to be more effective at redirecting this behaviour than eliminating it (Zito 2015c). Therefore, rather than attempting to

prohibit people feeding and caring for stray cats education messages should be designed to encourage cat carers to perform responsible behaviours—in particular desexing and microchipping—regardless of whether the cat carer accepts 'ownership' for the cat (Toukhsati et al. 2007; Finkler et al. 2011; Toukhsati et al. 2012b). Instead a more appropriate system may be for the carer or a welfare organisation accepted responsibility for the cat for identification and management purposes (see section on mTTNR above) .

Acceptance of ownership is not necessary to achieve the goal of reducing semi-owned cat contributions to unwanted cat numbers and improving cat welfare. This approach may require the revision and clarification of current cat classification systems in some jurisdictions to allow cats that have a human carer but that are not considered 'owned' (including semi-owned or colony cats) to be desexed and microchipped and remain with their carer, even if the carer cannot or will not take full 'ownership'.

If the problems associated with the feeding of stray cats are to be mitigated, it would be prudent to accept that people will continue to feed stray cats despite attempts to stop this behaviour and engage stray cat carers in solutions to control stray cat numbers and improve cat welfare but allow people to continue to care for the cats. This will necessitate a change in the way that the community, animal welfare groups and policy/law makers approach stray cat carers. Currently in many localities these cats are 'illegal' and so cat carers will not engage with animal welfare organisations and authorities for fear that their cats will be killed. Resources and support for stray cat careres are already starting to be offered by some organisations, for example Alley Cat Allies in the USA (<a href="http://www.alleycat.org">http://www.alleycat.org</a>) but in some places (e.g. Australia) these are acknowledged to be 'secret cats' due to their status under the law (Pet Rescue Ltd. 2016). A consistent classification system that allows for management of managed stray cats (both individual cats and cats that are part of a colony) as a distinct group needing specific management approaches is required. The Animal Welfare (Companion Cats) Code of Welfare (2007) in New Zealand already distinguishes between cats that are directly or indirectly dependent on humans (stray cats) and those that are not dependent on humans (feral cats). A legislative climate that allows stray cat carers to continue caring for their cats if those cats are desexed, microchipped and cared for is vital to engaging this group of stakeholders in efforts to manage these cats which make a significant contribution to cat overpopulation (Zito 2015a).

## iv. Summary of stray cat management strategy assessment

Robust science regarding management options for stray cats is lacking for the New Zealand context – much of the data reported is from overseas, not all of which will be relevant or applicable to the New Zealand situation (Farnworth et al. 2013b). A multifaceted cat management programme utilising many different strategies to address all the involved cat populations will be necessary in attempting to achieve the 'no stray/feral cat' goal, whilst remaining cognisant of the valued and legitimate relationship between some people and stray cats.

The National Cat Strategy Management Group feels that best practice managed and targeted trap-neuter-return (mTTNR), active cat colony management programs and targeted desexing campaigns in combination with adoption of stray cats (where possible) are the most humane, and likely effective, methods of stray cat control. Education and community engagement campaigns to encourage desexing of strays cats will be a vital component of these management approaches. Education is perhaps the most important aspect of stray cat management.

Effective stray cat management will necessitate a nationally agreed position including clear guidance about which agencies have jurisdiction to manage stray cats, and a thorough understanding of the relevant legalities. More data is needed to fully assess all of the management approaches and active monitoring should be part of the implementation of any new cat management strategy.

## Managing companion (owned) cats

Good management of companion cats is an important component of both managing the overall cat meta-population and in ensuring good animal welfare, community satisfaction and reduced wildlife predation. Many of the strategies to manage companion cats address more than one of these objectives.

Effective management of companion cats includes working to reduce surrender and abandonment of companion cats and encouraging responsible cat ownership and good cat care.

# i. Reducing cat surrender and abandonment

Although some cat surrender is unavoidable, high rates of companion cat surrender lead to stress on the animal shelter and rehoming system and a reduction in the number of

placements available for stray cats needing to be adopted. A detailed review of cat surrender is beyond the scope of this paper but there is extensive literature available on this topic (Miller et al. 1996; DiGiacomo 1998; Salman et al. 1998; Salman et al. 2000; Kass 2005; Shore et al. 2005; Rinzin et al. 2008; Casey et al. 2009; Marston 2009). Many animal welfare organisations have made significant progress in tackling this issue through a number of initiatives including adoption counselling that incorporates advice on pet-friendly accommodation [for example, RSPCA Queensland (RSPCA Australia 2016)], provision of financial aid to help potential surrenderers care for their cat such as food banks [for example, the Sacramento Pet Food Bank, Bi-state Pet Food Pantry, and Project Maddie in the USA (Sacramento Pet Food Bank 2011; Project Maddie 2014)] and low cost health care [for example, from organisations such as the Lort Smith Animal Hospital in Australia and HSUS (Lort Smith 2014; The Humane Society of the United States 2014)].

Cat abandonment is illegal under animal welfare legislation in New Zealand but continues regardless. It seems likely that abandoned cats feed into the stray and feral cat populations, although there is no evidence to confirm this. Cat abandonment can occur in many circumstances, including:

- when tenants move out of a rental property but leave their cat behind
- when tenants with companion cats are unable to find a rental property that permits cats
- when the human-cat bond that gives value to the relationship is not established
- the cat is not microchipped (as this means the cat cannot be traced back to the owner who abandoned the cat).

# ii. Responsible cat ownership

Responsible cat ownership is considered to include pre-acquisition factors (such as research to understand the animal's needs and behaviour, and whether that animal is suitable for the intended home) and maintenance factors [including providing appropriate care, shelter, exercise, training, socialisation, identification, registration, desexing and confinement (Fournier 2004; Marston et al. 2008)]. Further guidance is available in the code of welfare for companion cats on the Ministry for Primary Industries' website. 'Responsible owners' provide the majority of the caretaking behaviours for their cats in addition to acknowledging 'ownership' of the cat. 'Casual cat owners' acknowledge ownership for the cat and feed the cat but are less likely to engage

in more responsible behaviours, such as desexing, identifying, registering, or providing veterinary care (Centonze et al. 2002; Toukhsati et al. 2007; Marston 2009).

## Cat containment

Containment of cats is not yet commonly considered an important component of responsible cat ownership in New Zealand. However, preventing cats from roaming has the potential not only to prevent unwanted reproduction but also to prevent wildlife predation, minimise community nuisance, minimise toxoplasmosis transmission and reduce the risk to the cat of contracting diseases and becoming injured or killed from traffic, fighting, dogs and human cruelty (Toukhsati et al. 2012b; Loyd et al. 2013). The keeping of purely indoor cats (+/- a fully contained outdoor enclosure) is common in the USA and is increasingly recommended in Australia. However, rather than being a requirement this is often a choice made by cat owners in the interests of keeping their cats safe and secure and/or to prevent wildlife predation. In New Zealand it is still uncommon for people to keep fully contained cats.

In other countries, the community acceptance for cat containment varies with some studies showing broad support (Toukhsati et al. 2012b; Loyd et al. 2013) and others a lack of support or even opposition (Sharp et al. 2012); there is no such data reported for New Zealand. Recent research suggests that campaigns to decrease cats roaming through containment will be more successful if the campaigns concentrate on the welfare benefits to cats rather than wildlife protection (Toukhsati et al. 2012b; Hall et al. 2016). Cat containment would serve the multiple purposes of reducing unwanted cat reproduction, reducing nuisance from roaming cats and protecting wildlife and cats.

There are few areas where cat owners are required to fully contain their cats 24hrs/day and this seems only to occur in Australia and even there rarely [for example, in the Australian Capital Territory (ACT)]. In these areas, if allowed outside, cats must be on a leash or in an enclosure. There is very limited information available about the implementation of 24hrs/day cat containment and the outcomes. Anecdotal reports indicate that in those areas in the ACT with 24hrs/day cat containment, there were no cat attacks on wildlife reported since the requirement was put in place (Source: RSPCA ACT). There are no other reports of success, or failure, of 24hrs/day cat containment requirements and no reports of formal monitoring.

In addition to 24hrs/day cat containment requirements there are other, less strict, limited requirements for cats to be contained; these vary significantly in the different locations in which they are introduced, in terms of the times at which cats must be contained and also the extent to which cats must be contained. In some areas cats may only go outside on a leash or in an enclosure but in other areas the containment requirement only obliges the cat to be contained to the owner's property but not necessarily in an enclosure or on a leash. The only reports of such requirements again come from Australia and each local council has slightly different requirements. Overall councils in Australia that have introduced cat containment requirements have not been able to demonstrate any measurable reduction in cat complaints or cats wandering at large following the implementation of the cat containment requirements. In the few existing media reports the assessment of the success or failure of cat containment requirements is seemingly based on no, minimal or questionable data.

Cats may kill wildlife and mate during the day and within the confines of their owner's property. Consequently, there are limits to the effectiveness of cat containment requirements to limit wildlife predation and reduce the ability of entire cats to breed and multiply unless cats are required to be contained indoors or within an enclosure/on a leash when outside 24hrss/day.

There are also potential cat welfare issues associated with cat containment regulations including concerns that:

- some people will use methods for containing cats that have the potential for a negative impact on cat welfare
- where cat containment regulations are in place people may target and even kill cats found wandering when legally the cats should be contained
- imposing containment requirements may lead to increased cat surrender or abandonment
- imposing containment requirements could lead to decreased cat ownership due to the need to comply with these regulations

Examples of poor containment methods include exposed cat enclosures and containment of cats in environments where they have little or no enrichment where, as a result, cannot express normal behaviours. If cat containment regulations are to be introduced then the cat owning public needs to be adequately educated about providing

a suitable and enriched environment for cats who are contained (Lloyd et al. 2012; Toukhsati et al. 2012b).

## Assessment

There is a lack of clear and measurable objectives for the implementation of cat containment regulations. There is also a lack of monitoring or data that can be used to adequately evaluate their success.

From the available information it seems that requirements for 24hrs/day cat containment (i.e. where cats must be indoors, in an enclosure or on a leash 24hrs/day) have the potential to prevent both uncontrolled cat breeding by companion cats and wildlife predation. Containment of cats 24hrs/day can help reduce the cat overpopulation problem by preventing the production of unwanted kittens, particularly from pregnancies occurring due to the delay of desexing until after sexual maturity (which is currently normal practice at five-six months of age). Containment of cats 24hrs/day could also result in a direct and substantial decrease in wildlife predation by preventing owned cats from accessing wildlife outdoors.

In order to have the most benefit for cat management this measure would need to be combined with mandatory identification (so that that cats found outdoors could be identified as owned companion cats if they have identification and stray cats if they do not) and appropriate strategies to manage stray cats.

Several issues need careful consideration when contemplating the introduction of cat containment:

- Before implementing cat containment regulations, provisions to ensure good welfare for contained cats should be actioned, for example:
  - Education of cat owners about cat welfare and the provision of adequate enrichment
  - o Campaigns to improve the acceptance of cat containment regulations
- A monitoring system with baseline statistics for comparison and ongoing
  measurement of outcome statistics should be implemented before it is
  introduced to determine the efficacy of the scheme. Publishing the results of
  such research would be very useful as there is currently no information on this
  reported in the literature.

- Enforcement of cat containment can prove difficult for various reasons including:
  - o Difficulty of capturing cats who are in breach of containment regulations
  - Unrealistic community expectations in regard to enforcement and management
  - The majority of trapped and impounded cats are not owned so there is no possibility of taking any enforcement action
  - The expense of proper monitoring and enforcement may be prohibitive and is likely to far exceed the benefit gained from limited cat containment regulations

Information from councils that have introduced cat containment regulations shows that there have been limited numbers of enforcement actions by animal management officers following their introduction. Instead, generally the public are taking action by trapping cats through council cat trap programs and loan schemes. As a result of this cat trap services have expanded, with the purchase of additional traps and allocation of additional staff resources to manage the delivery and collection of traps and impounding of cats, all at significant cost.

After a confinement regulation is introduced, there may be an increase in admissions, adoptions and euthanasia at animal shelters and pounds as cats are trapped if found wandering in breach of the confinement regulations, even if they are owned. Strict containment laws may also deter people from owning cats which can lead to an increase in shelter euthanasia rates. These problems may be mitigated if regulation is preceded by owner education and facilitating behaviour change towards acceptance of cat containment.

It may be necessary to initially introduce limited containment regulations as an interim measure to allow the cultural change to acceptance of cat containment and education about appropriate cat containment and then phase in the stricter 24hrs/day cat containment which is likely to be more effective.

# Identification

In general, mandatory identification refers to a requirement to have cats microchipped from a specific age or if the cat is being transferred from one owner to another.

Identification of a cat is generally considered as a mark of ownership and is an

indication that the 'owner' cares enough about the animal to claim the cat as theirs. Identification is a fundamental tool of animal management at a community level. Microchipping is the fundamental identification tool of animal management because microchips are the only permanent and unalterable form of identification currently available for cats that provides easily access to details of the cat's owner or carer.

The presence of identification helps welfare agencies, pounds, veterinarians and concerned members of the public to make appropriate decisions about the future of a found cat.

- If a cat is lost the owner can be identified and contacted so the cat can be reclaimed
- If an owned cat is injured the owner can be identified so that prompt and appropriate decisions can be made about treatment
- If a cat is straying and causing a nuisance the owner can be identified and educated about their responsibilities, warned or penalised (depending on the local legislation and policies)
- If a cat does not have a microchip the cat may be assumed to be an unmanaged stray. This means that appropriate decisions can be made according to the relevant legislation if the cat is injured or dislocated.

Microchipping is a reliable means of lifetime identification, but it is not visible, requires access to a microchip reader and relies on the information linked with the microchip being accurate. Solely relying on microchipping as the only form of identification may limit the capacity to locate owners efficiently. A study showed that 37% of stray but microchipped cats entering RSPCA QLD had inaccurate data (Lancaster et al. 2015). Nearly half of those cats were registered to a previous owner and nearly one third had either incorrect or disconnected contact phone details. It is common for the microchip data for lost microchipped cats entering shelters to be inaccurate, making reuniting cats with their owners difficult (Alberthsen et al. 2013a; Alberthsen 2014).

The addition of a collar and tag for companion or managed stray cats is of great benefit as they give a visual indication of a cat's ownership/management status and help to reunite lost cats with their owners/carers prior to, or following, shelter admission (Lord et al. 2010; Alberthsen et al. 2013b).

Positive documented outcomes of mandatory identification include:

- Mandatory cat identification, in combination with registration, and annual licensing,
  has been associated with an increase in the reclaim rates of cats (Lord et al. 2007;
  Lord et al. 2010). Theoretically, mandatory identification alone (microchip and/or
  collar and identification tag) should also increase reclaim rates
- Providing cats with breakaway collars and a visible identification tag has also been successful in reuniting cats with their owners (Lord et al. 2007; Lord et al. 2010)
- After mandatory identification of cats was introduced in the Australian Capital
  Territory (ACT) the number of cats returned to their owners after they entered the
  RSPCA ACT shelter increased (Source: RSPCA ACT)

Examples of countries with mandatory identification and supporting legislation include Australia, Canada and the United States of America. Where mandatory identification has been introduced there is some variability in the age at which cats are required to be microchipped and whether a previously un-microchipped adult cat is required to be microchipped. In addition, some localities also require external identification (usually a council registration tag if cats must also be registered in that locality).

There are issues that need careful consideration when contemplating the introduction of mandatory identification including:

- The (usually unintended) effect of an increase in impoundment and euthanasia of stray cats and cats who have owners who do not want to comply with the law.
- The tendency for these laws to be worded in a way which makes it illegal for someone to care for a stay cat without taking full ownership (for example, by registering and microchipping the cat). This discourages people from caring for stray cats and, if the person knows that the cat is likely to be killed if taken to a shelter, they may opt to do nothing (Zito 2015a).

## Assessment

Mandatory identification has the potential to be a very useful tool to help humanely manage cat populations. This is largely due to its facilitation of timely and well-informed decisions about a cat's ownership/management status and the consequent ability to take prompt and appropriate action for each individual cat, especially to increase reclaiming rates. However, the legislation needs to be enacted and implemented in a way that minimises the potential negative aspects.

An additional mandatory requirement for cats to display a collar and tag would be of great benefit as it would overcome some of the potential limitations of microchipping alone as a form of identification.

The best way to analyse the success of mandatory identification laws would be to monitor the percentages of cats reunited with their owners after being lost but comprehensive data would be very hard to obtain. The most reliable data available are from the reclaim rate of cats from animal shelters and pounds which could be compared pre- and post- the introduction of mandatory identification.

# Mandatory desexing

Reports of mandatory desexing legislation implementation come predominantly from the USA and Australia. Mandatory desexing is intended to reduce cat overpopulation and promote responsible ownership of cats. Most commonly local government authorities are given the power to administer and enforce the legislation and the requirements differ in the various localities where they are introduced. Some localities require that all domestic cats over a certain age be desexed (the age requirement generally ranges from 3-6 months of age). However, there is usually no enforcement of mandatory desexing requirements as this is difficult and expensive.

Some localities in the USA require that any rehoming agency (e.g. pound, animal shelter) desex cats and kittens prior to release to their new home. This may be in addition to mandatory desexing for owned cats or a stand-alone requirement.

A review of the available information reveals that only occasionally are mandatory desexing requirements monitored. Most frequently this involves comparing data preand post-mandatory desexing introduction in the following areas:

- Shelter/pound cat admissions
- Shelter/pound cat euthanasias
- Cat adoptions
- o Cat registrations (where this is mandatory)
- Cat return to their owners from shelters (as mandatory desexing requirements are commonly introduced in concert with mandatory identification and/or registration requirements)
- Animal management costs

In Australia, some data were collected in 2007 in an effort to assess the impact of mandatory desexing when it was introduced in 2001 in the ACT. Overall no positive impact associated with the introduction of the legislation was demonstrated using these measures. Trends in cat intake and euthanasia in the RSPCA ACT shelter paralleled those in New South Wales (NSW) (which has no mandatory desexing legislation) and Australia as a whole. A lack of enforcement and education/community support initiatives are considered to be the major factors contributing to ineffectiveness of mandatory desexing legislation where it has been introduced.

## Assessment

From the available data it seems that mandatory desexing legislation has not been successful at reducing animal shelter/animal control cat intake and euthanasia rates. It is thought that the most significant contributing factors to this lack of success are lack of enforcement of the legislation and stray cats generally being the major source of cats entering animal shelters and pounds. The latter is explained by stray cats having no 'owner' to educate, encourage to comply with legislation, or penalise for breaches.

One key approach to significantly decreasing intake and euthanasia rates for cats in animal shelters/pounds in most areas is to manage the stray cat populations. Mandatory desexing will not be helpful in this situation. In areas where the majority of cats and kittens entering shelters are stray, funding may be better spent on other strategies that can address this source of cat overpopulation.

Mandatory desexing legislation will be of significant use in those areas where a high number of cats entering animal shelters/pounds are unwanted kittens from owned cats or owned adult cats surrendered as a result of unwanted breeding.

The available evidence and analysis of the situation around mandatory desexing legislation indicate that the apparent ineffectiveness of this strategy may also stem from the fact that responsible cat owners who can afford desexing already desex their cats (although some only after the cat has already had a litter of kittens) but those owners who do not desex their cats either cannot afford to do so or are not motivated to do so because the mandatory desexing legislation is not promoted or enforced. The resources and commitment to actively enforce mandatory desexing legislation are generally lacking and so implementation is not as effective as it could be.

One way to address this is to mandate desexing and identification of cats at point of sale or transfer of ownership or impoundment. This strategy has the potential to provide many of the benefits theoretically associated with mandatory desexing but which have been lacking in practice, likely due to compliance and implementation issues. There would still be a need for monitoring for compliance but this would be more achievable and would involve considerably fewer resources than needing to monitor a mandatory desexing policy that applied to all cats.

In areas where the cat population dynamics are appropriate for this strategy, mandatory desexing legislation would be most effective if:

- The legislation is adequately promoted so that people selling, buying and impounding cats know it is a requirement that the cats/kittens are desexed
- Cats are desexed before the onset of sexual maturity (less than 4 months of age) (Budke et al. 2009) which requires support from veterinarians
- Measures are put into place to facilitate desexing of cats whose owners cannot afford general desexing costs
- Mandatory identification requirements are also introduced
- The legislation is adequately enforced

It is likely that not all those selling cats would comply with such legislation (retail outlets, breeders and rescue organisations are most likely to comply and private vendors least likely to comply) and certain groups would be easier to monitor than others (retail outlets, breeders and rescue organisations would be easiest to monitor and private vendors most difficult). However, even an imperfect uptake would still be a considerable step forward in ensuring that many more cats were desexed.

In addition, mandatory desexing prior to sale/transfer would likely increase the cost to obtain a cat. This may result in reduced cat ownership but also potential cat owners may be more likely to give serious thought and a commitment to be responsible prior to obtaining a cat or kitten.

## Accessible desexing initiatives

An alternative or supplementary strategy to mandatory desexing is the provision and promotion of desexing initiatives for companion and stray cats that are priced to be accessible for all those who need access to these services. This strategy represents a

paradigm shift from punishment of non-compliant cat owners and censure of non-owner cat carers to incentives to encourage responsible cat caretaking for both groups and is becoming increasingly common overseas. One of the main contributing factors to the continued high cat intakes into shelters is likely to be the failure to increase the desexing rate of cats living in low-income households (Marsh 2010) and stray cats that have a carer (Toukhsati et al. 2007; Zito 2015c, a). A 2007 study in the USA found that only 51.4% of cats living in low income households were desexed compared to more than 90% of cats living in households with higher incomes (Marsh 2010). This situation is likely to be similar in New Zealand as cat surrender is associated with a lower socioeconomic status (Zito 2016a) and a number of studies have identified lower desexing rates among owner-surrendered cats [12% (Marston et al. 2009; Alberthsen et al. 2013b; Alberthsen 2014) and 47% (Alberthsen et al. 2013b)] compared to owned companion cats (Toukhsati et al. 2007; New Zealand Companion Animal Council 2016). These high reported rates of desexing of owned cats are likely only representative of responsible cat owners who have adequate resources to pay for desexing.

There are few data evaluating these programs but there are many anecdotal success stories reported for free/low cost/subsidised desexing programs. Examples include:

- AWL National Desexing Network, Australia
- RSPCA QLD's Operation Wanted, Australia
- Gold Coast City Council subsidised desexing scheme as part of the Australian
   Queensland Animal Welfare League G2Z (Getting to Zero) initiative
- New Hampshire's Animal Population Control Program, USA (Target Zero 2016)
- <u>First Coast No More Homeless Pets</u> in Jacksonville, Florida, USA (Target Zero 2016)

Characteristics common to successful desexing initiatives are:

Programmes help only those caretakers who genuinely need help to get their
pets desexed. Several criteria that can be used to decide who can access these
desexing programs include: income targeting, geographic targeting, and
programs for senior citizens. Income targeting has proven to be the most costeffective approach and eligibility for a public-assistance programme can be used
as the basis for this.

- Programmes are affordable for caretakers with poverty-level incomes and poverty-stricken caretakers. The affordable price would need to be determined based on the relevant statistics for New Zealand.
- Programmes are accessible to indigent caretakers. These people usually also need help to transport their cats to the place where the surgery is performed and back home again. Options to address this issue include: providing services through a network of private veterinary clinics if enough clinics participate, a mobile surgical unit or organising transport of cats to a fixed-site clinic. Ancillary services such as transportation for cats to and from surgery appointments are crucial in assisting low-income cat owners (Target Zero 2016).
- Programs have enough funding to desex large numbers of animals from indigent
  households every year for several years. It has been reported that desexing 5
  pets from indigent households every year for every 1,000 residents will
  significantly reduce local animal shelter intake and euthanasia rates. However, if
  the programme cannot sustain that volume over the long term the progress it
  has made can quickly be reversed (Marsh, 2012).
- Time-limited desexing programs that are available to all cat owners, broad scale high profile promotion and incentives are likely to increase uptake (pers comm Mandy Paterson, RSPCA QLD).

## Assessment

Desexing initiatives for companion and stray cats that are priced to be accessible for all those who need access to these services have significant potential to reduce animal shelter/animal control cat admissions and euthanasia and also generally receive strong community support. Therefore, these programs are a fundamental component of any effort to address cat overpopulation and reduce the number of unwanted cats in a community. These accessible desexing programs may be combined with mandatory desexing legislation but are also very successful without any legislation requiring desexing.

## Pre-pubertal desexing

Although 93% of owned cats in New Zealand are reported to be desexed (New Zealand Companion Animal Council 2016), the age at which these cats are desexed and if they had a litter of kittens before desexing is unknown. It has been reported that only 70% of

cats in the Australian community are desexed before 6 months of age, allowing for unplanned litters from young, sexually mature queens prior to desexing (Toukhsati 2005) and it is likely the situation is similar in New Zealand. A high number of well socialised kittens from owned litters are surrendered to shelters (New et al. 2000; Marston et al. 2009; Animal Welfare League of Queensland 2010) and although many are likely to be from stray cats with carers, a proportion are likely to be from owned companion cats producing kittens before they are desexed (Marston et al. 2009).

The 'traditional' age of desexing is six months of age. Unfortunately this allows cats to reach reproductive maturity before they are desexed (Joyce et al. 2011; Clark et al. 2012; Zanowski 2012); cats may reach reproductive maturity as early as 3.5 months of age (Little 2001; Farnworth et al. 2013a). Delayed desexing of owned cats is reported to often result in the production of unwanted litters of kittens (Alberthsen et al. 2013b), but this can be addressed through the introduction of pre-pubertal desexing (sometimes termed 'early-age desexing') (Manning et al. 1992; Fournier 2004; Alberthsen et al. 2013b; Johnson et al. 2014). Therefore, it would be of great benefit to revise current recommendations so that companion cats are desexed at four months or earlier. In addition, any initiatives to desex stray cats should also aim to desex these cats before four months of age to prevent reproduction of these cats prior to desexing.

It is routine procedure for animal shelters to desex kittens at approximately eight weeks of age (and over 1 kg in body weight), and multiple benefits from pre-pubertal desexing have been demonstrated for the individual cat as well as benefits in terms of cat population control (Spain et al. 2004; Joyce et al. 2011; Farnworth et al. 2013a; Yates et al. 2013; Porters et al. 2014). However, this procedure is not yet universally accepted among the veterinary community, as there are divided opinions on pre-pubertal desexing (Farnworth et al. 2013a; Yates et al. 2013) and there is a lack of veterinarians who have been trained in pre-pubertal desexing and who are willing to offer this service to the community. It may be helpful to promote pre-pubertal desexing between 14-16 weeks of age as veterinary practitioners may be more likely to accept desexing of cats at this age.

Veterinarians are a vital link in communicating with cat owners and ensuring that owned kittens are desexed before reproductive maturity (New et al. 2000; Fournier 2004; Stavisky 2014; Welsh et al. 2014). Therefore, encouragement of veterinarians to

accept this procedure and training to ensure that they can deliver this service is very important (Farnworth et al. 2013a; Yates et al. 2013).

#### Assessment

The implementation of large scale pre-pubertal desexing is likely to have a positive impact on cat management in terms of reducing cat overpopultion. This should result in a decrease in cat predation on wildlife and also a decrease in animal shelter/control cat intake and euthanasia. However, there are no reports in the literature or media about the impact of such a scheme as it has never been introduced or reported on a large scale. If such a programme is implemented then formal assessment would be a very beneficial addition to the literature in the field of cat management.

## Registration

Registration establishes ownership of a cat and allows the local government to monitor and enforce other animal specific laws such as limits on cat numbers, breeding regulation, mandatory identification and desexing.

Mandatory registration of cats is uncommon worldwide but is required in some parts of Australia, Canada and the USA. It is more common in the places which have laws to try and control rabies as in these areas registration (licensing) is often driven by the rabies control laws.

There are no reports of successful mandatory registration but the objectives are not clearly apparent which makes assessment of the outcomes difficult. In addition, implementation and administration of mandatory registration is expensive and the cost of enforcement and monitoring is prohibitive.

## Assessment

Mandatory registration is unlikely to have any significant impact on the cat overpopulation problem. Its implementation and administration is expensive and the cost of enforcement and monitoring is likely to be prohibitive. However, in some places the funds received from registration have been used to employ cat management officers or to support desexing programs for cats from low income families.

Cat owners generally seem not to see the benefits of registration and view it as an extra cost and layer of bureaucracy. Also, imposing mandatory registration when mandatory identification is already being implemented may be seen as unecessary.

# Limiting the numbers of cats allowed to be owned

An increasing number of jurisdictions are enacting regulations on the number and type of animals a person can keep on their property. The regulation by a jurisdiction of the number of cats that can be kept is sometimes discussed as a measure to manage cat numbers but is generally an attempt to reconcile the sometimes conflicting interests of cat owners with property owners and cat nuisance issues. Restricting cat numbers is likely to benefit cat welfare (as multicat households can be a highly stressful environment for many cats) provided that cats are still able to benefit from living with (appropriate numbers of) conspecifics and may act as an incentive for desexing.

Restrictions on the number of cats allowed per household may also assist in resolving cases of animal hoarding and help prevent the establishment of kitten farms.

Where there are no cat containment regulations, having fewer cats should also result in lower predation.

There are no reports of assessment of specific outcomes for the restriction on the number of cats that can be kept.

## **Assessment**

Limiting the number of cats that can be kept is suited to managing the sometimes conflicting interests of cat owners and property owners, helping to prevent kitten farms and may assist in addressing cases of animal hoarding. The requirements (or lack of) for cat containment will depend on whether this will also help reduce wildlife predation or community nuisance from roaming cats. This approach may assist in reducing overall cat numbers when used in combination with other responsible pet ownership strategies.

## **Breeding regulation**

Cat breeding regulation allows for the mandatory registration of breeders and the need for breeders to comply with a breeder welfare code. Regulations of this type are recent developments and have generally been introduced to address the problem of kitten farming and other poor practices that compromise cat welfare and health. Although these regulations are not generally introduced as a cat management tool relating to responsible ownership, cat overpopulation and cat predation on wildlife they may have indirect benefits. Where breeding regulation is effectively enforced and includes breeder traceability and requirements for microchipping and desexing of kittens prior to sale or transfer, these benefits may be significant.

Cat breeding regulation and supporting legislation have been reported in various juristictions in Australia, the USA and Canada.

There are no clearly defined goals relating to cat overpopulation for breeding regulation and no reports yet of assessment of specific outcomes of the breeding regulation schemes that have been put in place.

## Assessment

Breeding regulation is likely to be of use in trying to combat kitten farms and other poor practices that compromise cat welfare and health, but many of these regulations are new and further evaluation is required to understand the overall impact on cat management. Breeder licensing may be beneficial in facilitating enforcement of mandatory desexing requirements as only registered breeders would be able to legally transfer ownership of entire cats.

## iii. Cat owner education

Responsible cat ownership comprises two different elements – firstly and preferably, owners voluntarily doing the right thing and, secondly, enforcement of responsible cat ownership requirements through legislation. If cat owners understood responsible cat ownership requirements, were committed and had appropriate resources to be responsible, there would be very little need for legislative requirements. Awareness, education and opportunity are fundamental to widespread commitment of responsible cat ownership in which the responsible cat owner ensures their cat is safe, happy and healthy and does not disturb the environment or neighbours.

*Increasing public understanding of the importance of responsible cat ownership* 

Increasing public understanding of the importance and benefits of responsible cat ownership will involve consistent public messages. This will include information about legal requirements from government and animal welfare organisations, education programs in schools and social marketing campaigns. Veterinarians also have a key role to play in educating cat owners regarding responsible cat ownership and cat owner obligations. These kinds of public education initiatives have been widely used to improve public understanding of human public health and welfare issues such as drink driving, cigarette smoking, skin cancer, obesity and many others.

Some progress seems to have been made in increasing public understanding of the importance and benefits of responsible cat ownership particularly in relationship to people's understanding of the impact of cats and cat caretaking practices on wildlife (Perry 1999; Chaseling 2001) but there is much progress still required.

## Assessment

The combination of consistent public messages including information about legal requirements from government and animal welfare organisations, education programs in schools and social marketing campaigns has the potential to result in positive progress for cat management. These approaches should be applied to specific areas of need such as improving cat caretaking practices to decrease cat impacts on wildlife and improve cat welfare and health.

# iv. Facilitation of behaviour change

Broadly, behaviour change is facilitated by changing community attitudes and beliefs relating to cats and responsible cat caretaking. The Theory of Planned Behaviour (Ajzen 1985; Ajzen 1991) has been shown to predict a number of volitional human behaviours, including behaviours towards animals (Coleman et al. 1998; Rohlf et al. 2012; Toukhsati et al. 2012a). Modification of elements of the Theory of Planned Behaviour related to behaviours of interest (for example, attitudes, social norms, and beliefs) can be expected to have the potential to alter the behaviours (Coleman et al. 1998; Hsu et al. 2003). A 2012 Australian study about community attitudes towards cat containment and cat impacts on wildlife found agreement of only approximately 63% (owners and nonowners) that wandering cats endanger or kill native wildlife (Toukhsati et al. 2012b). It

was found that 80% of cat owners contained their cat to a property at night but only 41.2% contained their cat to a property during the day. This study was a good example of the relationship between beliefs and related behaviour, as people who believed that cat containment was important (to protect their cats and wildlife) were most likely to contain their own cats.

Traditional methods used by government to change community behaviours are legislation, regulation, penalties, taxes, and subsidies, but these may not be as successful as other methods that improve cooperative community behaviour change (Head 2008), such as education and community awareness programs (Toukhsati et al. 2012a). This approach is a paradigm shift from the more punitive and negative measures to change behaviour to more collaborative and encouraging approach to engage stakeholders.

There are a number of areas related to cat management in which there is a great need for change in community attitudes and beliefs and subsequently behaviour modification. These include:

- Increasing the value placed on cats
- The impact of cats and cat caretaking practices on wildlife
- Acceptance of certain responsible ownership and care measures such as:
  - Cat containment
  - o Pre-pubertal desexing
  - o Desexing of stray cats being cared for by a non-owner
- Awareness of the benefits to cats of the responsible ownership and care
  measures above and other behaviours with positive impacts on cat welfare such
  as providing enrichment for cats, particularly contained cats (Toukhsati et al.
  2012b; Loyd et al. 2013).

## Assessment

Regulation is an important tool as it clearly defines what is acceptable regarding legal requirements. However, legislation is not an effective instrument alone for addressing cat population, nuisance and predatory issues. Much more emphasis needs to be placed on education and community support programs to encourage responsible cat ownership. It is also critical to have consistent laws across jurisdictions as cats do not observe council boundaries and people move residence relatively frequently and

possibly to an area where laws may be different. There may also be a perception that if legal requirements are not imposed in some areas, then they are unimportant.

Given that domestic and feral cat issues are universal across New Zealand, a national cat management plan is needed to achieve greater consistency and collaboration with problem definition, solution development, resource sharing and impact evaluation to encompass all cat meta-populations.

## v. Summary of owned cat management strategy assessment

Robust science regarding management options for owned cats is lacking for the New Zealand context as most of the data reported is from overseas, not all of which will be relevant or applicable to the New Zealand situation. A multi-faceted cat management programme is needed that utilises many different strategies to attempt to achieve the 'all cats are responsibly owned' goal, while protecting the rights and welfare of cats and cat owners.

The National Cat Strategy Management Group feels that the strategies with most merit for managing companion (owned) cats are:

- Encouraging containment of companion cats through education and legislation.
   This has the potential to significantly decrease predation of wildlife by companion cats, reduce the risk of unplanned breeding and reduce community nuisance from roaming companion cats.
- Increasing the number of companion cats with identification (both microchip and collar/tag) through education and legislation. This will help with reuniting cats with their owners if they are lost. It also facilitates the determination of a cat's ownership status and, as a result, allows veterinarians, welfare organisations or authorities to take prompt and appropriate action for each individual cat.
- Changing the 'normal' age for desexing cats to four months of age or less so that cats are desexed before they reach sexual maturity. This will involve education (of veterinarians and the community) and facilitation (and potentially enforcement) of this behaviour change.
- Making desexing initiatives for companion cats widely available and accessible to prevent unwanted breeding.

• Redefining cat 'ownership' as a person caring for the needs of the cat and if the cat is microchipped in their name. This would be helpful in terms of simplifying the definition for education and cat management purposes.

More data is needed to fully assess these management approaches and active monitoring should be part of the implementation of any new cat management approach.

Table 3: Potential evaluation measures for strategies to manage domestic cats  $^{\ast}$ 

General measures		
Reduced:	Overall numbers of stray cats	
	Size of individual stray cat colonies	
	Shelter/pound admissions of companion and stray cats (socialised/unsocialised/managed/unmanaged)	
	Shelter/pound euthanasia of companion and stray cats (socialised/unsocialised/managed/unmanaged)	
	Nuisance complaints about cats	
	Wildlife injuries and deaths documented by veterinarians, wildlife carer groups and shelters	
	Animal management costs	
Increased:	Retention of companion cats	
	Proportion of companion and stray cats desexed	
	Community satisfaction and support for cat management	
	Wildlife prey abundance	
Specific measures		
Trap-neuter-return	Reduced size of stray cat colonies	
Education of stray cat carers	Increased number of stray cats desexed	
	Increased number of stray cats adopted	
Reducing	Increased number of companion cats surrendered to animal	

abandonment and	shelters		
surrender			
	Increased number of cat abandonment complaints received		
	by SPCA inspectorate		
Cat containment	Increased uptake of cat containment		
	Increased use of outdoor cat enclosures		
	Increased use of environmental enrichment for contained		
	cats		
Mandatory	Increased reclaim rates recorded by shelters, pounds and		
identification	veterinarians		
Mandatory	Increased reclaim rates recorded by animal shelters and		
registration	veterinarians		
	Cat registration numbers		
	Cat registration numbers		
	Council income from cat registration (and application		
	towards cat management initiatives)		
	Expenditure of cat registration income on supporting cat		
	management initiatives (where councils allocate funds from		
	registration to cat management initiatives)		
N. 1. 1. 1.			
Mandatory desexing	Increased number of companion cats desexed before sexual		
	maturity		
	Reduction in animal shelter/pound admissions of kittens		
	, <u>.</u>		
	Reduction in animal shelter/pound euthanasias of kittens		
	Reduction in kittens/cats being sold/given away on trading		
	platforms (e.g. Trade Me ™ or other media)		
	F (c.B. 11446116 61 54461 Mount)		
Targeted and	Increased number of desexed cats from low income areas		
affordable desexing	Reduction in kittens/cats being sold/given away on trading		
	platforms (e.g. Trade Me ™ or other media)		
Peri-pubertal	Increased number of cats desexed prior to sexual maturity		

desexing	Increased retention of adult cats desexed prior to sexual maturity  Age of mother cat when kittens are surrendered to animal shelters and pounds  Reduction in kittens/cats being sold/given away on trading platforms (e.g. Trade Me ™ or other media)	
Limiting the number of cats owned	Reduction in number of hoarding complaints received by SPCA inspectorate	
Breeder regulation	Reduction in number of breeding complaints received by SPCA inspectorate  Reduction in kittens/cats being sold/given away on trading platforms (e.g. Trade Me ™ or other media)	
Education and behaviour change	Increased support for cat management strategies	
*Modified from the 'Potential evaluation measures for strategies to manage domestic cats' table in Identifying Best Practice Cat Management in Australia. A Discussion Paper (RSPCA Australia 2016)		

## 6. Key roles for government, NGOs and the community

There are many stakeholders involved in the complex situation surrounding cat management in New Zealand. Each of these stakeholders has a role to play in improving cat management.

#### 6.1. New Zealand Government

It is important that the Minister for the Environment and the New Zealand government take steps to address cat management in a holistic manner which addresses both feral and domestic cat management. It is of great importance that opportunities are created for national consultative groups on feral cat control and domestic cat management to discuss common issues in order to encourage greater stakeholder collaboration, and integration of initiatives. This is vitally important and will help focus attention and resources to achieve greater success. Core areas of focus should be applied to cat management – science, action and partnership. The New Zealand Government also has a role in facilitating collaborative research in areas specifically relating to feral cat control and domestic cat management and integration of feral and domestic cat management.

#### Governmental agencies involved in cat management

Currently the agencies who should share some responsibility for cat management in New Zealand include:

- Department of Conservation
- Regional Councils
- City Councils
- Ministry for Primary Industries
- Police

#### Legal reform

Legislation is often viewed as the key to resolving cat management issues but there are many reasons why mandating specific aspects of cat management can only provide part of the solution. The challenge is to identify which aspects will be most cost-effective and what other measures are required to provide an ethical, humane and sustainable approach.

It is recognised that legislation relating to cat (domestic and feral) management is complex and sometimes confusing. Government plays an important role in reviewing and rationalising legislation to reflect best practice and community expectations to achieve consistent and effective change. This involves undertaking meaningful evaluation and public consultation.

#### Developing and sharing resources

Awareness and education are vital for effective cat management and having one agency coordinate the development of materials will help ensure consistency and cost-effectiveness. For example, in the Australian state of South Australia there is a Dog and Cat Management Board which has produced excellent resource materials promoting responsible cat ownership; these can be used by all councils and other groups including veterinarians and animal welfare organisations. They have also developed guidelines to assist councils to establish cat bylaws.

#### Local government

Local government generally enforces domestic cat legislation and acts at the community level. Therefore, local government has a pivotal role to play in working with key community stakeholders including cat owners, breeders, sellers, animal welfare organisations, veterinarians and conservation groups. Councils can play an important role in facilitating and coordinating community based activities including accessible desexing schemes, promotion of responsible cat ownership, encouraging cat friendly rental accommodation and supporting cat adoption drives. Enforcement of regulations is also important but is considered secondary to the other educative and support roles the council can pursue. Another critical role for council is to liaise and collaborate with grassroots community conservation groups to support and coordinate cat management activities.

#### **Council Cat Management Plans**

Where councils are required to develop and submit a cat management plan (usually in association with a dog management plan), these plans can incorporate priority areas, education and support programs (e.g. accessible desexing and microchipping schemes), research and evaluation activities (examples of this occur in the Australian states of South Australia and Victoria). Councils in New Zealand undertaking this would greatly

assist in focusing attention on cats, and would complement a national cat management plan. The Wellington City Council has proposed substantial bylaws in the absence of national laws pertaining to cat management but other New Zealand councils have few if any bylaws pertaining to cat management.

#### 6.2. Other stakeholders

Communication with the local community and other stakeholders, involvement of stakeholders in decision making and solutions, and education have all been identified as key components of effective management of issues similar to cat management (Cartwright 2006; Lohr 2012).

It is important that all stakeholders involved with cat management work collaboratively towards the goal of effectively and humanely reducing and controlling cat numbers. Cooperation between the stakeholders with opposing viewpoints, such as wildlife conservationists and cat caretakers, will be crucial to effective community management of cat populations (Peterson et al. 2012; Palmer 2014). Collaboration between social scientists and ecologists to manage wildlife-related conflict issues is also needed, as knowledge and application of concepts from social science are important in understanding and addressing problems with human dimensions like the cat overpopulation problem (Mascia et al. 2003; Dayer et al. 2004; Wallace et al. 2006).

## **Conservation groups**

The major conservation groups in New Zealand include:

- Royal Forest and Bird Protection Society
- Queen Elizabeth II Trust (QEII)
- Nga Whenua Rahui
- Department of Conservation

In New Zealand, many conservation groups are involved in managing feral and domestic cats either directly (on privately owned land) or indirectly (through information given to supporters and the general public), inclduing small local grass roots conservation groups. Conservation groups also have an important role in community engagement and in particular in promoting and implementing good welfare practices in relation to cat management.

## Animal welfare organisations

Animal welfare organisations are on the front lines of cat management in terms of managing unwanted cats brought to animal shelters and implementing community initiatives to address unwanted cats in the community. Welfare organisations also often play an important role in community education and engagement, including facilitating adoption drives, desexing programs and promoting microchipping. In addition, animal advocacy groups can assist conservation groups and government with advice on addressing animal welfare risks associated with cat management programs.

The SPCA is the preeminent animal welfare and advocacy organisation in New Zealand but there are many animal welfare and rescue groups throughout New Zealand that all contribute to the humane management of cats (for example, Lonely Miaow, Kitten Inn, Cats Protection League). Some are also involved in research (e.g. SPCA) and have a great reach within the community to facilitate formal studies.

#### **Veterinarians**

Veterinarians have an important role to play in the management of cats. This includes:

- Education of clients and the public about responsible cat ownership, cat impacts on wildlife, cat welfare and the need for cat management
- Encouragement of adoption of cats from welfare organisations and pounds.
- Supporting and implementing pre-pubertal desexing
- Supporting and being involved in community initiatives such as accessible desexing programs for cats

In addition, the New Zealand Veterinary Association and New Zealand Companion Animal Council (NZCAC) play an important role in providing advice and assisting with initiatives to assist cat management.

#### Cat breeders

Cat breeders play an important role in educating buyers about responsible cat ownership and ensuring that all legal requirements and health requirements are met for cats and kittens sold. Their role includes:

- Registering as a breeder
- Complying with the Animal Welfare (Companion Cats) Code of Welfare
- Having their kittens desexed prior to transfer of ownership, unless to another registered breeder
- Complying with relevant regulations and legislation

#### Pet retailers and manufacturers

The Pet Industry Association of New Zealand provides advice and assists with initiatives contributing to cat management. The roles of individual businesses that sell cats and cat accessories, food and equipment include:

- Educating clients and the public about responsible cat ownership, cat impacts on wildlife, cat welfare and the need for cat management
- Supporting pre-pubertal desexing
- Supporting community initiatives such as accessible desexing programs and low cost microchipping for cats
- Selling only desexed, vaccinated and microchipped kittens and cats from responsible breeders
- Supporting initiatives to rehome cats from animal shelters and pounds through their retail outlets

#### Cat owners

Cat owners have a significant role in cat management including:

- Adoption of cats from welfare organisations and pounds
- Taking responsibility for their cat by providing appropriate care to maintain health and ensure good welfare
- Preventing or mitigating the negative impact of their cat on wildlife through effective containment and/or anti-predation devices
- Identification of their cat with a microchip and external identification
- Desexing their cat before sexual maturity to avoid unwanted litters of kittens unless they are a registered breeder
- Complying with the Animal Welfare (Companion Cats) Code of Welfare

- Having any cats/kittens desexed prior to transfer of ownership, unless to registered breeder
- Compliance with relevant regulations and legislation

## Stray cat carers

Stray cat carers have a very significant role in cat management including:

- Taking responsibility for the cats they care for, including the cats' potential to contribute to cat overpopulation and impact on wildlife
- Mitigating the negative impact of the cats they care for on wildlife through the use of effective anti-predation devices
- Desexing the cats they care for before the cats reach sexual maturity to avoid breeding
- Supporting community initiatives to reduce the number of unwanted cats such as accessible desexing programs and TNR programs
- Helping to educate other cat carers about the impact of cats on wildlife and what can be done to mitigate these impacts
- Identification of the cats they care for with a microchip and external identification.

## People who neither own nor care for cats

People who neither own nor care for cats also have a significant role in cat management including:

- Supporting community initiatives to reduce the number of unwanted cats such as accessible desexing programs and TNR programs
- Treating cats with kindness, care and respect
- Helping to educate cat owners and cat carers about the impact of cats on wildlife and what can be done to mitigate these impacts

# 7. Future assessment and evaluation of cat management strategies

The body of evidence related to cat management is increasing but there is a lot of information that is still needed in order to inform best practice cat management. A key

problem is the lack of credible information to help define the problem and monitor management strategies; many of the strategies that are theorised to be effective in controlling cat populations have not been implemented and formally assessed.

There are currently few, if any, formal assessments of the impact of specific cat management strategies on wildlife predation by cats, unwanted cat numbers, animal shelter intakes, shelter euthanasia numbers, and nuisance complaints. The few existing assessments relate to the impact of desexing initiatives (and TNR programs in overseas countries) on animal shelter cat intake and euthanasia numbers and the increase in reclaim rates associated with identification of cats. In the limited reports in the literature and media the assessment of the success or failure of cat containment is seemingly based on no, minimal or questionable data. This highlights the need for setting clear and measureable objectives for initiatives and formal assessment based on the objectives.

Table 3 sets out a series of measures that could be used to evaluate the overall success of cat management strategies, as well as a number of measures specific to individual strategies. Evaluation of the success of cat management programs should include preand post-implementation monitoring using these specific measures.

Reported data are either compilations of (sometimes diverse and inaccurate) data from different animal welfare organisations and animal control agencies or extrapolations from more local data from animal welfare organisations and animal control agencies. Accurate data in the following areas is vital in ensuring successful long term cat management:

- Assessment of the impact of legislation on stray cat numbers, nuisance complaints, wildlife predation, animal shelter intakes and euthanasia rates.
- The impact of TNR on the number of stray cats, stray cat admissions to animal shelters/pounds and stray cat euthanasia.
- Data is needed about the effect that desexing has on cat behaviour and how this
  might influence cat population dynamics. It is commonly theorised that desexed
  cats occupy space within a cat population and prevent other entire cats from
  entering that area but there is no data available to substantiate this theory
  (Miller et al. 2014b; Miller et al. 2014a).

- More information is needed about typical cat dispersal rates, dispersal rates under different conditions, and the survival rates of dispersing cats (Miller et al. 2014b; Miller et al. 2014a).
- It would be valuable to conduct more research to determine New Zealanders' attitudes towards, and interactions with, stray cats including the intentions of stray cat carers.
- Accurate data about typical cat abandonment rates under different conditions and the socio-economic and attitudinal factors that contribute to higher abandonment rates and prevention of abandonment is needed (Miller et al. 2014b; Miller et al. 2014a). Effective management of a cat population requires that immigration into the cat colony is prevented, or at least reduced and in order to achieve this cat abandonment must be low. Therefore, the factors contributing to it must be better understood.
- An important area for future research is determining if intensely managing cats
  within a small part of the meta-population or managing a larger part of the
  meta-population at lower intensity is more effective at controlling the cat
  population (Miller et al. 2014b; Miller et al. 2014a).
- Information about the barriers to desexing of stray cats cared for by people
  would be of great benefit in devising effective strategies to increase desexing of
  these cats.
- Continued research into more humane methods of feral and stray cat control are needed with particular emphasis on non-surgical reproduction control.

#### 8. Recommendations

- Any legislation and plans to control feral and domestic cats must recognise that cats are sentient animals capable of experiencing positive affective pleasure and pain, suffering and distress.
- Effective management of stray and companion cats requires an integrated, consistent and long-term approach focusing on non-lethal control methods; there is an urgent need for effective and humane cat control measures that are acceptable to the community. Changing community attitudes, beliefs and behaviours must be a foundation of every strategy to manage cat populations. Key components of this approach must be:
  - Nation-wide responsible cat ownership education programs and legilsation to encourage and reinforce responsible ownership with the aim of:
    - Increasing acceptance and implementation of cat containment, especially
      in areas of high conservation value. Measures to ensure suitably enriched
      containment for cats to safeguard cat welfare must be included.
    - Increasing the number of cats who are identified through mandatory
      microchipping and physical identification. In addition, cat owners and
      carers need to be made aware of the importance of both microchipping
      and physical identification (collar/tag) for cats.
  - Education programmes should focus on increasing public understanding of the need for cat management and acceptance of critical cat management measures. A strong and ongoing education and community support programme for important cat management measures is of vital importance.
  - Desexing initiatives for companion cats that are accessible for all those who
    need access to these services. This should result in an increased number of
    cats desexed which would otherwise remain entire due to owner or carer
    inability to have cats desexed. There should also be a consequent decrease in
    litters of kittens produced.
  - Introduction of wide-spread pre-pubertal desexing of cats. This will reduce the number of litters of kittens produced before cats are desexed and improve the effectiveness of other desexing initiatives.

- Restrictions on the number of cats allowed to be kept on a property or by an
  individual. This strategy can help to encourage deexing, prevent 'kitten
  farms' and prosecute hoarders.
- Nation-wide mandatory desexing and microchipping of cats and kittens at
  point of sale or transfer of ownership and prior to return to their owner
  if the cat or kitten is impounded. This strategy can provide many of the
  theorectical benefits of mandatory desexing but is easier to implement and
  monitor/enforce compliance.
- Identifying the different cat populations in separate categories to provide the basis for a management framework.
  - Feral
  - Domestic cats
    - o Companion (owned) cats
    - Stray cats
      - Socialised stray cats (managed and unmanaged)
      - Unsocialised stray cats (managed and unmanaged)

See proposed cat management flow chart based on these cat categories (Figure 4)

- Specifically targeted education, desexing and other relevant cat management programs for stray cat carers. Since stray cat carers do not consider themselves cat owners they are unlikely to comply with cat management legislation aimed at cat owners. Therefore, the effectiveness of future approaches to reduce the number of stray cats will be improved by targeting stray cat carers with specific education messages and management strategies, particularly encouraging desexing and identification (microchip and physical identification) of managed stray cats. Desexing of these cats must also be facilitated to make this viable.
- 5 Creation and implementation of Stray Cat Management Guidelines to faciliate implementation of best practice managed and targeted trap-neuter-return (mTTNR) programs for stray cats and active cat management.
  - Creation and implementation of Cat Colony Management Guidelines.

Creation and implementation of a managed stray cat registry with specific criteria (e.g. cats must be desexed, eartipped, microchipped and not in environmentally sensitive area exclusion zones as per the Colony Management Guidelines).

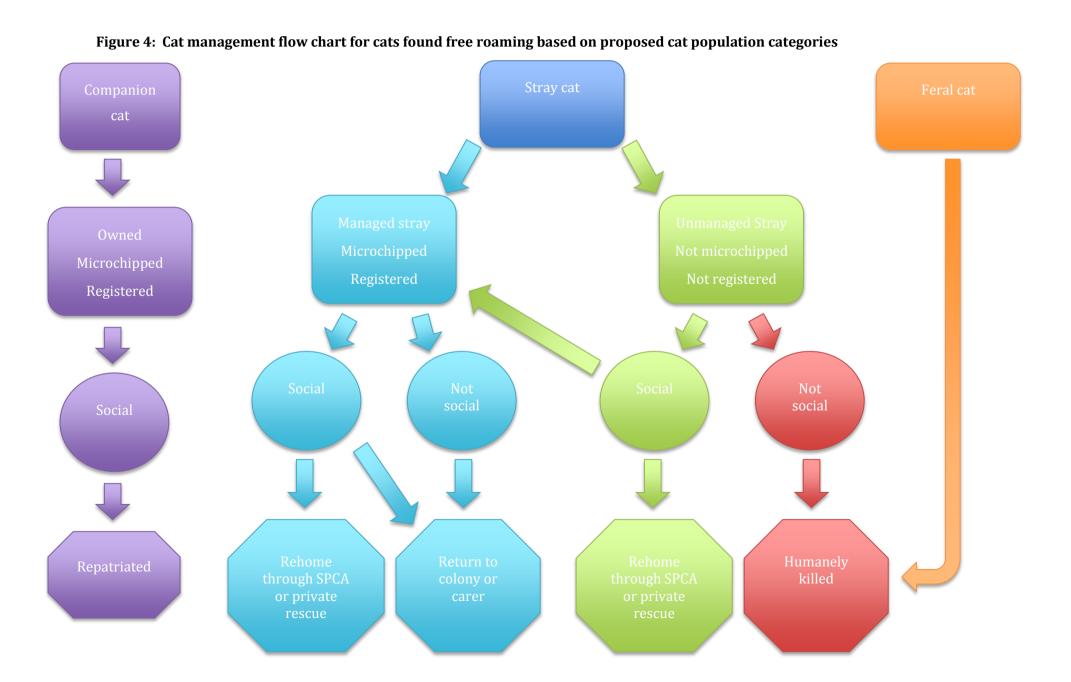
- Best practice cat management requires communication with all stakeholder groups and involvement of stakeholders in decision making and solutions. All stakeholders involved with cat management need to work collaboratively towards implementing effective and humane management strategies.
- The significant inconsistencies in legislation, approach and level of commitment to cat management at the local government level need to be urgently addressed. An consistent approach is vital to ensure that approaches are complementary, not opposing, and that gaps are avoided between responsibilities, laws and initiatives.
- The implementation of a national cat management task force that addresses the contributions of feral, stray and companion cats (this could be modelled on the national feral cat task force in Australia). Further research is needed to inform ongoing humane cat management strategies and will require allocation of resources, coordination and priority setting at a national level. This would be an important component of the task force work. Scientific rigor is needed to identify the problems and impacts associated with cat overpopulation, determine causes and then identify solutions before designing an action plan.
- 9 Creation and implementation of a national cat action plan and supporting legislation in the form of a National Cat Management Act and local bylaws. These will allow the comprehensive and consistent implementation of nation-wide humane management of all cat populations in New Zealand. This plan must include provision for effective and ongoing evaluation and transparent reporting. The National Cat Management Act should allow for the creation and implementation of cat bylaws which will allow for cats to be managed through a variety of mechanisms as deemed appropriate by the relevant Council. This may include:
  - Cat curfew/containment and/or restriction in ecologically sensitive

areas

- The ability to deal with nuisance cat issues (for example, through an infringement system)
- Setting a limit on the number of cats to be kept in each household, above which the owner would have to seek permission from the Council
- The removal of stray cats if necessary with the proviso that non-lethal methods of removal (e.g. rehoming or TNR) will always be the first option where possible
- A cat colony management register
- 10 Changes to legislation should be incremental to allow public education, acceptance and compliance with new requirements.
- Local governments should consider establishing cat management advisory groups with terms of reference that include:
  - Monitoring the implementation of cat management legislation and compliance with mandatory requirements
  - Consulting with key local stakeholders
  - Developing relevant codes of practice and SOPs for cat control methods
  - Identifying key metrics to evaluate the effectiveness of cat management legislation
- Evaluation of cat management strategies is essential in order to determine their effectiveness. Key evaluation measures and processes for data collection need to be agreed by all stakeholders and applied to all new and existing initiatives.
- Evaluation outcomes should be reported and incorporated into the development of cat management plans at the national and local level.
- 14 Creation and implementation of a centralised national database of statistics relevant to cat management such as cat euthanasia, trapping, TNR, shelter intake, and killing methods.
- An integrated approach to the management of feral and domestic cats is vital to ensure that strategies are complementary, not opposing, and that no vital

aspects in terms of responsibilities, laws and initiatives are overlooked. The flow between the different cat populations is fluid so it is important to address all sources of cats in a coordinated and multifaceted initiative. Assessment of the effect on feral cat numbers and their impacts on wildlife from management strategies which address owned and stray cats is needed to provide data supporting this approach. This framework should applied to any new initiative in cat management.

- Practitioners responsible for implementing feral (and domestic) cat management need to have an understanding of the animal welfare impacts of available methods, and be competent to implement strategies using best practice. This needs to be monitored and managed with a regular auditing and compliance framework.
- Nation-wide identification of areas of high conservation value as outlined in local legislation and subsequent implementation of:
  - Comprehensive but humane pest removal from within those areas, including feral and stray cats.
  - Local authorities are given powers to implement as they see fit in zones of human habitation and development near areas of high conservation value, including: restriction of cat ownership, cat curfews and/or strict 24 hour cat cantonment laws and enforcement.



#### 9. Conclusions

There is clear and urgent need for an evidence-based, coordinated and consistent cat action plan which delivers humane and effective cat management for New Zealand.

The NCMSG has worked towards this goal through:

- Gathering and utilising available research findings
- Providing leadership through facilitated stakeholder groups and maintaining good communication
- Collaborating with stakeholders to
  - o define the problem and identify solutions
  - set agreed objectives

This report has summarised and assessed the existing literature and available resources on feral and domestic cat management strategies and taken into consideration feedback from the first phase of consultation in order to devise a draft cat management plan for New Zealand.

In terms of the management of stray cats, two key points emerge. Firstly, the evidence indicates that current low-level trap-and-kill programs aimed at controlling stray cats are not effective in achieving the main objectives of cat management. Any form of cat management, whether lethal or TNR requires intensive implementation to be effective and local community support to ensure success. Given the lack public support for lethal control programs in many urban or peri-urban areas, resources in those areas may be better spent on more effective non-lethal alternative strategies. These include education and community engagement campaigns to encourage cat carers to desex, identify and manage the stray cats they care for, combined with accessible desexing programs. Secondly, evidence from overseas studies indicates that well designed, implemented and monitored targeted trap-neuter-return (mTTNR) programs can be a successful component of urban cat management. mTTNR for stray cats and active cat management has the potential to reduce the number of stray cats, improve cat welfare and decrease wildlife predation but this needs to be confirmed under New Zealand conditions. The implementation of mTTNR programs with robust monitoring, especially in terms of the effect on wildlife predation, could provide data on many of the elements that are needed to adequately assess whether this is a suitable and effective strategy for New Zealand urban cat management.

In terms of the management of owned companion cats, many existing strategies have the potential to be effective in achieving the objective of cat management, if an integrated and consistent approach is taken. Methods that have the most potential to effect change are making accessible desexing initiatives widely available, increasing the uptake of pre-pubertal desexing, and encouraging the containment of owned cats, along with public education programs and social marketing campaigns to increase community acceptance of the need for cat management and the various cat management strategies.

A summary of potential strategies for management of domestic cats in terms of their effectiveness and potential for evaluation is provided in Table 4.

In terms of the management of feral cats, the key message is that even though the goal is to have a New Zealand free from predators, including feral cats, it is vital that only the most humane effective methods of cat control are employed. In order to achieve this all feral cat management programs must be regularly monitored and audited to ensure that they adhere to best practice and do not contravene the Animal Welfare Act 1999. In addition, ongoing research is needed to inform improved humane cat management.

Changing community attitudes, beliefs and behaviours must be a component of every strategy to manage cat populations. Traditional methods used by government to change community behaviours are legislation, regulation, penalties, taxes, and subsidies, but these should be supplemented with other methods that improve cooperative community behaviour change (Head 2008), such as education and community awareness programs (Toukhsati et al. 2012a; Toukhsati et al. 2012b). Changing community attitudes and beliefs relating to cats is an important first step in increasing positive associated behaviours and moving towards a consistent, effective approach to cat management in New Zealand.

Ongoing funding sources are necessary for many of the strategies described in this document. National and some local governments do allocate some funding for cat management but this is often for short term or one-off initiatives and so will have limited impact. Animal welfare organisations make a significant contribution through coordinating and implementing key initiatives such as accessible desexing and education programs. Many veterinarians also make a major contributions through working with other groups to deliver accessible desexing initiatives.

There will always be cats in New Zealand and the only viable route to effective cat management is to implement facilitating legislation and simultaneously work with the stakeholders involved with all cat populations to find agreed solutions that are acceptable and have a realistic chance of reducing cat numbers and mitigating cats' negative impact on wildlife. Well designed and managed cat management that is both humane and effective is possible with the implementation of an evidence-based, coordinated and consistent cat action plan.

Table 4: Comparison of potential strategies for domestic cat management\*

Strategy	Measurable?	Effective at reducing cat overpopulation?*
Stray cats		
Adoption	Yes	Yes – but only in combination with other approaches
Trap-and-kill	Yes	No – based on existing data and measured against population
Trap-neuter-return	Yes	Potentially – but lack of New Zealand data, especially on wildlife impact
Targeted desexing	Yes	Yes – in combination with TNR
<b>Educational strategies</b>	Yes	Potentially, if targeted at semi-owners
Owned cats		
Reducing cat surrender and abandonment	Yes	Yes – with help of animal welfare organisations and through enforcement and incorporation into cat management legislation
Containment	Yes	Potentially – if strict 24-hour containment in combination with mandatory identification and strategies to control stray cats
Mandatory identification	Yes	Yes – especially if used with collar and tag requirements
Mandatory desexing	Yes	Potentially - if pre-pubertal desexing and aimed at desexing prior to sale/transfer/return and if adequately enforced
Targeted and affordable desexing	Yes	Yes
Pre-pubertal desexing	Yes	Potentially – theoretically effective but not yet adequately assessed
Registration	Yes	No – but may assist indirectly where funds are directed to cat management activities
Limiting cat ownership	Yes	No – but may assist in reducing public nuisance from cats, kitten farms and resolving animal hoarding cases
Breeding regulation	Yes – but difficult	No – except in specific kitten breeding circumstances
Educational strategies	Yes – but difficult	Yes – if applied to specific areas of need
Facilitation of behaviour change	Yes – but difficult	Potentially - if encouraged and resourced at the national level
	in Australia. A Dis	tegies for domestic cat management' table in Identifying cussion Paper (RSPCA Australia 2016 (in press)) search to obtain more data

#### 10. References

Adamelli, S., Marinelli, L., Normando, S., Bono, G. (2005). Owner and cat features influence the quality of life of the cat. Applied Animal Behaviour Science, 94, 89-98.

Aguilar, G.D., Farnworth, M.J. (2012). Stray cats in Auckland, New Zealand: Discovering geographic information for exploratory spatial analysis. Applied Geography, 34, 230-238.

Aguilar, G.D., Farnworth, M.J. (2013). Distribution characteristics of unmanaged cat colonies over a 20 year period in Auckland, New Zealand. Applied Geography, 37, 160-167.

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior In: Action-control: From cognition to behavior. Springer, Heidelberg, Germany, pp. 11-39.

Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50, 179-211.

Alberthsen, C. (2014). The Australian Excess Cat Population: An Exploration of Cat Admissions and Outcomes to RSPCA Shelters. Thesis, Doctor of Philosophy, University of Queensland.

Alberthsen, C., Rand, J., Bennett, P., Paterson, M., Lawrie, M., Morton, J. (2013a). Cat admissions to RSPCA shelters in Queensland, Australia: description of cats and risk factors for euthanasia after entry. Australian Veterinary Journal, 91, 35-42.

Alberthsen, C., Rand, J.S., Bennett, P.C., Paterson, M., Lawrie, M., Morton, J.M. (2013b). Cat admissions to RSPCA shelters in Queensland, Australia: description of cats and risk factors for euthanasia after entry. Australian Veterinary Journal, 91, 35-42.

Allen, K., Shykoff, B.E., Izzo, J.J.L. (2001). Pet ownership, but not ace inhibitor therapy, blunts home blood pressure responses to mental stress. Hypertension, 38, 815-820.

American Society for the Prevention of Cruelty to Animals (2016). Position Statement on Feral Cat Management. Available from: <a href="http://www.aspca.org/about-us/aspca-policy-and-position-statements/position-statement-feral-cat-management">http://www.aspca.org/about-us/aspca-policy-and-position-statements/position-statement-feral-cat-management</a> Accessed 20<sup>th</sup> July 2016.

American Veterinary Medical Association (2016). Guidelines for Responsible Pet Ownership. Available from: <a href="https://www.avma.org/KB/Policies/Pages/Guidelines-for-Responsible-Pet-Ownership.aspx">https://www.avma.org/KB/Policies/Pages/Guidelines-for-Responsible-Pet-Ownership.aspx</a> Accessed 20th July 2016.

Anderson, D.C. (2004). The Human-Companion Animal Bond. The Reference Librarian, 41.7-23.

Anderson, W.P., Reid, C.M., Jennings, G.L. (1992). Pet ownership and risk factors for cardiovascular disease. The Medical Journal of Australia, 157, 298-301.

Animal Welfare League of Queensland (2010). AWLQ Statistics 2009/10. Available from: <a href="http://www.awlqld.com.au/wp-content/uploads/2011/07/Statistics200910.pdf">http://www.awlqld.com.au/wp-content/uploads/2011/07/Statistics200910.pdf</a> Accessed 13th July 2016.

Aronson, E. (1969). The theory of cognitive dissonance: A current perspective In: Advances in experimental social psychology. Academic Press, New York.

Aronson, E. (1998). Dissonance, hypocrisy and the self-concept In: Cognitive dissonance theory: Revival with revisions and controversies. American Psychological Association, Washington D.C.

Aronson, E., Wilson, T.D., Akert, R.M. (2015). Social Psychology, 9th ed. Pearson/Allyn and Bacon, Boston, MA.

Australian Companion Animal Council (2009). The Power of Pets. Available from: <a href="http://www.acac.org.au/pdf/PowerOfPets">http://www.acac.org.au/pdf/PowerOfPets</a> 2009 19.pdf Accessed 12th June 2016.

Beef and Lamb New Zealand (2016). Abortion in Ewes. Available from: <a href="http://www.beeflambnz.com">http://www.beeflambnz.com</a> Accessed 24th August 2016.

Bell, M., Bell, D. (2003). The recolonisation of Mangere Island by New Zealand white-faced storm petrels (Pelagodroma marina maoriana). Notornis, 50, 57-58.

Bellingham, P.J., Towns, D.R., Cameron, E.K., Davis, J., J., Wardle, D.A., Wilmshurst, J.M., Mulder, C.P.H. (2010). New Zealand island restoration: seabirds, predators, and the importance of history. New Zealand Journal of Ecology, 34, 115-136.

Bergstrom, D. M., Lucieer, A., Kiefer, Kiefer, K., Wasley, J., Belbin, L., Pedersen, T. K., Chown, S. L. (2009). Indirect effects of invasive species removal devastate World Heritage Island. Journal of Applied Ecology, 46, 73-81.

Biosecurity Tasmania, Department of Primary Industries, Parks, Water and Environment (Tasmania) (2016). Draft Tasmanian Cat Management Plan. Available from: <a href="http://dpipwe.tas.gov.au/invasive-species/cat-management-in-tasmania/draft-tasmanian-cat-management-plan">http://dpipwe.tas.gov.au/invasive-species/cat-management-in-tasmania/draft-tasmanian-cat-management-plan</a> Accessed 30th May 2016.

Boone, J.D. (2015). Better trap-neuter-return for free-roaming cats: Using models and monitoring to improve population management. Journal of Feline Medicine and Surgery, 17, 800-807.

Budke, C.M., Slater, M.R. (2009). Utilization of matrix population models to assess a 3-year single treatment nonsurgical contraception program versus surgical sterilization in feral cat populations. Journal of Applied Animal Welfare Science, 12, 277-292.

Cape to City (2016). Toxoplasmosis target of predator programme. Availble from: <a href="http://capetocity.co.nz/toxoplasmosis-target-of-predator-programme/">http://capetocity.co.nz/toxoplasmosis-target-of-predator-programme/</a> Accessed 24th August 2016.

Caprilli, S., Messeri, A. (2006). Animal-Assisted Activity at A. Meyer Children's Hospital: A Pilot Study. Evidence-based Complementary and Alternative Medicine, 3, 379-383.

Cartwright, B. (2006). Human wildlife conflict resolution: The role of conservation education and environmental communication in the re-introduction of the African great apes. Thesis, Doctor of Philosophy, Royal Roads University.

Casey, R.A., Bradshaw, J.W.S., Roberts, M.A., Vandenbussche, S. (2009). Reasons for Relinquishment and Return of Domestic Cats (Felis Silvestris Catus) to Rescue Shelters in the UK. Anthrozoös, 22, 347-347.

Castelli, P., Hart, L.A., Zasloff, R.L. (2001). Companion cats and the social support systems of men with AIDS. Psychological Report, 89, 177-187.

Castillo, D., Clarke, A (2003). Trap/neuter/release methods ineffective in controlling domestic cat 'colonies' on public lands. Natural Areas Journal, 23, 247-253.

Centonze, L.A., Levy, J.K. (2002). Characteristics of free-roaming cats and their caretakers. Journal of the American Veterinary Medical Association, 220, 1627-1633.

Chaseling, S. (2001). Pet populations in Australia. Dogs increasing and cats decreasing - why is it so? In: Urban Animal Management: Proceedings of the National Conference Melbourne, Australia.

Chenoweth, M.B., Gilman, A. (1946). Studies on the pharmacology of fluoroacetate: I. Species response to fluoroacetate. Journal of Pharmacology and Experimental Therapeutics, 87, 90-103.

Clark, C.C., Gruffydd-Jones, T., Murray, J.K. (2012). Number of cats and dogs in UK welfare organisations. The Veterinary Record, 170, 493-499.

Coleman, G.J., Hemsworth, P.H., Hay, M. (1998). Predicting stockperson behaviour towards pigs from attitudinal and job-related variables and empathy. Journal of Applied Animal Behaviour Science, 58, 63-75.

Commonwealth of Australia, Department of the Environment (2015a). Background document for the Threat abatement plan for predation by feral cats. Available from: <a href="http://www.environment.gov.au/system/files/resources/78f3dea5-c278-4273-8923-fa0de27aacfb/files/tap-predation-feral-cats-2015-background.pdf">http://www.environment.gov.au/system/files/resources/78f3dea5-c278-4273-8923-fa0de27aacfb/files/tap-predation-feral-cats-2015-background.pdf</a> Accessed 30th May 2016.

Commonwealth of Australia, Department of the Environment (2015b). Threat abatement plan for predation by feral cats. Available from: <a href="http://www.environment.gov.au/system/files/resources/78f3dea5-c278-4273-8923-fa0de27aacfb/files/tap-predation-feral-cats-2015.pdf">http://www.environment.gov.au/system/files/resources/78f3dea5-c278-4273-8923-fa0de27aacfb/files/tap-predation-feral-cats-2015.pdf</a> Accessed 30th May 2016.

D'Arcy, Y. (2011). 'Paws' to provide comfort, relieve pain. Pet therapy for pain management. In: Nursing, pp. 67-69.

Dale, A. (2015). The comparative welfare status of owned, managed stray and unmanaged stray cats, In: the proceedings of the 6th National G2Z Summit and Workshops, Gold Coast, Australia.

Dayer, A., Manfredo, M. (2004). Concepts for Exploring the Social Aspects of Human-Wildlife Conflict in a Global Context. Human Dimensions of Wildlife, 9, 1-20.

Denny, E., Dickman, C. (2010). Review of cat ecology and management strategies in Australia. In. Invasive Animals Cooperative Research Centre, Institute of Wildlife Research, School of Biological Sciences, University of Sydney, Sydney.

Department of Conservation (2016). Best practice for despatch of animals caught in live trapping operations.

DiGiacomo, N.A., Arnold; Patronek, Gary (1998). Surrendering pets to shelters: The relinquisher's perspective. Anthrozoös, 11, 41-51.

Dowding, J.E., Murphy, E.C. (2001). The impact of predation by introduced mammals on endemic shorebirds in New Zealand: a conservation perspective. Biological Conservation, 98, 47-64.

Driscoll, C.A., Macdonald, D.W., O'Brien, S.J. (2009). From wild animals to domestic pets, an evolutionary view of domestication. Proceedings of the National Academy of Sciences of the United States of America, 9971-9978.

Driscoll, C.A., Menotti-Raymond, M., Roca, A.L., Hupe, K., Johnson, W.E., Geffen, E., Harley, E.H., Delibes, M., Pontier, D., Kitchener, A.C., Yamaguchi, N., O'Brien, S.J., Macdonald, D.W. (2007). The Near Eastern origin of cat domestication. Science, 317, 519-523.

Eason, C.T., Frampton, C.M. (1991). Acute toxicity of sodium monofluoroacetate (1080) baits to feral cats. Wildlife Research, 445-449.

Farnworth, M.J., Adams, N.J., Seksel, K., Waran, N.K., Beausoleil, N.J., Stafford, K.J. (2013a). Veterinary attitudes towards pre-pubertal gonadectomy of cats: a comparison

of samples from New Zealand, Australia and the United Kingdom. New Zealand Veterinary Journal, 61, 226.

Farnworth, M.J., Campbell, J., Adams, N.J. (2011). What's in a Name? Perceptions of Stray and Feral Cat Welfare and Control in Aotearoa, New Zealand. Journal of Applied Animal Welfare Science, 14, 59.

Farnworth, M.J., Muellner, P., Benschop, J. (2013b). A systematic review of the impacts of feral, stray and companion domestic cats (Felis catus) on wildlife in New Zealand and options for their management. New Zealand Veterinary Association, Wellington, New Zealand.

Finkler, H., Hatna, E., Terkel, J. (2011). The impact of anthropogenic factors on the behavior, reproduction, management and welfare of urban, free-roaming cat populations. Anthrozoös, 24, 31-49.

Finkler, H., Terkel, J. (2012). The contribution of cat owners' attitudes and behaviours to the free-roaming cat overpopulation in Tel Aviv, Israel. Preventive Veterinary Medicine, 104, 125-135.

Fitzgerald, B.M. (1988). Diet of domestic cats and their impacton prey populations In: The domestic cat: the biology of its behaviou. Cambridge University Press, Cambridge.

Fitzgerald, B.M., Veitch, C.R. (1985). The cats of Herekopareisland, New Zealand; their history, ecology and effects on birdlife. New Zealand Journal of Zoology, 12, 319–330.

Foley, P., Foley, J.E., Levy, J.K., Paik, T. (2005). Analysis of the impact of trap-neuter-return programs on populations of feral cats. Journal of the American Veterinary Medical Association, 227, 1775-1781.

Foss, G.L. (1948). The toxicology and pharmacology of methyl fluoroacetate (mfa) in animals, with some notes on experimental therapy. British Journal of Pharmacology and Chemotherapy, 3, 118-127.

Fournier, A.K.G.S. (2004). Behaviour analysis of companion-animal overpopulation: A conceptualization of the problem and suggestions for intervention Behavior and Social Issues, 13, 51.

Frederick, E.L. (2003). Effect of cat and dog ownership on sensitization and development of asthma among preteenage children. Pediatrics, 112, 455.

Friedmann, E., Thomas, S.A. (1995). Pet ownership, social support, and one-year survival after acute myocardial infarction in the Cardiac Arrhythmia Suppression Trial (CAST). The American Journal of Cardiology, 76, 1213-1217.

Gagnon, J., Bouchard, F., Landry, M., Belles-Isles, M., Fortier, M., Fillion, L. (2004). Implementing a hospital-based animal therapy program for children with cancer: a descriptive study. Canadian Oncology Nursing Journal, 14, 217-222.

Giles-Corti, B., Bulsara, M., Wood, L. (2005). The pet connection: Pets as a conduit for social capital? Social Science and Medicine (1982), 61, 1159-1173.

Gillies, C., Clout, M. (2003). The prey of domestic cats (Felis catus) in two suburbs of Auckland City, New Zealand. Journal of Zoology, 259, 309-315.

Gillies, C., Fitzgerald, B.M. (2005). Feral cat. In: The Handbook of New Zealand Mammals, 2nd ed. Oxford University Press, Melbourne, Australia, pp. 308-326.

Gordon , J.K., Matthaei , C., Van Heezik , Y. (2010). Belled collars reduce catch of domestic cats in New Zealand by half. Wildlife Research, 37, 372-378.

Grabka, M.M., Headey, B. (2007). Pets and Human Health in Germany and Australia: National Longitudinal Results. Social Indicators Research, 80, 297-311.

Hall, C.M., Adams, N.A., Bradley, J.S., Bryant, K.A., Davis, A.A., Dickman, C.R., ., Fujita, T., Kobayashi, S., Lepczyk, C.A., McBride, E.A., Pollock, K.H., Styles, I.M., van Heezik, Y., Wang, F., Calver, M.C. (2016). Community Attitudes and Practices of Urban Residents Regarding Predation by Pet Cats on Wildlife: An International Comparison. PLoS ONE, 11.

Harper, G.A. (2007). Habitat selection of feral cats (*Felis catus*) on a temperate, forested island. Austral Ecology, 32, 305-314.

Haspel, C., Calhoon, R.E. (1990). The Interdependence of Humans and Free-Ranging Cats in Brooklyn, New York. Anthrozoös, 3, 155-155.

Hasselman, L. (2013). Cats who work like dogs: dogs are considered the workhorses of the domestic pet world, but let's not overlook the jobs that well-trained cats can do. In: Odyssey, pp. 28-30.

Haye, L., Gérard, P., Debue, K., Guilaine, J. (2004). Early Taming of the Cat in Cyprus. Science, 304, 259-259.

Head, B.W. (2008). Wicked Problems in Public Policy. Public Policy, 3, 101-118.

Headey, B. (1999). Health Benefits and Health Cost Savings Due to Pets: Preliminary Estimates from an Australian National Survey. Social Indicators Research, 47, 233-243. Howe, L., Hunter, S., Burrows, E., Roe, W. (2014) Four cases of fatal toxoplasmosis in three species of endemic New Zealand birds. Avian Diseases, 58, 171-5. http://www.ncbi.nlm.nih.gov/pubmed/24758132 Accessed 25th August 2016.

Hsu, Y., Severinghaus, L.L., Serpell, J.A. (2003). Dog keeping in Taiwan: its contribution to the problem of free-roaming dogs. Journal of Applied Animal Welfare Science, 6, 1-23.

Hughes, K.L., Slater, M.R. (2002). Implementation of a feral cat management program on a university campus. Journal of Applied Animal Welfare Science, 65, 15-28.

Hurley, K. (2013). Community Cat Update. Rounds presentation. University of California Davis, USA.

Imber, M.J., West, J.A., Cooper, W.J. (2003). Cook's petrel (Pterodroma cookii): historic distribution, breeding ecology and effects of predators. Notornis, 50, 221-230.

Janevic, M.R., Solway, E., Connell, C.M., McLaughlin, S.J. (2007). Are Pets a Source of Support or Added Burden for Married Couples Facing Dementia? Journal of Applied Gerontology, 26, 472-485.

Jarman, P., van der Lee, G. (1993). Cats (domestic, stray and feral) and endangered Australian wildlife: A factual review. A report to The Petcare Information and Advisory Service, Melbourne, Australia. University of New England, Armidale.

Jennings, L.B. (1997). Potential Benefits of Pet Ownership in Health Promotion. Journal of Holistic Nursing, 15, 358-372.

Johnson, J., Calver, M.C. (2014). Prevalence of desexed cats in relation to age in a convenience sample of Western Australian cats. Australian Veterinary Journal, 92, 226-227.

Johnston, S.D., Rhodes, L. (2015). No surgery required: the future of feline sterilization. An overview of the Michelson Prize and Grants in Reproductive Biology. Journal of Feline Medicine and Surgery, 17, 777-782.

Joyce, A., Yates, D. (2011). Help stop teenage pregnancy. Journal of Feline Medicine and Surgery, 13, 3-10.

Kass, P.H. (2005). Cat overpopulation in the United States. In: The welfare of cats. Springer, Dordtrecht, The Netherlands, pp. 119-140.

Lancaster, E., Rand, J., Collecott, S., Paterson, M. (2015). Problems Associated with the Microchip Data of Stray Dogs and Cats Entering RSPCA Queensland Shelters. Animals, 5, 332-348.

Landcare Research (2015). Garden Bird Survey. Available from: <a href="http://www.landcareresearch.co.nz/science/plants-animals-fungi/animals/birds/garden-bird-surveys/discover-and-learn/results/2015-results/">http://www.landcareresearch.co.nz/science/plants-animals-fungi/animals/birds/garden-bird-surveys/discover-and-learn/results/2015-results/</a> Accessed 20th June 2016.

Langham, N.P.E., Porter, R.E.R. (1991). Feral Cats (*Felis catus L.*) on New Zealand farmland. I. Home range. Wildlife Research, 18, 741-760.)

Lazenby, B.T., Mooney, N.J., Dickman, C.R. (2015). Effects of low-level culling of feral cats in open populations: a case study from the forests of southern Tasmania. Wildlife Research, 41, 407-420.

Levy, J. (2012). Shelter Crowd Control: Keeping Community Cats Out of Shelters. Available from: <a href="http://www.maddiesfund.org/shelter-crowd-control-keeping-community-cats-out-of-shelters-presentation.htm">http://www.maddiesfund.org/shelter-crowd-control-keeping-community-cats-out-of-shelters-presentation.htm</a> Accessed 15<sup>th</sup> July 2016.

Levy, J.K., Crawford, P.C. (2004). Humane strategies for controlling feral cat populations. Journal of the American Veterinary Medical Association, 225, 1354-1360.

Levy, J.K., Gale, D.W., Gale, L.A. (2003a). Evaluation of the effect of a long-term trapneuter-return and adoption program on a free-roaming cat population. Journal of the American Veterinary Medical Association, 222, 42-46.

Levy, J.K., Isaza, N.M., Scott, K.C. (2014). Effect of high-impact targeted trap-neuter-return and adoption of community cats on cat intake to a shelter. The Veterinary Journal.

Levy, J.K., Woods, J.E., Turick, S.L., Etheridge, D.L. (2003b). Number of unowned free-roaming cats in a college community in the southern United States and characteristics of community residents who feed them. Journal of the American Veterinary Medical Association, 223, 202-205.

Lipinski, M.J., Froenicke, L., Baysac, K.C., Billings, N.C., Leutenegger, C.M., Levy, A.M., Longeri, M., Niini, T., Ozpinar, H., Slater, M.R., Pedersen, N.C., Lyons, L.A. (2008). The ascent of cat breeds: genetic evaluations of breeds and worldwide random-bred populations. Genomics, 91, 12-21.

Little, S.E. (2001). Female Reproduction. In: The Cat: Clinical Medicine and Management, 1st ed., Elsevier Saunders, St. Louis MO, USA.

Lloyd, K., Hernandez, S. (2012). Public perceptions of domestic cats and preferences for feral cat management in the southeastern United States. Anthrozoös, 25, 337-351.

Lohr, C.A. (2012). Human dimensions of introduced terrestrial vertebrates in the Hawaiian Islands. Thesis, ProQuest, UMI Dissertations Publishing.

Lord, E., Olynk Widmar, N., Litster, A. (2014). Economic impacts of adoption and fundraising strategies in animal shelters. Preventive Veterinary Medicine, 113, 423-429.

Lord , L.K., Griffin , B., Slater , M.R., Levy , J.K. (2010). Evaluation of collars and microchips for visual and permanent identification of pet cats. Journal of the American Veterinary Medical Association, 237, 387-394.

Lord, L.K., Wittum, T.E., Ferketich, A.K., Funk, J.A., Rajala-Schultz, P.J. (2007). Search methods that people use to find owners of lost pets. Journal of the American Veterinary Medical Association, 230, 1835-1840.

Lort Smith (2014). About Lort Smith. Available from: <a href="http://www.lortsmith.com/what-we-do/about-us/">http://www.lortsmith.com/what-we-do/about-us/</a> Accessed 2<sup>nd</sup> June 2016.

Loyd, K.A.T., Hernandez, S.M., Abernathy, K.J., Shock, B.C., Marshall, G.J. (2013). Risk behaviours exhibited by free-roaming cats in a suburban US town. The Veterinary Record, 173, 295.

MacDonald, E., Milfont, T., Gavin, M. (2015). What drives cat-owner behaviour? First steps towards limiting domestic-cat impacts on native wildlife. Wildlife Research, 42, 257–265.

Manning, A., Rowan, A. (1992). Companion animal demographics and sterilization status: results from a survey in four Massachusetts towns. Anthrozoös, 5, 192-201.

Marsh (2010). Replacing myth with math: Using evidence-based programs to eradicate shelter overpopulation. Available from:

http://shelteroverpopulation.org/Books/Replacing Myth with Math.pdf Accessed 2<sup>nd</sup> June 2016.

Marston, L., Bennett, P., Rolf, V., Mornement, K. (2008). Review of Strategies for Effectively Managing Unwanted Dogs and Cats in Queensland. A Report to the Department of Primary Industries and Fisheries, Queensland. Animal Welfare Science Centre, School of Psychology, Psychiatry and Psychological Medicine, Monash University.

Marston, L.C. (2009). An Analysis of Feline Admission Data from the Royal Society for the Prevention of Cruelty (RSPCA) and Animal Welfare League (AWL) of South Australia for July 2007 to June 2009. Dog and CatManagement Board of South Australia, pp. 1-46.

Marston, L.C., Bennett, P.C. (2009). Admissions of cats to animal welfare shelters in Melbourne, Australia. Journal of Applied Animal Welfare Science, 12, 189-213.

Mascia, M.B., Brosius, J.P., Dobson, T.A., Forbes, B.C., Horowitz, L., McKean, M.A., Turner, N.J. (2003). Conservation and the Social Sciences. Conservation Biology, 17, 649-650.

McCarthy, R.J., Levine, S.H., Reed, J.M. (2013). Estimation of effectiveness of three methods of feral cat population control by use of a simulation model. Journal of the American Veterinary Medical Association, 243, 502-511.

McIlroy, J.C. (1981). The sensitivity of Australian animals to 1080 poison II. Marsupial and Eutherian Carnivores. Australian Wildlife Research, 8, 385-399.

Mellor, D.J. (2016a). Animal Welfare: Freedoms, Dominions and 'A Life Worth Living'.

Mellor, D.J. (2016b). Updating Animal Welfare Thinking: Moving beyond the 'Five Freedoms' towards 'A Life Worth Living'. Animals, 6, 21. Available from: <a href="http://www.mdpi.com/2076-2615/6/3/21">http://www.mdpi.com/2076-2615/6/3/21</a> Accessed 15th August 2016.

Mellor, D.J., Beausoleil, N.J. (2015). Extending the 'Five Domains' model for animal welfare assessment to incorporate positive welfare states. Animal Welfare, 24, 241-253.

Mellor, D.J. Reid, C.S.W. (1994). Concepts of animal well-being and predicting the impact of procedures on experimental animals. Australian and New Zealand Council for the Care of Animals in Research and Teaching, Glen Osmond, Australia.

Mellow, D.J. (2004). Comprehensive assessment of harms caused by experimental, teaching and testing procedures on live animals. Alternatives of Laboratory Animals, 32, 453–457.

Melson, G.F. (2003). Child Development and the Human-Companion Animal Bond. American Behavioral Scientist, 47, 31-39.

Michael, S.A., Howe, L.M., Chilvers, B.L., Morel, P.C.H., Roe, W.D. (2016). Seroprevalence of *Toxoplasma gondii* in mainland and sub-Antarctic New Zealand sea lion (*Phocarctos hookeri*) populations. New Zealand Veterinary Journal, 64, 293-297.

Miller, D.D., Staats, S.R., Partlo, C., Rada, K. (1996). Factors associated with the decision to surrender a pet to an animal shelter. Journal of the American Veterinary Medical Association, 209, 738-742.

Miller, P.S., Boone, J.D., Briggs, J.R., Lawler, D.F., Levy, J.K., Nutter, F.B., Slater, M., Zawistowski, S. (2014a). Companion piece to the publication 'Simulating Free-Roaming Cat Population Management Options in Open Demographic Environments'. PLoS ONE, 9.

Miller, P.S., Boone, J.D., Briggs, J.R., Lawler, D.F., Levy, J.K., Nutter, F.B., Slater, M., Zawistowski, S. (2014b). Simulating Free-Roaming Cat Population Management Options in Open Demographic Environments. PLoS ONE, 9.

Ministry of Agriculture and Forestry Biosecurity New Zealand (2010). How humane are our pest control tools? Wellington, New Zealand, p. 147.

Moodie, E. (1995). The Potential for Biological Control of Feral Cats in Australia. Australian Nature Conservation Agency, New South Wales National Parks and Wildlife Service.

Murray, J.K., Skillings, E., Gruffydd-Jones, T.J. (2008). A study of risk factors for cat mortality in adoption centres of a UK cat charity. Journal of Feline Medicine and Surgery, 10, 338-345.

Nagengast, S.L., Baun, M.M., Megel, M., Michael Leibowitz, J. (1997). The effects of the presence of a companion animal on physiological arousal and behavioral distress in children during a physical examination. Journal of Pediatric Nursing, 12, 323-330.

National Animal Welfare Advisory Committee, New Zealand (2007). The Animal Welfare (Companion Cats) Code of Welfare 2007. Available from: <a href="https://www.mpi.govt.nz/document-vault/1413">https://www.mpi.govt.nz/document-vault/1413</a> Accessed 28th July 2016.

National Animal Welfare Advisory Committee, New Zealand (2011). NAWAC Guideline 09: Assessing the welfare performance of restraining and kill traps, Ministry of Agriculture and Forestry, Wellington, New Zealand, p. 24.

National Pest Control Agencies (2015a). Kill Traps: A guideline to trap possums, ferrets, stoats and feral cats using kill traps. National Pest Control Agencies, Wellington, New Zealand, p. 26.

National Pest Control Agencies (2015b). Leghold Traps - A guideline for capturing possums, ferrets and feral cats using leghold traps. National Pest Control Agencies, Wellington, New Zealand, p. 24.

Natoli, E., Maragliano, L., Cariola, G., Faini, A., Bonanni, R., Cafazzo, S., Fantini, C. (2006). Management of feral domestic cats in the urban environment of Rome (Italy). Preventive Veterinary Medicine, 77, 180-185.

New, J.C., Salman, M.D., King, M., Scarlett, J.M., Kass, P.H., Hutchison, J.M. (2000). Characteristics of Shelter-Relinquished Animals and Their Owners Compared With Animals and Their Owners in U.S. Pet-Owning Households. Journal of Applied Animal Behaviour Science, 3, 179-201.

New Zealand Companion Animal Council (2016). Companion Animals in New Zealand 2016. Available from: <a href="http://nzcac.org.nz/other-content-conference-contacts/nzcac-other-information/nzcac-publications/7-blog/73-companion-animals-in-new-zealand-2016">http://nzcac.org.nz/other-content-conference-contacts/nzcac-other-information/nzcac-publications/7-blog/73-companion-animals-in-new-zealand-2016</a> Accessed 30th July 2016.

New Zealand Department of Conservation (2001). Forbes' parakeet and Chatham Island red-crowned parakeet recovery plan 2001-2011. Threatened Species Recovery Plan 45, p. 30.

New Zealand Department of Conservation (2011). Tuhua welcomes first baby orange-fronted parakeet. Available from:

https://owa.onenet.co.nz/owa/redir.aspx?C=rhZxpGS2a8SvG2s4mme8trQ\_mcFF0IkED\_zskluxhI5gjIjeyR8bTCA..andURL=http%3a%2f%2fwww.doc.govt.nz%2fnews%2fmedia-releases%2f2011%2ftuhua-welcomes-first-baby-orange-fronted-parakeet%2f Accessed 17th August 2016.

New Zealand Department of Conservation (2016). Nature and conservation of Motuihe Island/Te Motu-a-Ihenga. Available from: <a href="http://www.doc.govt.nz/parks-and-recreation/places-to-go/auckland/places/motuihe-island-recreation-reserve/nature-and-conservation/">http://www.doc.govt.nz/parks-and-recreation/places-to-go/auckland/places/motuihe-island-recreation-reserve/nature-and-conservation/</a> Accessed 17th August 2016.

New Zealand Government (1999 and 2015). Animal Welfare Act 1999 (including 2015 amenments). Available from:

http://www.legislation.govt.nz/act/public/2015/0049/latest/whole.html - <u>DLM5174807 2015</u>) Accessed 17<sup>th</sup> August 2016.

New Zealand Veterinary Association (2013). A Systematic Review of the Impacts of Feral, Stray and Companion Domestic Cats (Felis catus) on Wildlife in New Zealand and Options for their Management (October 2013). Available at:

http://www.nzva.org.nz/sites/default/files/domain-

<u>0/NZVA%20Report%20Cat%20Predation.pdf</u> Accessed 15<sup>th</sup> August 2016.

New Zealand Veterinary Association (2016). Responsible cat ownership. Available from: <a href="http://www.nzva.org.nz/policies/9h-responsible-cat-ownership?destination=node%2F2215">http://www.nzva.org.nz/policies/9h-responsible-cat-ownership?destination=node%2F2215</a> Accessed 17th August 2016.

Norbury, G., Heyward, R. (2008). Predictors of clutch predation of a globally significant avifauna in New Zealand's braided river ecosystems. Animal Conservation, 11, 17-26.

Nutter, F.B., Stoskopf, M.K., Levine, J.F. (2004). Time and financial costs of programs for live trapping feral cats. Journal of the American Veterinary Medical Association, 225, 1403-1405.

Palmer, C. (2014). Value conflicts in feral cat management: Trap-neuter-return or trapeuthanize? In: Dilemmas in Animal Welfare. CABI, Wallingford, Oxfordshire.

Paterson, M. (2014). TNR (Trap-Neuter-Return): Is it a solution for the management of feral cats in Australia? In: Engaging with animals: interpretations of a shared existence. Sydney University Press, Sydney.

Perry, G. (1999). Cats — perceptions and misconceptions: two recent studies about cats and how people see them, In: Urban Animal Management: Proceedings of the 8th National Conference, Gold Coast, Australia.

Pet Rescue Ltd. (2016). Do you have a secret cat? Available from: <a href="http://www.communitycats.com.au/">http://www.communitycats.com.au/</a> Accessed 7th May 2016.

Peterson, M.N., Hartis, B., Rodriguez, S., Green, M., Lepczyk, C.A. (2012). Opinions from the Front Lines of Cat Colony Management Conflict. PLoS ONE, 7, e44616.

Platts-Mills, T.A. (2002). Paradoxical effect of domestic animals on asthma and allergic sensitization. Journal of the American Medical Association, 288, 1012-1014.

Porters, N., Polis, I., Moons, C., Duchateau, L., Goethals, K., Huyghe, S., De Rooster, H. (2014). Prepubertal gonadectomy in cats: different surgical techniques and comparison with gonadectomy at traditional age. The Veterinary Record, 175, 223-223.

Predator Free New Zealand (2016). Predator Free New Zealand. Available from: <a href="http://predatorfreenz.org">http://predatorfreenz.org</a> Accessed 25th August 2016.

Project Maddie (2014). Project Maddie: a pet food bank. Available from: <a href="http://www.projectmaddie.com/">http://www.projectmaddie.com/</a> Accessed 2<sup>nd</sup> June 2016.

Putignani, L., Mancinelli, L., Del Chierico, F., Menichella, D., Adlerstein, D., Angelici, M.C., Marangi, M., Berrilli, F., Caffara, M., di Regalbono, D.A., Giangaspero, A. (2011). Investigation of Toxoplasma gondii presence in farmed shellfish by nested-PCR and real-time PCR fluorescent amplicon generation assay (FLAG). Experimental Parasitology, 127, 409-417.

Qureshi, A.I. (2009). Cat ownership and the Risk of Fatal Cardiovascular Disease. Results from the Second National Health and Nutrition Examination Study Mortality Follow-up Study. Journal of Vascular and Interventional Neurology, 2, 132-135.

Reading, A.S., Scarlett, J.M., Berliner, E.A. (2014). Reading, A. S., Scarlett, J. M. and Berliner, E. A. (2014). A Novel Approach to Identify and Map Kitten Clusters Using Geographic Information Systems (GIS): A Case Study From Tompkins County, NY. Journal of Applied Animal Welfare Science 17, 295-307. Journal of Applied Animal Welfare Science, 17, 295-307.

Rijken, M., van Beek, S. (2011). About Cats and Dogs ... Reconsidering the Relationship Between Pet Ownership and Health Related Outcomes in Community-Dwelling Elderly. Social Indicators Research, 102, 373-388.

Rinzin, K., Stevenson, M.A., Probert, D.W., Bird, R.G., Jackson, R., French, N.P., Weir, J.A. (2008). Free-roaming and surrendered dogs and cats submitted to a humane shelter in Wellington, New Zealand, 1999-2006. New Zealand Veterinary Journal, 56, 297-297.

Robbins, L.K. (2006). Commentary on 'canine visitation (pet) therapy: pilot data on decreases in child pain perception'. Journal of Holistic Nursing, 24, 58-59.

Robertson, S.A. (2007). A review of feral cat control. Journal of Feline Medicine and Surgery, 10, 366-375.

Robley, A.R., B.; Arthur T.; Pech R.; Forsyth, D. (2004). Interactions between feral cats, foxes, native carnivores, and rabbits in Australia. Department of Sustainability and Environment, Victorian Government, Victoria, Australia.

Roe, W.D., Howe, L.M., Baker, E.J., Burrows, L., Hunter, S.A. (2013). An atypical genotype of *Toxoplasma gondii* as a cause of mortality in Hector's dolphins (*Cephalorhynchus hectori*). Veterinary Parasitology, 192, 67-74.

Rohlf, V., Bennett, P. (2005). Perpetration-induced traumatic stress in persons who euthanize nonhuman animals in surgeries, animal shelters, and laboratories. Society and Animals, 13, 201-201.

Rohlf, V.I., Bennett, P.C., Toukhsati, S., Coleman, G. (2012). Beliefs underlying dog owners' health care behaviors: results from a large, self-selected, internet sample. Anthrozoös, 25, 170.

RSPCA Australia (2016 (in press)). Identifying Best Practice Cat Management in Australia. A Discussion Paper. A report prepared for the Australian Threatened Species Commissioner.

Russell, H. (2003). Exposure to dogs and cats in the first year of life and risk of allergic sensitization at 6 to 7 years of age. Pediatrics, 112, 454.

Sacramento Pet Food Bank (2011). Titanic's Pantry The Sacramento Pet Food Bank. Available from: <a href="http://www.sacpetfoodbank.org/">http://www.sacpetfoodbank.org/</a> Accessed 2<sup>nd</sup> June 2016.

Salman, M.D., G., J., New, J., Scarlett, J.M., Kass, P.H., Ruch-Gallie, R., Hetts, S. (1998). Human and Animal Factors Related to Relinquishment of Dogs and Cats in 12 Selected Animal Shelters in the United States. Journal of Applied Animal Welfare Science, 1, 207-226.

Salman, M.D., Hutchison, J., Ruch-Gallie, R., Kogan, L., New, J.C., Kass, P.H., Scarlett, J.M. (2000). Behavioral Reasons for Relinquishment of Dogs and Cats to 12 Shelters. Journal of Applied Animal Welfare Science, 3, 93-106.

Senepa, G., Resta, D., Scarafioiti, C., Molaschi, M., Aimonino, N., Stasi, M., Amati, D., Costa, C. (2004). Pet-Therapy: A Trial for Institutionalized Frail Elderly Patients. Archives of Gerontology and Geriatrics, 38, 407-412.

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

Sharp, T., Saunders, G. (2012). Model code of practice for the humane control of feral cats. Available from: <a href="http://www.pestsmart.org.au/wp-content/uploads/2012/09/catCOP2012.pdf">http://www.pestsmart.org.au/wp-content/uploads/2012/09/catCOP2012.pdf</a> Accessed 30th May 2016.

Shore, E.R., Douglas, D.K., Riley, M.L. (2005). What's in it for the companion animal? Pet attachment and college students' behaviors toward pets. Journal of Applied Animal Welfare Science, 8, 1-11.

Siegel, J.M., Angulo, F.J., Detels, R., Wesch, J., Mullen, A. (1999). AIDS diagnosis and depression in the Multicenter AIDS Cohort Study: the ameliorating impact of pet ownership. AIDS care, 11, 157-170.

Slater, M.R. (2001). The role of veterinary epidemiology in the study of free-roaming dogs and cats. Preventive Veterinary Medicine, 48, 273-286.

Spain, C.V., Scarlett, J.M., Houpt, K.A. (2004). Long-term risks and benefits of early-age gonadectomy in cats. Journal of the American Veterinary Medical Association, 224, 372-379.

Stavisky, J. (2014). Too many cats: how owner beliefs contribute to overpopulation. The Veterinary Record, 174, 116.

Stoskopf, M.K., Nutter, F.B. (2004). Analyzing approaches to feral cat management—one size does not fit all. Journal of the American Veterinary Medical Association, 225, 1361-1964.

Straede, C.M.G., Richard G. (1993). Psychological health in a population of Australian cat owners. Anthrozoös, 6, 30-42.

Target Zero (2016). Targeted spay/neuter. Targeting help where it's needed most. Available from: <a href="http://www.target-zero.org/subsidized-income-targeted-spay-neuter-surgeries">http://www.target-zero.org/subsidized-income-targeted-spay-neuter-surgeries</a> Accessed 9th June 2016.

The Humane Society of the United States (2014). Are You Having Trouble Affording Your Pet? Available from:

http://www.humanesociety.org/animals/resources/tips/trouble\_affording\_pet.html?credit=web\_id91754962\_Accessed 9th June 2016.

Toukhsati, S., Coleman, G. J., and Bennett, P. C (2005). Community attitudes and behaviours towards cats. A report to the Bureau of Animal Welfare DPI, Victoria. Melbourne, Australia. Animal Welfare Science Centre, Monash University, Melbourne.

Toukhsati, S., Phillips, C., Podberscek, A., Coleman, G. (2012a). Semi-Ownership and Sterilisation of Cats and Dogs in Thailand. Animals, 2, 611-627.

Toukhsati, S.R., Bennett, P.C., Coleman, G.J. (2007). Behaviors and Attitudes towards Semi-Owned Cats. Anthrozoös, 20, 131-142.

Toukhsati, S.R., Young, E., Bennett, P.C., Coleman, G.J. (2012b). Wandering Cats: Attitudes and Behaviors towards Cat Containment in Australia. Anthrozoös, 25, 61-74.

Triebenbacher, S. (1999). Re-evaluation of the Companion Animal Bonding Scale. Anthrozoös, 12, 169-173.

Turner, D.C. (2000). The domestic cat: the biology of its behaviour. Cambridge University Press, Cambridge.

van Heezik, Y., Smyth, A., Adams, A., Gordon, J. (2010). Do domestic cats impose an unsustainable harvest on urban bird populations? Biological Conservation, 143, 121–130.

Veitch, C.R., Gaskin, C., Baird, K., Ismar, S.M.H. (2011). Changes in bird numbers on Raoul Island, Kermadec Islands, New Zealand, following the eradication of goats, rats, and cats. In: Island Invasives: Eradication and Management. Proceedings of the International Conference on Island Invasives., IUCN, Gland, Switzerland, pp. 372-376.

Walker, I. (2014). Toxoplasmosis in Hawke's Bay. A report prepared by Vet Services Hawke's Bay for Hawke's Bay Regional Council, Hawke's Bay, New Zealand.

Wallace, J.L., Levy, J.K. (2006). Population characteristics of feral cats admitted to seven trap-neuter-return programs in the United States. Journal of Feline Medicine and Surgery, 8, 279-284.

Warburton, B., Research, L. (2015). Leghold Traps: A guideline for Capturing Possums, Ferrets and Feral Cats using Leghold Traps. Available from:

http://www.npca.org.nz/images/stories/NPCA/PDF/a4.1\_leghold traps\_2015-nov\_lr\_opt.pdf Accessed 19th August 2016.

Webb, C. (2008). Australia asks 'Who's for Cats?'. In the proceedings of the AAWS International Animal Welfare Conference. Gold Coast. Australia.

Weiss, E., Patronek, G., Slater, M., Garrison, L., Medicus, K. (2013). Community partnering as a tool for improving live release rate in animal shelters in the United States. Journal of Applied Animal Welfare Science, 16, 221.

Welsh, C.P., Gruffydd-Jones, T.J., Roberts, M.A., Murray, J.K. (2014). Poor owner knowledge of feline reproduction contributes to the high proportion of accidental litters born to UK pet cats. The Veterinary Record, 174, 118.

Wilken, R.L.M. (2012). Feral cat management: Perceptions and preferences (A case study). Thesis, ProQuest, UMI Dissertations Publishing.

Wu, A.S., Niedra, R., Pendergast, L., McCrindle, B.W. (2002). Acceptability and impact of pet visitation on a pediatric cardiology inpatient unit. Journal of Pediatric Nursing, 17, 354-362.

Yates, D., Yeates, J., Roberts, M. (2013). Optimum age for neutering cats. The Veterinary Record, 172, 53.

Zanowski, G.N. (2012). A fresh look at spay/neuter legislation: the journey to a middle ground. Journal of Public Health Management and Practice, 18, E24.

Zasloff, L.R., Hart, L.A. (1998). Attitudes and Care Practices of Cat Caretakers in Hawaii. Anthrozoös, 11, 242-248.

Zasloff, R. (1996). Measuring attachment to companion animals: a dog is not a cat is not a bird. Journal of Applied Animal Behaviour Science, 47, 43-48.

Zimolag, U., Krupa, T. (2009). Pet ownership as a meaningful community occupation for people with serious mental illness. The American journal of occupational therapy, 63, 126-137.

Zito, S. (2015a). Understanding human factors involved in the unwanted cat problem. Thesis, Doctor of Philosophy, University of Queensland.

Zito, S., Morton, J., Paterson, M., Vankan, D., Bennett, P. C., Rand, J., and Phillips, C. J. C. (2016a). Cross-sectional study of characteristics of owners and non-owners surrendering cats to four Australian animal shelters. Journal of Applied Animal Welfare Science, 19, 126-118.

Zito, S., Paterson, M., Vankan, D., Morton, J., Bennett, P., Phillips, C. (2015). Determinants of Cat Choice and Outcomes for Adult Cats and Kittens Adopted from an Australian Animal Shelter. Animals, 5, 276-314.

Zito, S., Paterson, M., Morton, J., Vankan, D., Bennett, P., Rand, J. and Phillips, C. (2015b). Cross-sectional study of characteristics of owners and non-owners surrendering cats to four Australian animal shelters. Journal of Applied Animal Welfare Science, In Press.

Zito, S., Vankan, D., Bennett, P., Paterson, M., and Clive J C Phillips. (2015c). Cat ownership perception and caretaking explored in an internet survey of people associated with cats. PLoS ONE, 10.

Zito, S., Vankan, D., Morton, J., Paterson, M., Bennett, P., Rand, J. and Phillips, C. (2016b). Reasons that people surrender cats to Australian animal shelters and barriers to assuming ownership of these cats. Journal of Applied Animal Welfare Science, 19, 303-319.

Appendix 1: Existing legislative, regulatory and educative framework relating to cat management in New Zealand

#### The Animal Welfare Act 1999

There are obligations and restrictions on conduct towards cats stated in the Animal Welfare Act 1999 (hereafter, the Act) for Cat Owners and Persons in Charge:

The purpose of the Act as directly related to companion animals, their owners, and persons in charge is

(a) to reform the law relating to the welfare of animals and the prevention of their illtreatment; and, in particular, -

- (i) to recognize that animals are sentient:
- (ia) to require owners of animals, and the persons in charge of animals, to attend properly to the welfare of those animals:
- (ii) to specify conduct that is not permissible in relation to any animal or class of animals.

Definitions: (section 2 of the Act)

Companion cats fall under the protection and enforcement of the Animal Welfare Act 1999 as it defines an animal in Section 2(1)(a)(i):

Animal -

- (a) means any live member of the animal kingdom that is-
  - (i)a mammal

Owner is defined in the Act section 2 as:

-in relation to an animal, includes the parent or guardian of a person under the age of 16 years who-

- (a) owns the animal; and
- (b) is a member of the parent's or guardian's household living with and dependent on the parent or guardian.

Person in charge is defined in the Act section 2 as:

-in relation to an animal, a person who has the animal in that person's possession or custody, or under that person's care, control, or supervision.

The owner or 'person in charge' (PIC) is responsible for meeting the obligations laid out in Part 1 of the Act – Care of Animals.

'The purpose of this Part is to ensure that owners of animals and persons in charge of animals attend properly to the welfare of those animals.' (\$9(1), AWA 1999)

All persons are restricted in their Conduct towards Animals as laid out in Part 2 of the Act.

## Obligations and Offences under the Animal Welfare Act 1999

**Obligations** 

'Section 10 Obligation in relation to physical, health, and behavioural needs of animals

The owner of an animal, and every person in charge of an animal, must ensure that the physical, health, and behavioural needs of the animal are met in a manner that is in accordance with both—

- (a) good practice; and
- (b) scientific knowledge.

<u>Section 4</u> defines physical, health and behavioural need of the animal as:

- (a) proper and sufficient food:
- (ab) proper and sufficient water:
- (b) adequate shelter:

(c) opportunity to display normal patterns of behaviour:

(d) physical handling in a manner which minimises the likelihood of unreasonable or

unnecessary pain or distress:

(e) protection from, and rapid diagnosis of, any significant injury or disease,—

being a need which, in each case, is appropriate to the species, environment, and circumstances

of the animal.

Section 11 Obligation to alleviate pain or distress of ill or injured animals

(1) The owner of an animal that is ill or injured, and every person in charge of such an animal,

must ensure that the animal receives treatment that alleviates any unreasonable or

unnecessary pain or distress being suffered by the animal.

(2) This section does not—

(a) limit section 10; or

(b) require a person to keep an animal alive when it is in such a condition that it is suffering

unreasonable or unnecessary pain or distress.

Failure to comply with these obligations is an offence under sections 12.

Offences:

Section 12 the owner or person in charge,

(a) fails to comply with s 10; or

(b) fails to comply with s11; or

(c) kills an animal in such a manner that the animal suffers unreasonable or

unnecessary pain or distress.

Further offences:

Section 14: it is an offence,

(1) for an owner or person in charge of an animal, without reasonable excuse, -

- (a) keeps the animal alive when it is in such a condition that it is suffering unreasonable or unnecessary pain or distress; or
- (b) sells, attempts to sell, or offers for sale, otherwise than for the express purpose of being killed, the animal when it is suffering unreasonable or unnecessary pain or distress.
- (2) A person commits an offence who, being the owner of, or person in charge of, an animal, without reasonable excuse, deserts the animal in circumstances in which no provision is made to meet its physical, health, and behavioural needs.

A person who commits an offence against section 12, 14 or 29 is liable on conviction, — in the case of an individual, to imprisonment for a term not exceeding 12 months or to a fine not exceeding \$50,000 or to both:

(b) in the case of a body corporate, to a fine not exceeding \$250,000.

#### Ill-treatment

ill-treat, in relation to an animal, means causing the animal to suffer, by any act or omission, pain or distress that in its kind or degree, or in its object, or in the circumstances in which it is inflicted, is unreasonable or unnecessary. (s2, AWA 1999)

Section 28 – willfully ill-treats (intention to cause pain and distress with a serious result)

28A – recklessly ill-treats (no intention but should have known their action would result in pain

29(a) - ill-treats (no proof of intention or awareness, does not require serious result)

#### Section 28 - Willful ill-treatment of animals

and distress with a serious result)

(1) A person commits an offence if that person willfully ill-treats an animal with the result

that—
the animal is permanently disabled; or
the animal dies; or
the pain or distress caused to the animal is so great that it is necessary to destroy the animal in order to end its suffering; or
the animal is seriously injured or impaired.
(2) For the purposes of subsection (1)(d), an animal is seriously injured or impaired if the injury or impairment—
involves—
(i) prolonged pain and suffering; or
(ii) a substantial risk of death; or
(iii) loss of a body part; or
(iv) permanent or prolonged loss of a bodily function; and requires treatment by or under the supervision of a veterinarian.
(3) A person who commits an offence against this section is liable on conviction,—
(a) in the case of an individual, to imprisonment for a term not exceeding 5 years or to a fine not exceeding $$100,000$ or to both:
(b) in the case of a body corporate, to a fine not exceeding \$500,000.
Section 28A - Reckless ill-treatment of animals
(1) A person commits an offence if that person recklessly ill-treats an animal with the result
that —
(a) the animal is permanently disabled; or
(b) the animal dies; or
(c) the pain or distress caused to the animal is so great that it is necessary to destroy the

animal in order to end its suffering; or

- (d) the animal is seriously injured or impaired.
- (2) For the purposes of subsection (1)(d), an animal is seriously injured or impaired if the injury or impairment—

involves—

- (i) prolonged pain and suffering; or
- (ii) a substantial risk of death; or
- (iii) loss of a body part; or
- (iv) permanent or prolonged loss of a bodily function; and requires treatment by or under the supervision of a veterinarian.
- (3) A person who commits an offence against this section is liable on conviction,—
- (a) in the case of an individual, to imprisonment for a term not exceeding 3 years or to a fine not exceeding \$75,000 or to both:
- (b) in the case of a body corporate, to a fine not exceeding \$350,000.

Section 29 - Further offences

A person commits an offence who—

ill-treats an animal; or

pierces the tongue or tongue phrenum of an animal with a pig ring or similar thing or with any wire; or

keeps or uses a place for the purpose of causing an animal to fight, or for the purpose of baiting or otherwise ill-treating an animal, or manages or assists in the management of, any such place; or

is present, for the purpose of witnessing the fighting or baiting of an animal, at a place used or kept for the purpose; or

in any manner encourages, aids, or assists in the fighting or baiting of an animal; or

brands any animal in such a manner that the animal suffers unreasonable or unnecessary pain or distress; or

releases an animal, being an animal that has been kept in captivity, in circumstances in which the animal is likely to suffer unreasonable or unnecessary pain or distress; or counsels, procures, aids, or abets any other person to do an act or refrain from doing an act as a result of which an animal suffers unreasonable or unnecessary pain or distress.

# Other sections of the Animal Welfare Act 1999 pertaining to the Welfare of Companion Cats

Section 138 Destruction of Injured and sick animals

This section pertains to animals found by an Inspector, auxiliary officer or veterinarian that are severely sick or injured; and in their opinion the animal needs to be euthanized to end its suffering. In this case, the Inspector, auxiliary officer or veterinarian have an obligation to consult with the owner prior to euthanasia, including allowing the owner to obtain a second opinion from another vet. If the owner cannot be found within a reasonable time; or does not agree to the euthanasia but does not get a second opinion within a reasonable amount of time, (based on the Vets opinion of the animals suffering) or the second Vet agrees with the decision to euthanize; then the animal should be euthanized without delay. This is for humane euthanasia, where the animal cannot be made reasonably comfortable for a longer period of time or when reasonable treatment will not make the animal respond and it will continue to suffer pain or distress.

## Examples:

a companion cat found on the street that has been hit by a car or attacked by a dog and has extensive injuries that are not reasonably recoverable and the cat is suffering but the owner is not present.

A companion cat brought to a vet or shelter as a 'stray', who is suffering from advanced disease, such as renal or cancer; and who is suffering and the disease cannot be resolved or recovered from, and the owner has not yet been identified or found.

138 Destruction of injured or sick animals (other than marine mammals)

- (1) If an inspector, auxiliary officer, or a veterinarian finds a severely injured or sick animal (other than a marine mammal), and in his or her opinion, the animal should be destroyed because reasonable treatment will not be sufficient to make the animal respond and the animal will suffer unreasonable or unnecessary pain or distress if it continues to live, he or she must, as soon as possible, —
- (a) consult with the owner of that animal, if that owner can be found within a reasonable time; and
- (b) if the owner asks for a second opinion from a veterinarian as to whether that animal should be destroyed, allow the owner to obtain that second opinion.
- (2) If—
- (a) the owner of a severely injured or sick animal cannot be found within a reasonable time; or
- (b) the owner of a severely injured or sick animal—
- (i) does not, on being found, agree to the destruction of the animal; and
- (ii) does not obtain within a reasonable time a second opinion from a veterinarian as to whether the animal should be destroyed,—

the inspector, or auxiliary officer, or veterinarian, as the case may be, must, without delay, destroy that animal or cause it to be destroyed.

- (3) If the owner of a severely injured or sick animal is found and consulted under subsection
- (1), and agrees that the animal should be destroyed,—
- (a) the inspector, auxiliary officer, or veterinarian, as the case may be, must, without delay, destroy that animal or cause it to be destroyed; or
- (b) the owner of that animal must, without delay, destroy that animal or cause it to be destroyed.
- (4) If the owner obtains a second opinion under subsection (1)(b), and the veterinarian giving that opinion agrees that the animal should be destroyed,—

the inspector, auxiliary officer, or veterinarian as the case may be, must, without delay, destroy that animal or cause it to be destroyed; or

- (b) the owner of that animal must, without delay, destroy that animal or cause it to be destroyed.
- (5) Where, under this section, an inspector, auxiliary officer, or veterinarian destroys an animal or causes it to be destroyed, he or she may dispose of the carcass in such manner as he or she thinks fit.

Compare: 1960 No 30 s 12(3); 1962 No 55 s 2(1)

Section 138(4): amended, on 10 May 2015, by section 53 of the Animal Welfare Amendment Act (No 2) 2015 (2015 No 49).

Section 141: Duties of Approved Organisation – disposal of animals in custody

This section is in regards to companion cats brought to the SPCA by, a member of the public, or brought into the SPCA by a ambulance driver, field officer or Welfare Inspector in the course of their duties, and categorised as 'stray'. The section also applies to cats brought to the SPCA for a temporary agreed stay such as under a refuge or any other agreement and the owner or owner's agent has not returned to claim the cat by the agreed date.

If the owner is known but has not responded to attempts to contact them or instructions regarding collection of their cat; s141 gives provision of written notice to collect within 7 days of receipt of the notice after which time the cat can be sold, rehomed or destroyed as the Inspector or auxiliary officer sees fit.

When the SPCA cannot identify the owner and the cat has been in their custody for at least 7 days the cat can be sold, rehomed or destroyed as the Inspector or auxiliary officer sees fit.

At any time when the SPCA cannot identify the owner and the cat is wild or unsocialised, and severely distressed; and the vet believes the distress to be due to the containment necessary in a shelter situation, the cat can be sold, rehomed or destroyed as the Inspector or auxiliary officer sees fit.

At anytime where the cat is diseased or suspected of being diseased and the health and welfare of the other animals in the shelter will be compromised if the animal is held - the cat can be sold, rehomed or destroyed as the Inspector or auxiliary officer sees fit.

Further details of this section are found within the complete section 141that follows.

141 Duties of approved organisation

- (1) Where a person (other than the owner of an animal) gives that animal into the custody of an approved organisation and that approved organisation accepts custody of that animal, or where an approved organisation takes any animal into its custody, that approved organisation—
- (a) must take reasonable steps to identify the owner of the animal; and
- (b) may take such steps as it considers necessary or desirable to prevent or mitigate any suffering of the animal.
- (1A) Subsection (1B) applies if—
- (a) an owner of an animal, or a person acting as the agent of an owner of an animal, gives the animal into the temporary custody of an approved organisation; and
- (b) an arrangement exists for the return of the animal to the owner or the owner's agent; and
- (c) the owner or the owner's agent does not return to reclaim custody of that animal as agreed.
- (1B) If this subsection applies, the approved organisation may sell, re-home, or dispose of (including destroy) the animal in any manner that an inspector or auxiliary officer acting for the organisation thinks fit if—
- (a) the approved organisation has taken reasonable steps to locate and contact the owner; and(b) either—
- (i) the approved organisation has been unable to locate or contact the owner; or
- (ii) the approved organisation has located and attempted to contact the owner, but the owner will not respond; and
- (c) the approved organisation has given the owner written notice of its intention to sell, rehome, or otherwise dispose of (including destroy) the animal in accordance with the provisions of subsection (3); and
- (d) the owner has not, within the period specified in the notice, reclaimed the animal and paid any costs incurred by the organisation and specified in the notice.

- (2) Where the approved organisation cannot identify the owner of the animal, an inspector or auxiliary officer acting for the approved organisation may—
- (a) after the animal has been in the custody of the organisation for at least 7 days,—
- (i) sell the animal; or
- (ii) find a home for the animal; or
- (iii) destroy or otherwise dispose of the animal in such manner as the inspector or auxiliary officer thinks fit:
- (aa) at any time, sell, re-home, or otherwise dispose of (including destroy) the animal in any manner that the inspector or auxiliary officer thinks fit if—
- (i) the animal is wild or unsocialised; and
- (ii) the animal is severely distressed; and
- (iii) in the opinion of a veterinarian, the animal's distress is a direct result of being contained to the extent that it would be unreasonable and unnecessary to continue to contain the animal:
- (b) at any time, in any case where the animal is diseased or is suspected of being diseased and the inspector or auxiliary officer has reasonable grounds to believe that the welfare of other animals in the custody of the approved organisation would be compromised if the organisation were to continue to hold that animal in custody,—
- (i) sell the animal; or
- (ii) find a home for the animal; or
- (iii) destroy or otherwise dispose of the animal in such manner as the inspector or auxiliary officer thinks fit.
- (3) Where the approved organisation both identifies the owner of the animal and knows the address of the owner of the animal, the approved organisation must give to the owner a written notice informing the owner that the approved organisation is holding the animal in its custody and that, unless the owner, within 7 days of the receipt of that notice, claims the animal and pays any costs incurred by the approved organisation in caring for the animal or in providing veterinary treatment to the animal (being costs that the approved organisation wishes to claim), the approved organisation may—
- (a) sell the animal; or

- (b) find a home for the animal; or
- (c) destroy or otherwise dispose of the animal in such manner as the inspector or auxiliary officer thinks fit.
- (4) If the owner does not, within the period specified in the notice, claim the animal and pay any costs incurred by the approved organisation and specified in the notice, an inspector or auxiliary officer acting for the approved organisation may—
- (a) sell the animal; or
- (b) find a home for the animal; or
- (c) destroy or otherwise dispose of the animal in such manner as the inspector or auxiliary officer thinks fit.
- (5) Where an animal is sold under subsection (1B), (2), or (4), the approved organisation must, after deducting any costs incurred by the approved organisation in caring for the animal or providing veterinary treatment to the animal, apply the proceeds of the sale towards the costs of the animal welfare work of the approved organisation.
- (6) In this section, the term animal does not include—
- (a) a native animal; or
- (b) stock within the meaning of section 2(1) of the Impounding Act 1955.

## Animal Welfare (Companion Cats) Code of Welfare 2007

The obligations and restrictions on conduct towards cats stated in the Animal Welfare Act 1999 for cat owners and persons in charge are further described in the Animal Welfare (Companion Cats) Code of Welfare (hereafter the Code):

The Code's purpose is to give detail to the obligations and restrictions of the Act as they pertain especially to companion cats. It applies to, 'all persons responsible for the welfare of companion cat,s including cats in , breeding establishments, boarding catteries, animal welfare shelters and pet shops'.

The Code presents this detail in subject sections that include both; 'Minimum Standards', (what is required care and behaviour to stay in compliance with the Act); and 'Recommended Best Practice' (standards of care and conduct over and above the minimum required to meet the obligations in the Act. They are included for educational and information purposes only and

may not be required by the Act at that point in time). <u>Only the Minimum Standards have legal</u> <u>effect</u>. They can be used as both a defence for those charged with an offence against the Act and as evidence to support a prosecution for an offence under the Act.

A simplified version of the obligations and restrictions on conduct towards cats stated in the Animal Welfare Act 1999 is also contained within Section 2 of the Animal Welfare (Companion Cats) Code of Welfare beginning with the statement that;

'The owner or person in charge of a cat has overall responsibility for the welfare of the cat in his or her care'.

Obligations: (Interpreted towards companion cats from Part 1 of the Act)

- (a) The owner or person in charge of a cat must:
- (i) ensure that the physical, health and behavioural needs\* of the cat are met in a manner that is in accordance with both good practice and scientific knowledge (s10)
- (ii) ensure that a cat that is ill or injured receives treatment that will alleviate any unreasonable or unnecessary pain or distress being suffered by the cat or that it is killed humanely. (s11, AWA 1999)
- (b) The owner or person in charge of a cat must not without reasonable excuse:
- (i) keep a cat alive when it is in such a condition that it is suffering unreasonable or unnecessary pain or distress. (s14(1)(a), AWA 1999)
- (ii) sell, attempt to sell or offer for sale, otherwise than for the express purpose of being killed, a cat, when it is suffering unreasonable or unnecessary pain or distress (s14(1)(b))
- (iii) desert a cat in circumstances in which no provision is made to meet its physical, health and behavioural needs. (s14(2), AWA 1999)
- (iv) kill a cat in such a manner that the cat suffers unreasonable or unnecessary pain or distress. (12(c), AWA 1999)

Restrictions on Conduct: (As laid out in Part 2 of the Act)

- (c) No person may:
- (i) ill-treat\*\* a cat (s28, 28A and 29(a), AWA 1999)

- (ii) release a cat that has been kept in captivity, in circumstances in which the cat is likely to suffer unreasonable or unnecessary pain or distress (29(g), AWA 1999)
- (ii) perform any significant surgical procedure on a cat unless that person is a veterinarian, or a veterinary student under the direct supervision of a veterinarian or, in the case of a controlled surgical procedure, a person approved by a veterinarian (s15(1))
- (iv) perform on a cat a surgical procedure that is not a significant surgical procedure (as defined by the Act) in such a manner that the cat suffers unreasonable or unnecessary pain or distress (15(4), AWA 1999)

\*Physical, health and behavioural need of the animal: (as defined in section 4 of the Act)

- (a) proper and sufficient food:
- (ab) proper and sufficient water:
- (b) adequate shelter:
- (c) opportunity to display normal patterns of behaviour:
- (d) physical handling in a manner which minimises the likelihood of unreasonable or unnecessary pain or distress:
- (e) protection from, and rapid diagnosis of, any significant injury or disease,—
  being a need which, in each case, is appropriate to the species, environment, and circumstances
  of the animal.

\*\*Ill-treat: (as defined in section 2 of the Act)

'causing the animal to suffer, by any act or omission, pain or distress that in its kind or degree, or in its object, or in the circumstances in which it is inflicted, is unreasonable or unnecessary' (s2, AWA 1999)

Minimum Standards: Animal Welfare (Companion Cats) Code of Welfare

# Minimum Standard No. 1 - Food and Feeding

- (a) Kittens that have been weaned must be fed a minimum of twice a day.
- (b) Cats over the age of 6 months must be fed at least once a day.

- (c) Cats must receive adequate quantities of food and nutrients to enable each cat to:
  - (i) maintain good health; and
  - (ii) meet its physiological demands, including those resulting from pregnancy, lactation, growth, exercise and exposure to cold; and
  - (iii) avoid metabolic and nutritional disorders.

# Minimum Standard No. 2 - Body Condition

- (a) When a cat's body condition score is 'thin' as defined in Appendix III, 'Assessment of Body Condition of Cats', to this code, remedial action through veterinary attention or improved nutrition must be taken.
- (b) A cat's body condition score must not be allowed to fall below 'thin' as defined in Appendix III, 'Assessment of Body Condition of Cats', to this code.

#### Minimum Standard No. 3 - Water

Cats must have continuous access to water that is palatable and not harmful to health.

#### Minimum Standard No. 4 - Caged Cats (Other Than for Transport)

- (a) Caged cats must have sufficient room to enable them to stretch and move around freely, and must be provided with appropriate areas for feeding and toileting.
- (b) Caged cats must be provided with the opportunity to engage in play and exercise daily.

# Minimum Standard No. 5 - Hygiene

- (a) Food and water bowls must be washed regularly to prevent contamination that may pose a threat to the health and welfare of the cat.
- (b) Cats kept indoors, and caged cats, must have access to a litter tray containing absorbent material.
- (c) Litter trays must be attended to regularly, with faeces and moisture-laden litter

removed, to prevent contamination that may pose a threat to the health and welfare of the cat.

#### Minimum Standard No. 6 - Removal of Kittens from the Queen

Kittens made available for sale or rehoming requiring removal from the queen must be in good health and must be at least 8 weeks of age, except where they have been orphaned and cannot be fostered to another queen or where early removal from the queen is deemed necessary by a veterinarian.

# Minimum Standard No. 7 - Signs of Ill Health

- (a) Cats which are observed by their owners or persons in charge to be showing:
- (i) signs of significant pain, suffering and distress; or
- (ii) signs of repeated straining over a continuous period of 30 minutes, as if to pass urine or faeces; or
- (iii) signs of rapidly deteriorating health must URGENTLY receive veterinary attention, be brought to the attention of an inspector under the Act (e.g. an SPCA inspector) or be humanely euthanased.
- (b) Cats which are observed by their owners or persons in charge to be showing:
- (i) signs of chronic pain, suffering and distress; or
- (ii) signs of deteriorating health must receive veterinary attention, be brought to the attention of an inspector under the Act (e.g. an SPCA inspector) or be humanely euthanased.

#### Minimum Standard No. 8 - Injured Cats

Cats which are observed by their owners or persons in charge to be significantly injured must receive urgent veterinary attention, be brought to the attention of an inspector under the Act (e.g. an SPCA inspector) or be humanely euthanased.

#### Minimum Standard No. 9 - Use of Collars

Collars, where used, must be fitted to the cat in such a way that the risk of injury to the

cat is avoided.

# Minimum Standard No. 10 - Transportation

- (a) While being transported in a vehicle, cats must be carried in a secure container.
- (b) Cats being transported must have sufficient space within the container to stand, turn around and rest normally.
- (c) There must be adequate provision for ventilation in the form of multiple holes on at least three sides of the container.
- (d) The interior of the container must be smooth, with no projections that could cause injury to the cat.
- (e) Cats must not be left unattended in a vehicle when heat is likely to cause distress to the cat.

#### Minimum Standard No. 11 - Euthanasia

- (a) When a cat is euthanased it must be carried out in such a way to ensure that death occurs quickly.
  - (c) Cats (including kittens) must not be killed by drowning.

# **Stray Cats and Cats Living in Colonies**

With New Zealand reputedly having one of the highest rates of cat ownership in the world, it is not surprising that there are a correspondingly high number of stray cats in the community. These cats may breed and, where they have no contact with humans, their offspring may revert to a wild state over time.

Stray cats may live singly or may join colonies, particularly in urban environments where there is shelter (abandoned buildings, dense undergrowth, etc) and a food source (rubbish tip, restaurant rubbish bins, etc). Given the numbers of cats living in New Zealand, such colonies will probably always exist.

Often single stray cats, and cats living in colonies, are provided with food on an ad hoc basis by sympathetic individuals. In some instances, colonies are managed on a more formal basis (see

'Managed Colonies' below). While a person who merely feeds cats in a colony is not the 'person in charge' in terms of the Act, and therefore is not legally responsible for the cats in the colony, it should be noted that, where people trap cats in the colony in order to provide for their vaccination, desexing or care, they will have legal obligations as the 'person in charge' (see 'Trapping of Cats' below).

#### **Managed Colonies**

Some cat colonies in New Zealand are cared for by individuals under a management plan agreed with the landowner and/or the local council. Such a management plan should include means of identification; provision of food, water and access to shelter; a vaccination and parasite programme; provision of veterinary treatment; a desexing programme; and a long-term management strategy including continuity of care. Further information on management of cat colonies can be obtained from the SPCA.

#### **Trapping of Cats**

The Act (see section 36) provides that for any trapped cat, the following obligations apply:

- any traps set must be checked daily within 12 hours of sunrise, commencing from the day after the trap is first set; and
- any cats caught must be attended to without delay. Where practicable, it is recommended when trapping stray cats and cats in colonies that traps be checked more frequently. Any trapped cat must be provided with basic care to meet the requirements of the Act or be released if it is uninjured or be killed humanely if it is a feral cat. Any cat released back into a colony must be in sufficiently good health to be able to fend for itself, and have ongoing access to adequate food, water and shelter to meet its daily needs.

The Act (see section 141) provides that, where a stray cat is trapped and placed in the care of an approved organisation under the Act (such as the SPCA), that organisation must take reasonable steps to identify the owner of the cat, and may take steps to prevent or mitigate any suffering of the cat. If the owner of the cat cannot be identified then, after 7 days, the cat may be sold, found a new home or euthanased.

# Other legislation applying to cat management

# Resource Management Act 1991

This Act does not contain any specific reference to cats or feral cats.

## Biosecurity Act 1993

This Act does not contain any specific reference to cats or feral cats.

The only section that could apply to all (including domesticated) cats is s.121(4) of Part 6 of the Act:

'If the owner or person in control of any animal or the occupier of any place in which an animal is present fails to comply with a direction under this section, an inspector or authorised person may—

- (a) exercise any or all of the powers in subsection (1B); and
- (b) in the case of any animal or animals, —
- (i) to the extent that it is necessary to enable those powers to be exercised (or exercised efficiently), capture, pen, or muster it or them or any of them; or
- (ii) if for any reason it is not practicable to capture, pen, or muster it or them or any of them, kill or destroy it or them or any of them if the inspector or authorised person believes on reasonable grounds that it is necessary to do so for the purpose of controlling pests or unwanted organisms.'

Although cats are not specifically mentioned in the Act, feral cats are managed under Regional Pest Management Plans (RPMP) permitted by this law and administered by regional councils.

Part 5 of the Act details 'pest management' and states that: 'The purpose of this Part is to provide for the eradication or effective management of harmful organisms...'

The definition of 'pest' under s.2 of the Act is 'an organism specified as a pest in a pest management plan'.

The definition of 'pest management plan' is 'a plan to which the following apply:

- (a) it is for the eradication or effective management of a particular pest or pests:
- (b) it is made under Part 5:
- (c) it is a national pest management plan or a regional pest management plan'

RPMPs are detailed under sections 68-78 of the Biosecurity Act and, when feral cats are listed within a plan, they are considered to be an unwanted organism under the Biosecurity Act 1993 (although there is lack of clarity as to whether they specifically fall within the actual definition of 'unwanted organism' within s.2 the Act).

#### Conservation Act 1987

This Act does not contain any specific reference to cats or feral cats. However, no animals (including cats) can be trapped, killed or taken from a conservation area without a permit:

Section 38(4): Every person commits an offence against this Act who, knowingly and without a permit in that behalf issued under subsection (1) or section 26ZZH, or knowingly and otherwise than in compliance with any conditions subject to which such a permit has been issued, —

- (a) discharges any hunting weapon on, into, or over any conservation area; or
- (b) molests or pursues any animal in a conservation area; or
- (c) captures, kills, poisons, tranquillises, traps, or immobilises by any means, any animal in a conservation area; or
- (d) has in possession in any conservation area any animal or animal product; or
- (e) whether or not any animal or animal product is taken, takes or uses in or over any conservation area any aircraft, dog, hunting weapon, net, poison, ship, snare, or vehicle, for the purpose of molesting, pursuing, capturing, killing, poisoning, tranquillising, trapping, or immobilising, by any means, any animal; or
- (f) takes any animal product in a conservation area; or
- (g) whether or not any animal product is taken, takes or uses in or over any conservation area any aircraft, dog, net, ship, or vehicle, for the purpose of taking any animal product; or
- (h) enters any conservation area with a hunting weapon, net, trap, or snare, or with poison; or
- (i) sets any net, trap, or snare, on any conservation area; or
- (j) allows any animal to molest, pursue, or kill, any animal, in a conservation area.

The definition of animals is broad and there is no exemption stated for pest species and cats are not specifically mentioned.

In addition, no animals (including cats) can be released into a conservation area:

Section 39(1) Every person commits an offence against this Act who knowingly, and without the authority of the Minister or the Director-General, —

(c) liberates any animal on any conservation area

The responsible agency is the Department of Conservation.

#### Wildlife Act 1953

Under s.2, cats not living in a wild state fall into the definition of 'domestic animal' for the purposes of this Act:

'any cattle, sheep, horse, mule, ass, dog, cat, pig, or goat; but does not include any such animal that is living in a wild state, or any other animal not referred to in this definition notwithstanding that it may be living in a domestic state'

Feral cats fall under the definition of 'animal':

'any mammal (not being a domestic animal or a rabbit or a hare or a seal or other marine mammal) ...'

Feral cats also come under the definition of 'wildlife' within the Act:

'wildlife means any animal that is living in a wild state; and includes any such animal or egg or offspring of any such animal held or hatched or born in captivity, whether pursuant to an authority granted under this Act or otherwise; but does not include any animals of any species specified in Schedule 6 (being animals that are wild animals subject to the Wild Animals Control Act 1977).'

Feral cats are not listed under Schedule 6 of the Act, but 'cat' is listed under Schedule 5 as one of the species that is not protected under the Act. This means that any provisions granting protection within the Act would not apply to any cats, whether they are domestic, stray or feral.

Section 14(3) specifically states that you cannot take a cat onto a wildlife refuge:

'it shall not be lawful for any person, except as provided in subsection (2) or subsection (2A) or in subsection (2) of section 5 or pursuant to an authority granted under section 53 or section 54... [to] have in his possession or control in the wildlife refuge any dog or cat...'

Section 54(1) permits the Director-General to authorise hunting or killing of wildlife causing damage:

'The Director-General, on being satisfied that injury or damage to any person or to any land or to any stock or crops or to any chattel or to other wildlife has arisen or is likely to arise through the presence on any land of any animals (whether absolutely protected or not), and whether or not the land is a wildlife refuge or a closed game area, may authorise in writing the occupier of the land, or any officer or servant of the Department, or any other person, to hunt or kill, or cause to be hunted or killed, or to catch alive for any specified purpose any such animals, or to take or destroy the eggs of any such animals, subject to such conditions and during such period as may be specified in the authority.'

This section applies to feral cats (given that they fall within the definition of 'wildlife').

The responsible agency is the Department of Conservation.

#### National Parks Act 1980

This Act is aimed at preserving animals that are indigenous to New Zealand and found within a national park.

This Act does not contain any specific reference to cats or feral cats. However, Section 4 states that 'introduced plants and animals shall as far as possible be exterminated' and feral cats are an introduced animal.

Section 5A(1) states that 'Notwithstanding anything in this Act or any other enactment, but subject to subsections (2) and (3), the Minister may authorise the introduction of any biological control organism to control wild animals or animal pests or plant pests in any national park.'

Section 60(1)(b) states that it is an offence to 'take any animal into or liberate any animal in any park.'

Section 60(4) states that it is an offence '(c) from outside a park, shoot at any animal or any other object or thing inside the park with any firearm' without being authorised by the Minister.

The responsible agency is the Department of Conservation.

#### Local Government Act 2002

The Local Government Act makes no reference to the words 'cat', 'cats', 'feral', or 'pest' or 'pests'.

The only place that that 'animal' is mentioned is under the ability to pass a bylaw that regulates the 'keeping of animals':

Part 8

Section 146:
Specific bylaw-making powers of territorial authorities
Without limiting section 145, a territorial authority may make bylaws for its
district for the purposes—
(a) of regulating 1 or more of the following:
(i) on-site wastewater disposal systems:
(ii) waste management:
(iii) trade wastes:
(iv) solid wastes:
(v) keeping of animals, bees, and poultry:
(vi) trading in public places:
Section 145 which is referenced in Section 146 states that:
"A territorial authority may make by laws for its district for 1 or more of the following purposes:
(a) protecting the public from nuisance:

(c) minimising the potential for offensive behaviour in public places."

(b) protecting, promoting, and maintaining public health and safety:

# **Appendix 2: NZ North Island Council Bylaws pertaining to cats**

Table 5: NZ North Island Council Bylaws pertaining to cats

Council	Bylaws
Auckland Council	The <u>Animal Management Bylaw 2015 states:</u> "There is currently no requirement for registration or licensing of cats. There are no restrictions on the number of cats that you can keep on your property. The <u>Animal Management Bylaw 2015</u> requires all animal owners to make sure their animals do not create a nuisance or health risk to anyone else. If your cats are creating a nuisance or problems for others, we will investigate and take action, if necessary."
Carterton District Council	There is no bylaw in reference to keeping cats.
Central Hawke's Bay District Council	The only bylaw relating to the keeping of animals is the <u>The Keeping of Animals</u> , <u>Poultry and Bees Bylaw 2008</u> : 1304 Noise from Animal, Bird or Fowl. There is no specific reference to cats in this bylaw.
Bay of Plenty Regional Council	There is no bylaw in reference to keeping cats.
Far North District Council	The Keeping of Animals, Poultry and Bees bylaw 2012 states:
	"No person shall keep, or allow to be kept, more than 5 cats or kittens over the age of 3 months on any property zoned Residential, Commercial or Industrial, as prescribed in the Far North District Plan, without the written approval of the

	Council
	No person shall keep cats or kittens if in the opinion of the Council the keeping of such cats or kittens is, or is likely to
	become, a nuisance or annoyance to any person or potentially dangerous or injurious to health, or a danger to wildlife."
Gisborne District Council	There is no reference to cats in the Keeping of Animals, Poultry and Bees Bylaw 2012.
Greater Wellington	There is no bylaw in reference to keeping cats.
Regional Council	
Hamilton City Council	There is no reference to cats in the Hamilton City Animal Nuisance Bylaw 2013.
Hastings District Council	The Hastings District Council Animal Control Bylaw 2006 Part 3 states:
	"9.0 Keeping of Cats
	9.1 No person shall keep more than four cats over the age of six months on any section. Where two or more
	dwellinghouses are contained on one section no person shall keep more than two cats over the age of six months in any
	household. For three or more dwellinghouses on one section no person shall keep more than one cat over the age of six
	months in any dwellinghouse.
	9.2 In the event of a nuisance caused by cats, it shall be the duty of the owner to do such work or reduce the number of
	cats to abate any nuisance, upon notice being served upon him or her by the Council. In the case of neglect or refusal on
	the part of such owner to comply with, execute, or do such work or reduce the number of cats, such owner commits an
	offence against this Part of this Bylaw. In such a case Council may remove such cats as an Animal Control Officer deems
	necessary to abate the nuisance.

	9.3 No person shall establish or maintain any hospital, boarding or breeding establishment for cats except on a site approved by a resource consent from the Council issued under the Resource Management Act 1991 and subject to such conditions as it may think fit to impose."
Hauraki District Council	There is no reference to cats in the Hauraki District Council Consolidated Bylaw Keeping of animals (excluding dogs).
Hawke's Bay Regional Council	There is no bylaw in reference to keeping cats.
Horizons Regional Council	There is no bylaw in reference to keeping cats.
Horowhenua District	The Horowhenua District Council's Animal Nuisance and the Keeping of Pigs, Poultry and Bees Bylaw 2014 states:
Council	"No person shall keep cats and kittens where the number kept becomes offensive to the occupier of a neighbouring property, a threat to public health or a endangerment to neighbouring animals.
	If the keeping of any cats on a premises is, or is likely to become:
	<ul><li>a) A nuisance,</li><li>b) Injurious or</li></ul>
	c) Hazardous
	To the health, property or safety of any person, then the Authorised officers may by, notice in writing, require the person
	who owns the premises to do all or any of the following:
	a) Reduce the number of cats kept on the property

	b) Take other such precautions as may be considered necessary by the Authorised officer to reduce the effects as
	listed in subclauses (a) – (c) above."
Hutt City Council	There is no reference to cats in the Hutt City Council Control of Animals Bylaw 2008.
	'Animal' is stated to include poultry, birds, and bees, but not dogs.
Kaipara District Council	There is no bylaw in reference to keeping cats. Animal bylaws refer to dogs or stock.
Kapiti Coast District	There is no reference to cats in the Keeping of Animals, Bees and Pultry Bylaw 2010.
Council	
Kawerau District Council	There is no reference to cats in the General Bylaw Part 7: Keeping of Animals, Poultry and Bees (2012).
	Dogs and cats are excluded from this bylaw.
Manawatu District Council	The Animal Bylaw 2014 states:
	"A person may keep up to four cats over the age of six months on any rateable property.
	Where there is more than one dwelling-house on each rateable property, each dwelling is permitted to have one domestic cat."
	These provisions seek to minimise the potential nuisance that may result from having many cats in one area.
	Manawatu District Council Animal Bylaw 2014 states:

- "Part 3: Cats
- 11 Number of Cats on Premises
- 11.1 No person may Keep, on any one Rateable Property in the District, more than four cats over the age of six months.
- 11.2 In the event of more than one Dwelling house on one Rateable Property, no more than one domestic cat per dwelling is allowed.
- 11.3 Clause 11 does not apply to:
- (a) Any cats under the age of six months being kept for no longer than 14 days; and
- (b) Vets, SPCA or similar registered charities, and boarding premises which have all necessary permits and resource consents as may be required.
- 12 Cats becoming a Nuisance or Injurious to Health
- 12.1 If, in the opinion of any Council Officer, the Keeping of any cats on a Premises is, or is likely to become:
- (a) a Nuisance;
- (b) injurious; or
- (c) hazardous:

to the health, property or safety of any person, then the Council Officer may by notice in writing require the Owner or Occupier of the Premises to do all or any of the following:

(a) reduce the number of cats kept on the Premises;

	(b) take other such precautions as may be considered necessary by the Council Officer to reduce the effects listed in subclauses (a) to (c) above.  12.2 Compliance with a notice under clause 13.1 must take place within the time specified in such notice, not being less than 14 days."
Masterton District Council	The Masterton and South Wairarapa District Councils' Consolidated Bylaw 2012 states within its Keeping of Animals, Pountry and Bees Section:  "5 Keeping of Cats  No person shall keep, on any residential property in the district more than three cats of age three months or more, for a paried exceeding fourteen (14) days without the permission of an outboried officer."
Matamata-Piako District Council	period exceeding fourteen (14) days, without the permission of an authorised officer."  There is no reference to cats in the Consolidated Bylaw 2008: 6 Keeping of Animals (excluding dogs).
Napier City Council	The Animal Control Bylaw 2014 states:  "There is no limit to the number of cats permitted to be kept in any premises providing the cats are sufficiently cared for in accordance with the Animal Welfare (Companion Cats) code of welfare 2007, however catteries require resource consent under the District plan.  If the keeping of cats causes an environmental health issue, the number of cats may be limited on a case by case basis at the discretion of the Regulatory Services Manager."

# New Plymouth District Council

The New Plymouth District Council Bylaw 2008: Animals states:

"Keeping of cats or kittens

- 7.1 No person shall keep five or more cats or kittens over six months of age within or by any household unit in an urban area except with the written approval of an authorised officer.
- 7.2 Before granting any approval under clause 7.1, the authorised officer must be satisfied that:
- a) The cats or kittens will be adequately housed and that no nuisance will result; and
- b) Any other lawful requirements of the council have been satisfied including any relevant provisions of the New Plymouth District Plan.
- 7.3 The approval of the authorised officer under clause 7.1 may include such terms and conditions as the authorised officer considers appropriate in the circumstances.
- 7.4 Despite clause 7.1, a breeder of cats may keep more than five cats in the breeder's cattery if the breeder and the cattery meet the following criteria:
- a) The breeder is a full voting member of the Taranaki Cat Club Incorporated; and
- b) The breeder holds a registered prefix granted to them by the New Zealand Cat Fancy; and
- c) The breeder's cats are held in a cattery accredited under the Cattery Accreditation Scheme operated by the New Zealand Cat Fancy; and

	d) The number of cats held in the cattery must be no more that that for which the cattery is accredited; and
	e) The cattery is operated to a high standard of hygiene at all times; and
	f) The cattery does not create a nuisance.
	7.5 Despite clause 7.1 a breeder may keep up to five free living cats in the breeder's household in addition to the number in their cattery.
	7.6 If, in the opinion of an authorised officer, any cattery creates a nuisance, or a health nuisance is caused by the keeping of cats or kittens (due to odour or accumulated faecal matter), the council may by written notice to the breeder, owner or occupier, as the case may be, require the breeder, owner or occupier to abate the nuisance."
Northland Regional Council	There is no bylaw in reference to keeping cats.
	This regional council includes Far north, Kaipara and Whangerei district councils.
Opotiki District Council	There is no reference to cats in the Animals Bylaw 2008.
Otorohanga District Council	There is no bylaw in reference to cats. The only animal bylaws relate to dogs and stock.
Palmerston North City	The Palmerston Nother Animals and Bees Bylaw 2011 states:
Council	"Cats on Premises
	8.1 No person may keep more than three cats on any private land with an area less than 2,000m2 in the urban area

	without a permit issued under this Bylaw
	8.2 No cats kept for breeding purposes shall be housed within 1.8 metres of the boundary of any adjoining property in the urban area unless the housing is within a dwelling house.
	8.3 The restrictions of clauses 8.1 and 8.2 shall not apply to kittens below the age of three months."
Porirua City Council	There is no bylaw in reference to keeping cats.
	Cats and dogs are excluded from the Porirua City Council General Bylaw 1991: Keeping of animals.
Rangitikei District Council	The Animal Control Bylaw 2013 states:  "7. Cats
	No person shall keep more than three cats over three months of age on any household unit in any urban area, unless given a written dispensation by an enforcement officer.
	Clause 7.1 shall not apply to any veterinary clinic, SPCA shelter, or registered breeder as accredited under the Cattery Accreditation Scheme operated by the New Zealand Cat Fancy.
	<b>Note:</b> Boarding or breeding establishments for more than 15 cats require resource consent under the operative District Plan."
Rotorua Lakes Council	There is no bylaw in reference to keeping cats.
Ruapehu District Council	The Animal Control Bylaw 2012 states:
	"10.0 Part B: Keeping of Domestic Cats

The object of this part of the Bylaw is to regulate the keeping of cats in the Ruapehu District thereby: (a) To ensure that they do not create a public health nuisance to any person(s), other animals, wildlife or property. (b) To control the number of cats kept in residential, commercial or industrial areas. 10.3 No person shall keep more than four cats over six months of age within any household unit in the residential, commercial or industrial areas as outlined in the Ruapehu District Plan, unless being given a dispensation by a Council Officer for this Clause. This Bylaw shall not apply to any veterinary clinic, SPCA shelter or registered breeder as accredited under the Cattery Accreditation Scheme operated by the New Zealand Cat Fancy. 10.4 Despite Clause 10.3 above a registered breeder, may keep up to four non-breeding cats over six months of age within the breeder's household, in addition to the number of cats in the cattery. 10.5 Where Council has received a complaint and has reasonable grounds that cats are kept in such a manner deemed to be a public health nuisance by keeping more than four cats a Council Officer may: (a) Undertake reasonable steps necessary to abate the offence; and (b) Where welfare issues exist, refer the matter to the SPCA for action." **South Taranaki District** There is no reference to cats in the Keeping of Animals bylaw 2013: 7.0 Keeping of Animals. Council

# South Waikato District Council

The Keeping of Animals: Poultry and Bees Bylaw 2011 states:

- "7.2 Keeping of cats or kittens
- 7.2.1 An authorised officer may impose a limit on the number of cats which may be kept on private land (such limit being not more than five) where:
- (a) the Council has received a complaint about the number of cats kept on the private land; and
- (b) the officer considers that the number of cats creates or is likely to create a public health nuisance; and
- (c) the person keeping those cats fails to comply with any reasonable request of the officer to abate or prevent the nuisance created.
- 7.2.2 No person shall keep five or more cats or kittens over six months of age within, or adjacent to any household unit, in an urban area except with the written approval of an authorised officer.
- 7.2.3 Before granting any approval under clause 7.2.1, the authorised officer must be satisfied that:
- (a) The cats or kittens will be adequately housed and that no nuisance will result.
- (b) Any other lawful requirements of the Council have been satisfied including any relevant provisions of the District Plan.
- 7.2.4 The approval of the authorised officer under clause 7.2.2 may include such terms and conditions as the authorised officer considers appropriate in the circumstances.
- 7.2.5 Despite clause 7.2.1, a breeder of cats may keep more than five cats in the breeder's cattery if the cattery meets the

following criteria:

- (a) The breeder holds a registered prefix granted to them by the New Zealand Cat Fancy;
- (b) The breeder cats are held in a cattery accredited under the Cattery Accreditation Scheme operated by the New Zealand Cat Fancy Incorporated;
- (c) The number of cats held in the cattery must be no more than that for which the cattery is accredited;
- (d) The cattery is operated to a high standard of hygiene at all times;
- (e) The cattery does not create a nuisance.
- 7.2.6 Despite clause 7.2.1 a breeder may keep up to five free-living cats in the breeder's household, in addition to the number in their cattery.
- 7.2.7 If, in the opinion of an authorised officer, any cattery has created a nuisance, or a health nuisance is caused by the keeping of cats or kittens (due to odour or accumulated faecal matter), the Council may by written notice sent to the breeder, owner or occupier, as the case may be, require the breeder, owner or occupier to abate the nuisance.
- 7.2.8 It is the duty of the breeder, owner or occupier to abate the nuisance as required by any notice sent under clause 7.2.7."

# South Wairarapa District Council

The Masterton and South Wairarapa District Councils' Consolidated Bylaw 2012 states within its Keeping of Animals, Poultry and Bees Section:

"5 Keeping of Cats

	No person shall keep, on any residential property in the district more than threecats of age three months or more, for a
	period exceeding fourteen (14) days, without the permission of an authorised officer."
Stratford District Council	There is no reference to cats in The keeping of Animals and Poultry Bylaw
Taranaki Regional Council	There is no bylaw in reference to keeping cats.
Tararua District Council	There is no reference to cats in the Bylaw Chapter 13 The keeping of Animals, Poultry and Bees.
Taupo District Council	No bylaw found in reference to cats.
Tauranga City Council	There is no reference to cats in The Keeping of Animals Bylaw 2008 other than the following:
	"There is nothing Council can do about individual cats straying on to your property (see notes below about actions you
	can take) and Council will not provide traps for people to catch cats. If the cats have been abandoned on your property by
	a previous owner or tenant please phone the SPCA (07) 5782784 Council can help if a cat colony has established itself on
	your property. A colony is three or more cats which are living on a property where you live and the cats are unowned and not being fed by anybody."
Thames-Coromandel	There is no reference to cats in the Consolidated Bylaw 2004 Nuisances 2005 :1109 Noise from animal, bird, or fowl.
District Council	
Upper Hutt City Council	There is no reference to cats in the Keeping of Animals Poultry and Bees Bylaw 2005.

Waikato District Council	There is no reference to cats in the Keeping of animals bylaw 2015.
Waikato Regional Council	There is no bylaw in reference to keeping cats.
Waipa District Council	There is no bylaw in reference to keeping cats.
Wairoa District Council	There is no bylaw in reference to keeping cats.
Waitomo District Council	There is no bylaw in reference to keeping cats.
Wanganui District Council	The Keeping of Animals, Poultry and Bees Bylaw 2015 states:
	"8. Cats
	8.1 There is no limit to the number of cats permitted to be kept on any Premise provided the cats are sufficiently cared
	for and the keeping of such cats does not cause, or is likely to cause a Nuisance.
	8.2 In the event of a Nuisance caused by the cats and upon written notice being served upon the owner by an Authorised
	Council Officer, it shall be the duty of the owner to do such work or reduce the number of cats to abate any Nuisance. In
	the case of neglect or refusal on the part of the owner to comply with, execute, or do such work or reduce the number of
	cats, the owner commits an offence under this Bylaw. In such a case Authorised Council Officers may remove such cats as
	they deem necessary to abate the Nuisance.
	8.3 Authorised Council Officers have delegated discretionary authority to impose a limit on the number of cats which may

	be kept on any Premise where:						
	a) Council has received a complaint about the number of cats kept on the premise; and						
	b) The Authorised Council Officer considers that the number of cats causes or is likely to cause a public health Nuisance; and						
	c) The person keeping the cats fails to comply with any reasonable request of an Authorised Council Officer to abate or prevent the Nuisance created."						
Wellington City Council	Currently there are no guidelines on cat ownership in Wellington.						
	There is a proposed bylaw which will legislate that:						
	- All domestic cats must be microchipped and registered with a recognised microchip registry.						
	- Requiring permission to keep more than three cats, over the age of 6 months. Exceptions are proposed for						
	catteries and registered breeders. A strict limit to numbers of cat that may be kept is not proposed.						
	- If a household has more than three cats, permission could be required through a simple application process.						
Western Bay of Plenty	There is no reference to cats in the General Bylaw 2008: Animals (excluding dogs).						
District Council							
Whakatane District Council	There is no reference to cats in the Bylaw Part 10 Control of Animals (Excluding dogs).						
Whangarei District Council	There is no reference to cats in The Keeping of Animals, Poultry and Bees Bylaw.						

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Table 6: NZ South Island Council Bylaws pertaining to cats

Council	Bylaws						
Ashburton District Council	There is no reference to cats in the Bylaw's Chapter 3: Keeping of Animsls, Bees and Poultry.						
Buller District Council	The NZS 9201: Part 13 The Keeping of Animals, Section 1306: The keeping of cats states:						
Central Otago District	"1306.1 In areas other than those zoned rural, no person within the district shall allow or cause to remain or keep more than three cats of a greater age than six months, which are deemed to be annoying or troublesome to others.  1306.2 On receipt of a complaint signed by not less than three householders, the Council may, after investigation, serve a notice requiring a reduction of cat numbers. This bylaw section shall not apply to any premises approved for the business of boarding or breeding cats, or any veterinary practice or SPCA shelter."  There is no reference to cats in the Bylaw's Part 4 :Keeping of Animals, Poultry and Bees.						
Council							
Chatham Islands Council	There is no bylaw in reference to keeping cats.						
Christchurch City Council	There is no bylaw in reference to keeping cats.						
Clutha District Council	The is no reference to cats in the Clutha District Council Regulatory Bylaws: Part 5 The Keeping of Animals, Poultry and Bees 2008.						

Dunedin City Council	The is no reference to cats in the Keeping of Animals (excluding dogs) and Birds Bylaw 2010.							
Environment Canterbury	There is no bylaw in reference to keeping cats.							
Environment Southland	There is no bylaw in reference to keeping cats.							
Gore District Council	There is no reference to cats in the Gore District Council Keeping of Animals, Poultry and Bees Bylaw 2009.							
Grey District Council	There is no reference to cats in the New Zealand Standard Model General Bylaws: The Keeping of Animals, Poultry and Bees 1999.							
Hurunui District Council	There is no reference to cats in the Hurunui District Council Keeping of Animals in Urban Areas Bylaw 2010.							
Invercargill City Council	The Invercargill City Council Bylaw 2013/2 – Keeping of Animals, Poultry and Bees states: "Keeping of Cats and Kittens							
	8.1 The Director of Environmental and Planning Services may impose a limit on the number of cats and kittens which may be kept on private land, such limit being no more than three, where:							
	(a) the Council has received a complaint about the number of cats kept on the private land; and / or							
	(b) the number of cats is creating a nuisance or is likely to create a nuisance; and							
	(c) the person keeping those cats fails to comply with any reasonable request of an Authorised Officer to abate or prevent the nuisance.							

	8.2 The Invercargill City Council recommends the keeping of no more than three cats on any private property."
Kaikoura District Council	There is no bylaw in reference to keeping cats.
Mackenzie District Council	There is no bylaw in reference to keeping cats.
Marlborough District	The Marlborough District Council Bylaws state:
Council	"You can keep four cats over the age of three months. If you want to keep more than four cats you will need to get a multiple cat licence. To apply, complete the application form below and send to Council's Environmental Health Department.  Cats are allowed to trespass and their owner is not liable for any damage they do unless they have a "mischievous propensity".  The Marlborough District Council (MDC) Bylaw 2010 Chapter 7 - Keeping of Animals, Poultry and Bees states:  "705 Cats
	705.1 Except as provided in clause 705.2 below no person shall keep or allow to be kept on any land more than four cats over the age of three months unless there is in force in respect of that land a licence from the Council permitting the additional cats.
	705.2 Any person (being the owner of a cat or cats or the owner or occupier of the land) who wishes to obtain a licence must make written application to the Council for a licence in the form as required by the Council and must provide with

that application all information which the Council reasonably requires.

705.3 The Council when considering any such application shall have regard to all relevant considerations including:

- (i) The suitability of the land on which the additional cat or cats specified in the application would be kept;
- (ii) The likely effect which the keeping of additional cats would have upon the surrounding neighbourhood;
- (iii) The likelihood of the cat or cats becoming a nuisance;
- (iv) Health issues;
- (v) Potential effects on native birds.

705.4 Subject to the foregoing provisions of this Bylaw, the Council may issue a licence for the purposes specified in clause 705.1.

705.5 Any such licence may be issued subject to any reasonable terms, conditions and restrictions consistent with this Bylaw which the Council may determine either generally or in any particular case.

705.6 Every licence will be in the form as required by the Council.

705.7 For every such licence there will be paid to the Council for the issue of the licence a fee which the Council may by resolution determine from time to time provided that the licence fee shall not exceed \$75.00.

705.8 If at any time while a licence is in force in accordance with this

Bylaw:

(i) The Council is satisfied that the keeping of the additional cat or cats on the land specified in the licence has caused a
nuisance or is likely to injure any person's health; or
(ii) The Council is satisfied that the keeping of the additional cat or cats on the land specified in the licence has caused an
unduly detrimental effect upon the surrounding
neighbourhood; or
(iii) There has been a failure to comply with all or any of the terms, conditions and restrictions of the licence;
then the Council may revoke the licence provided that in its decision to do so regard will be had to the principles of natural
justice.
705.9 Nothing in the previous clauses of this Bylaw shall apply:
(i) To any land used lawfully and principally as a veterinary clinic including any office used by a veterinary surgeon in the
course of his or her work;
(ii) To any land used lawfully and principally for carrying on the business of boarding cats;
706 Prohibitions

to cause a nuisance, annoyance or danger to health or an undue threat to native wildlife."

There is no reference to cats in the Urban Environments Bylaw 225: keeping of animals.

**Nelson City Council** 

706.1 The Council may prohibit the keeping of animals on any premises where the keeping of animals is causing or likely

Otago Regional Council	There is no bylaw in reference to keeping cats.						
Queenstown Lakes District Council	There is no bylaw in reference to keeping cats.						
Selwyn District Council	There is no bylaw in reference to keeping cats.						
Southland District Council	The Southland District Council's The Keeping of Animals, Poultry and Bees Bylaw 2010 states:						
	"2.3 An Environmental Health Officer may impose a limit on the number of cats which may be kept on a private land (such limit being not more than five) where:						
	(a) the Council has received a complaint about the number of cats kept on the private land; and						
	(b) the officer considers that the number of cats is creating a nuisance or is likely to create nuisance; and						
	(c) the person keeping those cats fails to comply with any reasonable request of the officer to abate or prevent the nuisance."						
Tasman District Council	There is no bylaw in reference to keeping cats.						
Timaru District Council	There is no reference to keeping cats in the Timaru District Consolidated Bylaw 2013 Chapter 21 The Keeping of Animals, Poultry and Bees.						
Waimakariri District	There is no bylaw in reference to keeping cats.						

Council	
Waimate District Council	There is no reference to cats in the Waimate District Consolidated Bylaw 200 8 Chapter 18: The Keeping of Animals, Poultry and Bees.
Waitaki District Council	The only reference to cats in the Waitaki District Council General Bylaw 2006 General Bylaw Part 4 Keeping of Animals, Poultry and Bees is that cats are exempt from being contained/restrained within the owner's property.
West Coast Regional Council	There is no bylaw in reference to keeping cats.
Westland District Council	There is no bylaw in reference to keeping cats.

# Appendix 3: International examples of existing cat control specific legislation

Please note that cat populations are defined and referred to differently in different countries. In many countries free roaming cats are referred to as feral but these may be the same as stray or feral cats (or even free-roaming companion cats) as defined under New Zealand law.

# **Australia**

Table 7: Australian state-based legislation for domestic cat management\*

Element	ACT	NSW	QLD	SA	TAS	VIC	WA
Cat registration	No	Yes - from 6 months	Yes	No	No	Yes (from 3 months)	Yes
Identification – collar and tag	No	Yes - microchip or collar and tag	No	No	No	No	Yes
Microchip	Yes - prior to sale/transfer and by 12 weeks	Yes - prior to sale/transfer and by 12 weeks	Yes - prior to sale/transfer	Yes (pending) - by 3 months	No	Yes	Yes

Desexing	Yes -from 3 months	No	No	Yes (pending) - by 6 months	Yes -by 6 months	No	Yes - before sale/transfer
Breeder registration	Yes - from 3 months for an entire cat	No	No	Yes (pending)	No	Yes - only if have >3 fertile cats	Yes
Breeder comply with Code of Practice	Yes - intensive breeding of cats or dogs (AW Act 1992)	No	No	Yes (pending)	No	Yes	No
Not abandon a cat	No	No	No	No	Yes	Yes	No
Must not feed feral/stray cat	No	No	No	No	No	Yes	No
Nuisance	Yes	Yes	No	No	No	Yes	Yes
Stray cats to be surrendered	No	No	No	No	No	Yes	No
Prohibited areas	Yes	Yes	No	Yes	No	No	No

Animal	No	No	No	Yes	No	Yes (part 3	No
<b>Management Plans</b>						S68A)	

<sup>\*</sup>Modified from the 'Australian state-based legislation for domestic cat management' table in Identifying Best Practice Cat Management in Australia. A Discussion Paper (RSPCA Australia 2016 (in press))

### Canada

Most municipalities in Canada have had dog control bylaws for many years, but very few municipalities have cat bylaws. Historically, it has been widely accepted that cats are allowed to roam free. This is beginning to change and now eight municipalities in British Columbia mandate that cats may not 'roam at large' and ten municipalities in British Columbia prohibit owner/guardians from allowing non-desexed cats to 'roam at large'.

Other municipatlities are bringing in bylaws requiring cats to be registered and identified and placing limits on the number of cats allowed to be kep. For example, in the City of Ottawa (The Animal Care and Control By-law (By-law No. 2003-77))

## Lithuania

A new law in Lithuania that came into effect on 1<sup>st</sup> January 2016 requires that all cats are microchipped. The ownership information is stored in a database run by the state.

In addition municipalities are required to "organise activities to reduce the number of stray pets in a municipality, temporary care for homeless and stray animals and return of homeless animals to their owners".

Article 5 of the law states that "[it is not cruel treatment to] set free stray cats captured and neutered in accordance with cat neutering programmes coordinated with the municipal administration".

Breeding is also discussed within the law, for example, "Pet owners, except for the persons breeding pets for commercial purposes, must ensure that their pets would not reproduce unless they ensure the transfer of pet offspring to new owners (except for their transfer to an animal carer) or take care of them themselves."

Section IV of the law deals with stray and homeless animals and states:

- "Article 13. Stray and Homeless Animals
  - 1. In the territory of a municipality, temporary care of captured stray and homeless animals and stray and homeless animals reported by persons who capture, but cannot keep them shall be organised by the municipal administration in accordance with the procedure specified by the head of the municipal administration.

- 2. In accordance with the procedure set out by the head of the municipal administration, the municipal administration shall, within its remit, participate in implementing stray cat neutering programmes drafted by animal care organisations.
- 3. When catching stray and homeless animals, animals caught must be subjected to as little physical and mental suffering as possible.
- 4. Neutered and externally marked stray cats caught must be immediately released, except where they are suspected to be ill or are maimed.

# Article 14. Temporary Care of Stray and Homeless Animals Organised by Municipal Administrations

- 1. All stray and homeless pets whose capture is organised by the municipal administration or which are reported by persons who catch stray or homeless pets, but cannot keep them shall be transferred to an animal carer, and stray or homeless domestic animals to a keeper of domestic animals able to temporarily take care of a domestic animal.
- 2. Upon the expiry of the period referred to in Article 4.61(3) of the Civil Code and where the animal owner remains unidentified, an animal shall be transferred free of charge to the person having taken care of it.

## Article 15. Requirements for Animal Carers

- 1. Animal carers must meet the requirements set forth by legal acts.
- 2. In order to keep animals, animal carers may establish pet shelters.
- 3. Animal carers must: 1) check the condition of health of every animal reaching them, evaluate the possibility to further keep it and ensure the necessary veterinary assistance and vaccination of animals; 2) check the animal's identification to identify the owner of the animal and, where the owner is identified, immediately inform him about the animal found; 3) ensure publication of information about stray and homeless animals kept; 4) search for new owners for animals and provide new owners with all the necessary information about an animal, its health condition and how to keep it and ensure its welfare; 5) create conditions for keeping animals without jeopardising their health and welfare.

4. Animal carers may not breed animals."

### **Switzerland**

Switzerland has legislation mandating microchipping of cats.

#### **USA**

There are limited state laws relating to cats in the USA. There are anti-cruelty laws but other than these the majority of state laws address public health issues, such as requiring cats to be vaccinated against rabies.

Please note that laws in the USA refer to any free roaming cats as feral but these may be the same as stray or feral cats (or even free-roaming companion cats) as defined under New Zealand law.

Free-roaming and feral cats are generally considered by states to be a local issue but most states try to reduce the number of free-roaming and feral cats by requiring cats that are adopted from pounds and shelters to be desexed.

The only states that have comprehensive 'cat codes' are California, Maine, and Rhode Island:

- California mandates the minimum time for weaning kittens, yearly veterinary requirements, and holding periods for impounded cats and also has a comprehensive policy statement on the issue of feral cats.
- Maine mandates the seizure of stray cats and vaccination requirements.
- Rhode Island has a'Cat Identification' act. RI ST 4-22-1 et. seq. which requires that cats display some form of identification (tag, tattoo, etc.) in an effort to reduce the feral/stray cat problem. The law also reduces the retention period for cats impounded without some form of identification. This state also has the 'Rhode Island Permit Program for Cats.' Which requires a permit for breeding and other cats to be desexed by 6 months of age.

#### Local legislation

Some communities in the U.S. have passed their own cat and TNR ordinances. For example:

- The Mountainbrook, Alabama: Code of Ordinances. Sec. 6-3. Impoundment of stray, feral, or abandoned cats and felines states:
  - "(a) The City of Mountain Brook or its representatives, including the dog warden, animal control officer, or person serving in like capacity, or such persons or firms as may be designated or employed by the city or with whom the city may contract for such purposes, shall have the authority to trap or collect by humane means and impound any cat or member of the feline family that appears to be stray, abandoned, feral, undomesticated, or uncared for based on the behavior or physical condition of the cat, and the absence of any collar, tag, microchip, or other means of identifying the name, address, or telephone number of the owner of the cat.
  - (b) If the impounded cat is not redeemed by its owner or placed with a new owner, the city or its representatives shall be authorized to euthanize and/or dispose of the cat in a merciful manner after following the process prescribed by section 6-110 of this Code.
  - (c) The collection, care, and disposition of any impounded cat shall be subject to state law governing such practices, including but not limited to desexing requirements set forth in the Code of Ala. 1975, § 3-9-2.
  - (d) If the impounded cat is determined by reasonable means to be infected with rabies, the cat shall be deemed a public nuisance and a danger to the health and safety of the community and shall be euthanized in a merciful manner.
  - (e) A cat that is trapped and impounded pursuant to subsection (a) herein may be released into the general area from which it was trapped subject to the following requirements:
  - (1) The cat is determined by reasonable means to be feral or undomesticated and not suitable for adoption;
  - (2) The cat is determined by reasonable means to be healthy and without disease or infection of any kind, including not falling within the purview of subsection (d) herein;

- (3) The cat is sterilized<sup>1</sup> pursuant to the sterilization<sup>2</sup> requirements set forth in the Code of Ala. 1975, § 3-9-2 and other state law governing such practices;
- (4) The cat is vaccinated for rabies; and
- (5) The cat is marked with ear tags, a clipped ear, or other means to identify that said cat has been sterilized<sup>1</sup>.
- (f) The purpose of this section is to authorize the humane trapping, collection, and sterilization<sup>2</sup> and/or disposal of cats that are reasonably believed not to be owned or under the care of any person and which, by virtue of such status and other indicia, are deemed to represent an actual or potential threat to the health, safety, and welfare of the public. Nothing herein shall be deemed to prevent the city and its employees or agents from using reasonable discretion in discharging the functions and activities hereby authorized. Nothing herein shall be interpreted or deemed to create or to impose on the city, its agents, employees, persons, or entities acting on behalf thereof any duty, standard of care, or liability to the public generally or to any member thereof with respect to the collection, care, or disposition of cats impounded under the authority hereof."

#### • Elk Grove, California:

- Owned cats and dogs in Elk Grove must be licensed while feral and community cats are exempt from licensing requirements.
- Elk Grove has a limit to the number of dogs and cats a person can keep. The relevant Ordinance states:
- "Limitation on number of dogs and cats. It is unlawful for any person to keep or harbor more than four (4) dogs or four (4) cats or a combination of both not to exceed a total of four (4), which are over the age of four (4) months on or in any lot, premises, dwelling, building, structure, boat, or living accommodation."

Elk Grove also mandates that no dog or cat shall be released for adoption without being desexed or without a written agreement from the adopter guaranteeing that such animal will be desexed and a desexing deposit made.

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<sup>&</sup>lt;sup>1</sup> Desexed

<sup>&</sup>lt;sup>2</sup> Desexing