New Zealand National Cat Management Strategy Group Report

August 2020

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Table of Contents

Executive Summary

The National Cat Management Strategy Group (NCMSG) recognises the intrinsic value of cats as complex and sentient beings, their value as a companion animal in New Zealand, and their value to communities, and New Zealand society. The NCMSG also recognises the importance of balancing the needs of cats, cat owners, and cat carers with the potential negative impacts of cats on communities, other species, and ecosystems. The New Zealand National Cat Management Strategy Report outlines recommendations and supporting evidence to achieve humane management of cats in New Zealand to protect both cat welfare and our unique environment.

Improved categorisation of cats which reflect the complexity of cat overpopulation are needed for successful management. The companion, stray, and feral cat categories have limited the ability to effectively manage cats in the past, particularly grouping all 'stray' cats together; this category should include better differentiation among stray cats to inform management strategies. The divisions within each of the proposed categories in this report will enable effective and legal management of different types of cat populations, whilst also providing added safety for previously unprotected cats.

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 stakeholder consultation to devise evidence-based recommendations for parties undertaking cat management in New Zealand.

Efforts to manage cats in New Zealand should be monitored and evaluated to determine their effectiveness in controlling cat populations and providing benefits to local wildlife. Robust evaluation of cat management programmes will provide much needed information for other governments, cat advocates, and environmental organisations that undertake steps to address problems with cat overpopulation.

Cat management is complex, and the interests of all parties should be considered in decision-making. There is no 'one solution' for humane cat management and environmental protection; instead, different solutions are needed for different contexts. Humane and effective cat management requires all stakeholders to work together to ensure the diverse values associated with cats (including the intrinsic value of cats as sentient beings, their companionship, and the value of New Zealand's biodiversity) remain the guiding motivation for action.

Key recommendations of the NCMSG for effective and humane cat management:

1. **Acknowledge that all cats are sentient.**

All legislation and plans to manage feral and domestic cats:

- Must recognise cats are sentient beings under the Animal Welfare Act 1999;
- Be informed by science and ethics to:
    - promote of the value of cats to enhance the human-cat bond, advance responsible ownership, break down barriers preventing ownership, and reduce cat surrender and abandonment; and
    - determine the most humane approaches to stray and feral cat management.
- Use improved categories of cats to inform cat management. The following cat population categories provide the basis for a management framework:
    - Feral cats; and
    - Domestic cats;
        - Companion (owned) cats; and
        - Stray cats;
            - Socialised stray cats (managed and unmanaged); and
            - Unsocialised stray cats (managed and unmanaged).

2. **Community education programmes about the negative impact of cats are enacted to:**
    - reduce nuisance behaviour;
    - reduce the risk of disease transmission; and
    - reduce the negative impacts of cats on biodiversity.

3. **Government leadership in developing a national integrated, one welfare approach to toxoplasmosis management to:**
    - ensure consistent vaccine coverage for farmed animals;
    - support research into toxoplasmosis vaccine development for humans and animals;
    - develop tools to measure the risk of toxoplasmosis on all farmed animal species, wildlife, and human health;

- ensure implementation of integrated pest management on farms (e.g. rodents and feral cats) including: rodent control, and improvement of food and water hygiene; and
- ensure implementation of action plans to mitigate the risks of toxoplasmosis on marine wildlife.

4. Sensitive wildlife areas are identified and protected from cats.

Sensitive wildlife areas should be identified nationwide for effective cat management. Subsequently, implementation of comprehensive and humane removal of cats from within those areas is required. Cats should be permanently removed and excluded from future re-inhabitation.

5. Integrate best practice cat management nationally for all cats.

Feral and domestic cat management should be integrated to ensure no gaps in responsibilities, laws, and initiatives. Individual cat movement between different populations is fluid, therefore, a coordinated and multifaceted approach through the development of national cat management plan is needed to address all sources of cats in a population. This management plan should provide a framework for best practice management for companion, stray, and feral cats, and include:

- the development of relevant Codes of Practice and Standard Operating Procedures for national cat management methods, to ensure consistency in cat management practices; and
- the development of an auditing programme to promote compliance with best practice cat management.

Best practice responsible cat ownership

Responsible cat ownership should include:

- mandatory identification (microchipping) and desexing of all cats prior to puberty and the regulation of breeding; and
- implementation of cat containment (mandatory in sensitive wildlife areas).

Best practice stray cat management

The intention of stray cat management is to humanely and effectively reduce the population of unowned cats. Stray cat management should include the development and implementation of:

- best practice Stray Cat (including colonies) Management Guidelines. Guidelines should include managed and targeted trap-neuter-return (mtTNR) programmes;
- a managed stray cat registry; and
- nationwide programmes for stray cat carers about responsible cat management with an emphasis on desexing, identification, and appropriate health care of managed stray cats.

Best practice cat management in sensitive wildlife areas

Sensitive wildlife areas are not suitable for mtTNR programmes.

Where mtTNR is inappropriate due to proximity of a sensitive wildlife area, the NCMSG supports trap and rehome as a strategy to manage stray cats. Where no other humane and non-lethal approaches are available the NCMSG reluctantly acknowledges that trap and humane killing methods for stray cats may be necessary to protect vulnerable native species. These methods are only acceptable if they are carried out in accordance with best practice guidelines to safeguard cat welfare.

6. Consistent legislation, approach, and commitment to cat management from Government

The enactment of a National Cat Management Act will allow for mandated, comprehensive, and consistent implementation of nationwide humane management of all cat populations in New Zealand and ensure that enforcement can occur under the legislation.

The enactment of a National Cat Management Act will allow for the creation and implementation of local cat bylaws to assist with the humane management of cats.

7. Incremental change to legislation

Changes in cat management under legislation should be incremental to allow public education, acceptance, and compliance with new requirements. It will likely be necessary to mandate components of the plan in order to make it effective. These changes must come from central and local government and be implemented locally.

8. Develop public engagement strategies to understand community support for cat management and facilitate human behaviour change

Public engagement is needed to understand the diverse values, beliefs, attitudes, and social norms related to cats. Public engagement can also include activities to educate and support human behaviour change including:

- Responsible Cat Ownership; and
- humane non-lethal and lethal control of stray and feral cats.

9. Robust monitoring and evaluation are integrated into all cat management strategies to identify problems and solutions.

Evaluation of cat management strategies is needed to determine their effectiveness and inform changes to ongoing cat management plans at the national and local level and should include:

- evaluation measures and processes for data collection agreed upon by all stakeholders;
- positive and negative outcomes publicly reported to ensure transparency;
- assessment of the effect of owned and stray cat management strategies on feral cat numbers and their impacts on wildlife;
- cat management strategies that are adapted and improved as new evidence becomes available; and
- creation and implementation of a centralised national database to track relevant cat management statistics.

10. Establish a national cat management advisory committee.

A National Cat Management Advisory Committee should oversee research, operationalise management plans, and coordinate and oversee evaluation of management strategies. Funding and support from government and other stakeholder groups will be necessary to achieve this. An important component of the National Cat Management Advisory Committee will be the use of research to inform ongoing humane cat management strategies, including national allocation of resources, coordination, and priority setting.

11. Establish local cat management advisory groups.

Local governments should consider establishing cat management advisory groups with terms of reference that include:

- introducing and monitoring cat management plans in coordination with national mandatory requirements;

- consulting with key local stakeholders and communities, and
- identifying key metrics to evaluate the effectiveness of cat management plans.

12. Development of strategic partnerships among organisations with an interest in cat management

Humane and effective cat management requires all stakeholders to work collaboratively, including the adoption of MOUs between major stakeholders. This collaboration will require ongoing communication and involvement of all cat stakeholders in decision making processes.

13. Prioritise community engagement to determine the most appropriate strategies for cat management and promote sustainable outcomes for all interested parties.

Effective and humane cat management will require identifying and engaging local community members with an interest in cat management based on their relationships with cats.

The National Cat Management Strategy Group

The National Cat Management Strategy Group (NCMSG) formed in November 2014 to develop a national overarching strategy for responsible, compassionate, and humane cat management in New Zealand through a collaborative and proactive approach.

The NCMSG consists of eight national organisations that have an interest in cat management including: Local Government New Zealand, the Morgan Foundation; the New Zealand Companion Animal Council; the New Zealand Veterinary Association; NZVA Companion Animal Veterinarians; and the Society for the Prevention of Cruelty to Animals. Ministry for Primary Industries is an observatory member and Department of Conservation is a technical advisory member.

The NCMSG recognises the positive benefits and value of cat ownership, and supports responsible cat ownership, while acknowledging the problems associated with cat overpopulation and feral cats. The NCMSG advocates that all efforts to manage cats should be humane, whether they are owned as companions, live in communities as strays, or inhabit wild places as ferals.

The NCMSG also recognises challenges with effectively managing cats which is undermined by a lack of reliable data on the number of cats that are owned, stray, and feral, and how cats are lethally and non-lethally managed.

Cat management is complex, and the interests of all parties should be considered in decision-making. Collaboration between diverse national stakeholder organisations in the NCMSG, and many others not yet involved, is the key to addressing these important issues. There is no ‘one solution’ for humane cat management and environmental protection; instead, different solutions are needed for different contexts.

This report was developed by the NCNSG to guide future decision-making for cat management in New Zealand that is both humane and effective.

Purpose of the National Cat Management Strategy Group

To proactively address the positive and negative impact of cats in New Zealand.

To develop a humane national cat management strategy through a collaborative and proactive approach that recognises the significant positive benefits of cat ownership, whilst also acknowledging the concerns about the impact cats have in New Zealand.

To encourage education of the public about the benefits of responsible cat ownership.

To lobby local and central government to enact useful legislation that facilitates sustainable humane cat management.

Strategic vision of the National Cat Management Strategy Group

By 2025, cats in New Zealand are valued, responsibly owned, and humanely managed to protect their welfare and our unique environments.

Strategic goals and outcomes

The following section discusses the strategic goals and outcomes of National Cat Management Strategy Group and provides the framework for this report.

Table 1: New Zealand national cat management strategic goals and outcomes

Strategic Goal	Strategic Outcomes
1. Human approaches to cat management protects their welfare.	1. The intrinsic value of cats as sentient beings is recognised by people in New Zealand. 2. Companion cats in New Zealand are responsibly owned. 3. The benefits of cat ownership are recognised by people in New Zealand. 4. When required, only humane management practices are used to control all cats.
2. The negative impacts of all cats on the community, our shared urban, rural, and wild environments are recognised, understood better defined.	5. The effects of domestic cats on human health are recognised, understood, and addressed. 6. Nuisance behaviours of owned cats in communities are understood and reduced. 7. Potential impacts of cat predation on our unique environment are understood and reduced.

	8. The effects of all cats on New Zealand pastoral industries and the marine environment are recognised, understood, and addressed. 9. There are no cats in sensitive wildlife areas.
3. Humane and effective cat management is achieved through a multifaceted and integrated national management plan.	10. There are no feral cats in New Zealand. 11. There are no stray cats in New Zealand. 12. All owned cats are desexed, microchipped, and contained.
4. Humane management for all cats is supported through a comprehensive legislative, regulatory, and educative framework.	13. Responsible agencies are identified to implement legislative and regulatory requirements. 14. A National Cat Management Act is enacted. 15. Local legislation supports national legislation for cat management. 16. An educative framework focuses on public engagement on humanely and effectively managing all cats in New Zealand.
5. Cat management strategies in New Zealand are evaluated to ensure they are effective and humane.	17. An ethics framework is used to help monitor and evaluate cat management activities. 18. An adaptive framework is used to monitor and evaluate cat management activities. 19. Robust data collection and management to inform cat management activities.
6. Humane and effective cat management is achieved through multi-stakeholder collaboration.	20. New Zealand government takes an active role in supporting multi-stakeholder oversight of cat management strategies. 21. Local New Zealand governments coordinate community cat management activities and liaising with national cat management activities.

	22. Organisations representing conservation groups, animal welfare, veterinary medicine, and industry take an active role in cat management. 23. Individuals, including people who do and do not provide care to cats, take an active role in cat management.

National Cat Management Stakeholders

National Cat Management Strategy Group Members

CAV

LGNZ

NZCAC

MF

NZVA

RNZSPCA

National Cat Management Strategy Group Technical Advisors

DOC

National Cat Management Strategy Group Observers

MPI

Abbreviations

CAV – NZVA Companion Animal Veterinarians

DOC – Department of Conservation

LGNZ – Local Government New Zealand

MPI – Ministry for Primary Industries

MF – Morgan Foundation

NZCAC – New Zealand Companion Animal Council

NZVA – New Zealand Veterinary Association

RNZSPCA - Royal New Zealand Society for the Prevention of Cruelty to Animals

Interested parties

Academics

AgReserach

Animal welfare groups

Cat groups

Environmental groups

Federated Farmers

Landcare New Zealand

New Zealand public (both cat owning and non-cat owning)

Predator Free NZ Trust

Regional and Territorial Authorities

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1. Introduction

New Zealand is home to millions of cats that have great value to people, communities, and to New Zealand society. Cats can also pose a significant threat to wildlife and create a complex animal management problem that include ethical concerns about the euthanasia of thousands of healthy domestic cats and kittens every year, moral stress for the people involved, financial costs to organisations that manage unwanted domestic and feral cats, environmental and biodiversity costs, potential for disease spread, community nuisance, and welfare concerns for cats.

Currently, there is no national strategy for cat management in New Zealand. Considerable efforts have been made to address cat overpopulation and the adverse impacts of feral cats; however, the complexity of the problem makes effective cat management challenging. A new strategic approach to cat management is needed to mitigate the serious negative consequences of the owned, stray, and feral cat problem in New Zealand. New approaches to addressing cat management will require an understanding of the cat populations and stakeholders involved and a critical assessment of previous management strategies.

2. Human approaches to cat management should protect cat welfare

A strategic goal of the National Cat Management Strategy Group is that all domestic cats have a life worth living.

2.1. The value of cats

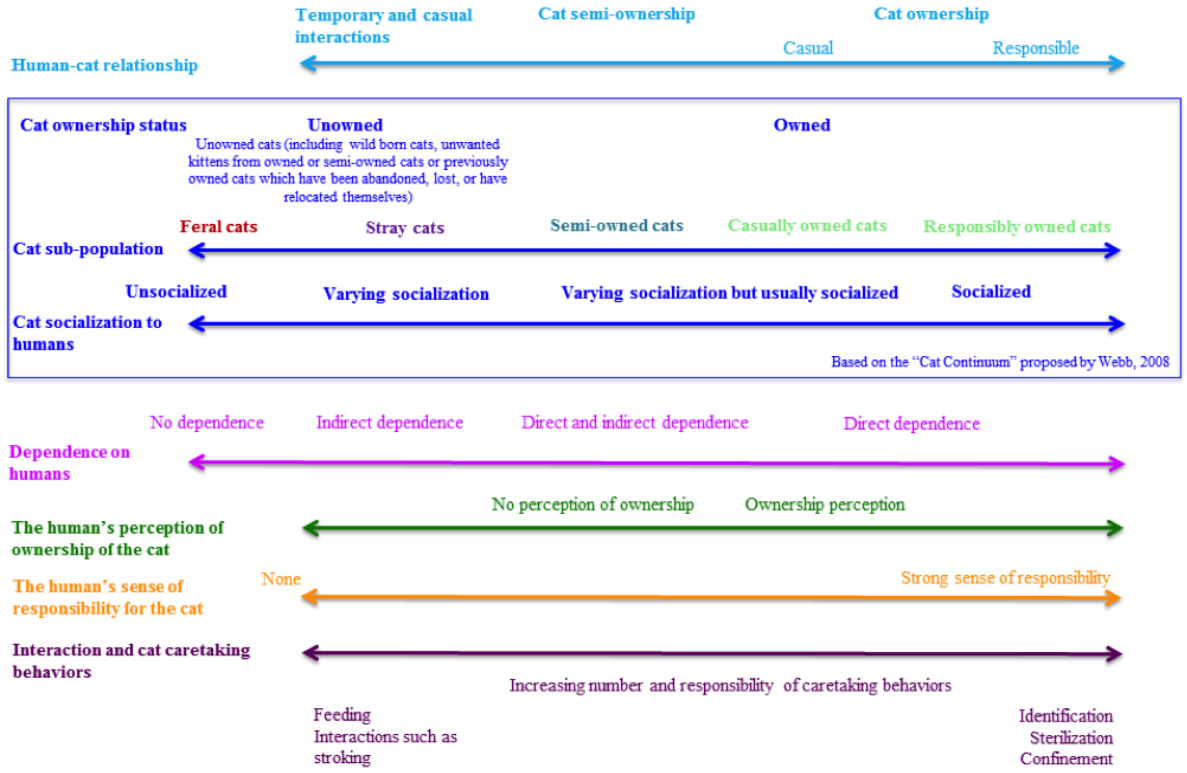
A strategic outcome of the National Cat Management Strategy Group is that the intrinsic value of cats as sentient beings is recognised by New Zealanders.

Cats have a long history of a mutually beneficial relationship with humans dating back almost 10,000 years (Driscoll et al., 2007, 2009; Haye et al., 2004; Turner, 2000). Cats provide useful contributions to human societies, such as pest control, and they are important as peoples' companions (Driscoll et al., 2007, 2009; Lipinski et al., 2008). Humans may provide various forms of care to cats including food, shelter, medical care, and social companionship, but human-cat relationships are diverse (Adamelli et al., 2005; Zito, 2015). In addition to cats' extrinsic value because of their importance to people, cats also have intrinsic value as complex and sentient beings. The sentience of animals, including cats, is formally recognised in the Animal Welfare Act 1999 (Animal Welfare Act 1999, a(i)).

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

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 in Figure 1. Relationships are portrayed in this figure as linear, but in reality, are multidimensional and interactive, making cat management very challenging.

Figure 1: The human-cat continuum



(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.)

The different populations/categories of cats inform how management strategies can more effectively target the source of the problem cats. For example, desexing programmes 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).

The cat population categories most used are described by Moodie (1995) and the Animal Welfare (Companion Cat) Code of Welfare 2018:

- 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 not dependent on input from the companion cat population.
- Stray cat: a companion cat that is lost or abandoned or born stray, 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 NCMSG recommends that these terms are redefined to better capture the cat categories that exist in New Zealand, and how they are managed.

The stray cat population includes a sub-population of cats largely ignored in management strategies to date but make a significant contribution to unwanted cat numbers: managed stray cats that are fed or cared for by people (Levy et al., 2014; Toukhsati et al., 2007; Zito et al., 2015). These managed stray cats have been termed 'semi-owned cats' in the literature; a precise definition was described by Zito et al., (2015b) 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 for intentionally by humans; these are often termed 'colony cats'. These cats all have a human carer who may be the target of initiatives to address this source of cats but need a different management approach than cat owners. Cat carers and cat semi-owners do not consider themselves to be cat owners and so are unlikely to 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 in this report include:

- Feral cat: a cat that is unowned, unsocialised, and has no relationship with or dependence on humans.
- Domestic cat:
    - Companion (owned) cat: a cat considered owned by a person, sociable, and directly dependent on humans.
    - Stray cat: an unowned cat, of varying sociability, interactions with, and dependence on humans. This category is subdivided into:
        - Socialised stray cat: this category includes managed and unmanaged socialised stray cats.
        - Unsocialised stray cat: this category includes managed and unmanaged unsocialised stray cats.

Managed stray cats may be socialised or unsocialised cats. This category includes but is not limited to cats referred to as:

- Colony cat: a managed stray cats within a specific cat colony.
- Semi-owned: a managed stray cat of varying sociability but usually socialised to humans; this type of cat interacts with people regularly and is directly or indirectly dependent on specific humans but is not part of a cat colony.

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

2.2. Responsible domestic cat ownership

A strategic outcome of the National Cat Management Strategy Group is that all domestic cats in New Zealand are responsibly owned.

The Animal Welfare Act 1999 (the Act) establishes the fundamental obligations relating to the care of animals in New Zealand. The Act allows for the development of Codes of Welfare which expand on the basic obligations of the Act by setting minimum standards and recommending best practice for the care and management of animals. Codes of Welfare also reference regulations issued under the Act. Regulations impose enforceable requirements on owners and persons in charge of animals. The Animal Welfare (Companion Cats) Code of Welfare 2018, issued under the Act, provides detailed information relating to the care and husbandry of companion cats. For more information on New Zealand Legislation, see appendix 1.

Although the Animal Welfare (Companion Cats) Code of Welfare makes only limited mention of stray cats, responsible cat ownership applies to all people who provide care for them.

Responsible owners acknowledge ‘ownership’ of their cat and provide care that fulfils the five domains of animal welfare (Mellor, 1994; 2004; 2015; 2016a,b) which link the provision of care related to nutrition, environment, health, and behaviour with a cat’s mental state (see Figure 2: The Five Domains of Animal Welfare).

Responsible owners ensure that their cat(s) are microchipped and where practical are equipped with a collar and tag for identification purposes (AVMA, 2016; NZCAC, 2018; NZVAa, 2018). They also ensure their cat(s) is desexed before it is able to start reproducing (before reaching puberty) (NZCAC, 2018; NZVAa, 2018). Pre-pubertal desexing is associated with health and behavioural benefits for the individual cat, in addition to helping address urban animal management and overpopulation problems.

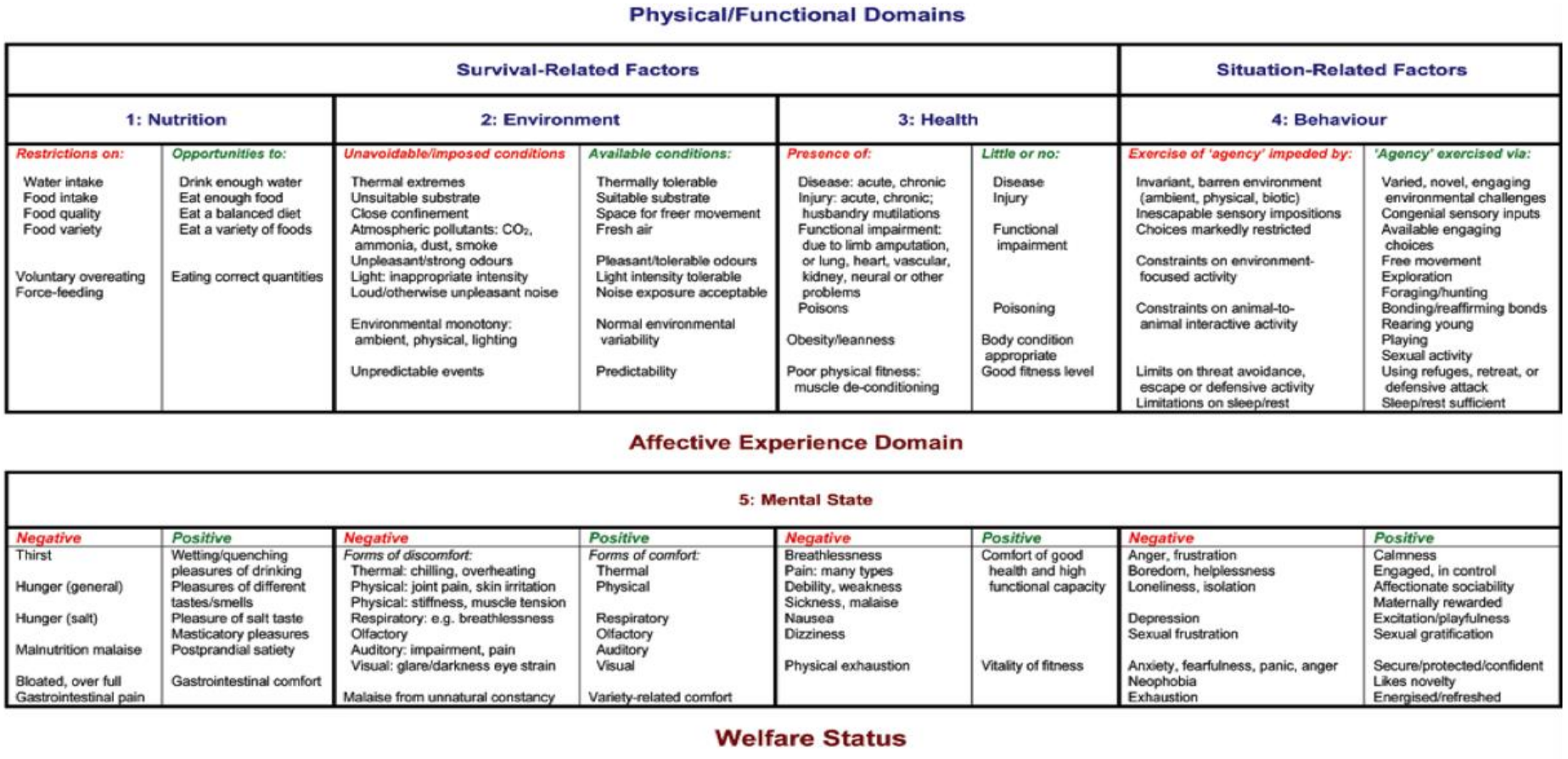
Cat ownership is a commitment for a cat's lifetime, the average lifespan of a desexed companion cat is 14-16 years (NZVAa, 2018). Finding an appropriate cat involves careful deliberation and reflection on what qualities will suit the cat to the owner's home and lifestyle (AVMA, 2016; NZCAC, 2018). Owners should provide appropriate health care for their cat in accordance with veterinary advice and support. Cats require both preventive and therapeutic health care (e.g. vaccinations, parasite control, and treatment and monitoring of health problems) (NZVAa, 2018), and adequate socialisation, training, exercise, and mental stimulation appropriate to their age, breed, and health status (AVMA, 2018; NZCAC, 2018).

Cat ownership also requires an investment of time and money for food, containment, and provision of care when the owner is away (AVMA, 2016; NZCAC, 2018; NZVAa, 2018). Cat owners should be prepared to provide alternative arrangements for the cat if, for some reason, it is no longer possible for the owner or carer to look after the cat (NZCAC, 2018). Cat owners should be prepared to ensure their cat's well-being in the case of an emergency or disaster, including assembling an animal specific evacuation kit (AVMA, 2016, NZCAC, 2018; NZVAa, 2018). Cat owners should also be able to recognise decline in a cat's quality of life, and decisions should be made in consultation with a veterinarian regarding appropriate end-of-life care (e.g. palliative care, hospice, euthanasia) (AVMA, 2016).

2.2.1. Reducing cat surrender and abandonment

The frequent surrender of companion cats, to animal shelters, reduces the number of placements available for stray cats needing homes. A detailed review of cat surrender is beyond the scope of this paper, but it is extensively documented in the literature (e.g. Casey et al., 2009; DiGiacomo, 1998; Kass, 2005; Marston, 2009; Miller et al., 1996; Rinzin et al., 2008; Salman et al., 1998; Salman et al., 2000; Shore et al., 2005). Internationally, many animal welfare organisations have made significant progress in tackling this issue through initiatives including, adoption counselling incorporating advice on pet-friendly accommodation (e.g. RSPCA Queensland [RSPCA Australia, 2016]), provision of financial aid to help potential surrenders care for their cat such as food banks (e.g. 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 cat health care (e.g. from organisations such as the Lort Smith Animal Hospital in Australia and The Humane Society of the United States HSUS [Lort Smith, 2014; The Humane Society of the United States, 2014]). Such initiatives have a positive impact in reducing the number of companion cats surrendered to shelters.

Figure 2: The Five Domains of animal welfare



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).

It is thought that abandoned cats may add to stray cat populations (Richards, 2004), although there is no reported evidence within the scientific literature to confirm this. It is an offence under the Act to desert an animal in circumstances in which no provision is made to meet its physical, health, and behavioural needs. Whilst this might be easy to prove in relation to kittens who cannot fend for themselves, it can be very difficult to enforce in relation to the abandonment of owned adult cats since they can survive without human intervention. Including an abandonment offence under new cat management legislation may improve the ability for such cases to be investigated and enforced by officers warranted under this legislation. Cat abandonment can be associated with many different circumstances, including but not limited to, the following:

- tenants moving out of a rental property/home leaving their cat behind
- tenants with companion cats being unable to find a rental property that permits cats
- when the human-cat bond is not established thereby devaluing the relationship
- the cat is not microchipped (as this means the cat cannot be traced back to the owner who abandoned the cat).

Further guidance on factors of responsible cat ownership can be found in the Code of Welfare (Companion Cat) 2018 on the Ministry for Primary Industries' website:

https://www.mpi.govt.nz/dmsdocument/1413-companion-cats-animal-welfare-code-of-welfare-2007

2.2.2. The benefits of cat ownership

A strategic outcome of the National Cat Management Strategy group is that the benefits of cat ownership are recognised by New Zealanders.

New Zealand has one of the world's highest rates of cat ownership, with 44% of New Zealand households owning at least one cat (NZCAC, 2016). Benefits associated with having a companion cat include social enablement (Giles-Corti et al., 2005; Zimolag et al., 2009), companionship (Castelli et al., 2001; Siegel et al., 1999), improved quality of life for the elderly (Senepa et al., 2004; Zasloff, 1996), enhanced ability to cope with grief and stress (Rohlf et al., 2005), specific health benefits (Allen et al., 2001; Anderson, 2004; Anderson et al., 1992; Friedmann et al., 1995; Janevic et al., 2007; Jennings, 1997; Qureshi, 2009; Straede, 1993), and general health benefits (Headey, 1999; Grabka et al., 2007),

and benefits to children's health and development (Caprilli et al., 2006; Frederick, 2003; Gagnon et al., 2004; Nagengast et al., 1997; Platts-Mills, 2002; Robbins, 2006; Russell, 2003; Wu et al., 2002), especially in nurturing and social skills (Melson, 2003; Triebenbacher, 1999).

Cats also provide benefits to society as working animals, for example, on farms and as occupational therapy animals (D'Arcy, 2011; Hasselman, 2013; Rijken et al., 2011). 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).

2.2.3. Using humane management practices to control all cats.

A strategic outcome of the National Cat Management Strategy Group is that when required, only humane management practices are used to control all cats.

When cats are lethally controlled, they should be humanely treated and killed using effective and generally accepted strategies. Although considered pests, feral cats are covered by the same declaration of sentience under the Animal Welfare Act 1999 as companion cats. There are also offences for wilful and reckless ill-treatment of wild animals or animals in a wild state under the Act that could be applied if a feral cat is treated inhumanely.

There is a statutory seven day holding period for stray cats that must be enacted by an appropriate delegated authority for stray cats as required by the Animal Welfare Act 1999 (for example, the SPCA). This can pose significant welfares issue for unsocialised stray cats as they may become extremely stressed when confined in an animal shelter or pound. If there are immediate health or welfare issues for the cat, they are unsocialised or aggressive, which makes treatment or care unreasonably stressful for the cat and dangerous for personnel, then cats may be humanely killed before the statutory seven day holding period is finished (New Zealand Government 1999; NZVA, 2016).

3. The need to manage cats in urban, rural, and wild environments

3.1. The impact of domestic cats on human communities

A strategic goal of the National Cat Management Strategy Group is minimising the negative impact of cats on the community and our shared environment, both urban and rural. This can be achieved through effective and humane management of cats, in both urban and rural areas.

3.1.1. Zoonotic disease

A strategic outcome of the National Cat Management Strategy Group is that effects of cats on human health are recognised, understood, and addressed.

Though many positive influences of cats on human health are documented, cats may also pose a risk to people through the transmission of zoonotic diseases (diseases of animals transmissible to humans).

Ringworm and flea infestation are common cat zoonoses in New Zealand. Ringworm is a fungal skin infection frequently transmitted from animals, including cats, to humans (Chermette et al., 2008), particularly children (Gräser et al., 2018; Havlickova et al., 2008). The primary agent in cats is *Microsporum canis,* although *Trichophyton* species are also implicated (Chermette et al., 2008; Thompson, 1999). Cats with clinical lesions pose a risk of *M. canis* transmission to humans, however, cats can be asymptomatic carriers of *M. canis* (Cafarchia et al., 2006; Ihan et al., 2016) with great variation (0-88%) likely related environment and management factors (Mignon & Losson, 1997). Flea infestation of cats and subsequent environmental contamination with flea larvae and eggs can result in flea bites and flea bite allergy in humans, with women and children being most affected.

Inadvertent ingestion of intestinal roundworm eggs (*Toxocara cati* or *T. cati*) from faecal contamination of the environment by cats (particularly sand pits, gardens where children play) can result in visceral larvae migrans (Fakhri et al., 2018; Woodhall et al., 2014). This is a syndrome of organ inflammation associated with the migration of worm larvae through the body. In some cases, migration of the larvae through the body can cause permanent loss of eyesight (Woodhall et al., 2014). The larval stages of some hook worm species infecting cats (*Ancylostoma spp., Uncinaria stenocephala*) can migrate through human skin resulting in cutaneous larva migrans (Bowman et al., 2010), although this is extremely rare in New Zealand (Manning et al., 2006). Transcutaneous infection with hookworm usually causes localised irritation of the feet and, occasionally, more generalised

illness (Bowman et al., 2010). Humans can also be affected by mites from cats with *Cheyletiella* spp. being the primary agent (Stalleoster et al., 2008).

Cat bites and scratches pose 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; Breitschwerdt et al., 2010). This infection can result in flu-like clinical signs, including fever and lymph node swelling and, in some cases, serious disease and is most common in children and adolescents (Chomel et al., 2006; Florin et al., 2008).

Cats are the only definitive host of the protozoa *Toxoplasma gondii,* responsible for causing the disease, toxoplasmosis (Stelzer et al., 2019). Cats can shed millions of infectious oocysts in their faeces into 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 (Dubey et al., 2009). 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 (Dubey, 2006). In most humans, infection is mild and self-limiting but in immunocompromised people, generalised infection can occur and lead to neurological disease (Dubey, 2006). Pregnant women with no previous exposure to *T. gondii* organism are at increased risk of complications of toxoplasmosis including foetal infection causing abortion, still birth, or birth of children with central nervous system defects and other permanent damage (Cook et al., 2000). Reported prevalence of human infection with toxoplasmosis vary as low as 4% in Korea to as high as 92% in Brazil, with infection more common in warmer climates (Dubey, 2016). Additionally, there are reported decreases in seroprevalence in the US and some countries in Europe (Cressy & Lake, 2014; Dubey, 2016). Seroprevalence in New Zealand has been reported between 20-40%, which is consistent with Australia, Chile, some parts or Europe, Africa, Middle East, and India (Cressy & Lake, 2014).

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 animals, including cats, or their faeces (Tzannes et al., 2008).

Cat zoonoses can be managed, therefore, emphasis should focus on educating people about who is most at risk of transmission of zoonotic disease, and how to reduce risk largely through simple husbandry and hygiene measures, and providing good health care to cats, including:

- Regular parasite control for cats (including deworming and flea control) as directed by a veterinarian;
- Vaccination of cats and small ruminants to reduce the environmental load of *T. gondii* (EFSA, 2013);
- Good hygiene practices; particularly encouraging children to wash their hands after playing in sand pits, playgrounds, and the garden, and after touching cats;
- Prompt collection and disposal of cat faeces from litter trays and the environment. 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; and
- Veterinary advice should be sought immediately for any unwell cat.

Ingestion of toxoplasma tissue cysts in improperly cooked meat is the most common mode of human toxoplasmosis infection, people preparing and eating meat should ensure that separate utensils and cutting boards are used to prepare raw meat and other foods, that the meat is thoroughly cooked and that any utensils, cutting boards, crockery and other items that have been in contact with raw meat are thoroughly washed. Improvements in *T. gondii* control can minimise harms for the welfare of animals in addition to human harms and is discussed in more detail in section 3.2

3.1.2. Nuisance behaviours

A strategic outcome of the National Cat Management Strategy Group is for nuisance behaviours of owned cats in communities are understood and reduced.

Many normal cat behaviours can be considered a nuisance by some people, including defecation and digging in gardens, fighting, noise and spraying. Occasionally cats cause nuisance by damaging property and the existence of unwanted stray cats on private property can also be a source of nuisance.

Cat predation on wildlife is another cat behaviour that causes considerable community concern. Many communities take steps to protect native mammals and invertebrates through the removal of predators, however, are limited in preventing predation by companion cats. This is particularly a problem during the fledgling period for birds and where the cats live in proximity to areas containing other vulnerable native wildlife. Additionally, backyard pets including small mammals such as rabbits and guinea pigs, aviary birds and fowl can be stalked, disturbed, harassed and even killed by cats (e.g. Stewart, 2014; NZVA CAV personal communication December 9, 2019).

Existing response to nuisance problem

Nuisance is the main mechanism used by Local Authorities to manage cat numbers under existing Animal Bylaws (See appendix 2: Council Bylaws pertaining to cats). The following table outlines Local Authorities with bylaws in place that limit cat numbers allowed to be kept on a property or by an individual in place:

Table 2 Local Authority Bylaw limiting the number of cats allowed to be kept on a property or by an individual

Local Authority	**Number of Cats**
Buller District Council	3
Carterton District Council	3
Hastings City Council	4
Far North District Council	5
Invercargill City Council	3
Kaipara District Council	5
Manawatu District council	4
Marlborough District Council	4
Masterton District Council	3
New Plymouth District Council	5
Palmerston North City Council	3
Rangitikei District Council	3
Ruapehu District Council	4
South Waikato District Council	5
South Wairarapa District Council	3
Southland District Council	5
Tararua District Council	3

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, in a survey conducted by the Wellington City Council, 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” (Wellington City Council 2016). In areas where complaints to local councils are low it could be that these complaints are received by animal welfare organisations rather than local councils.

Approaches to deterring cats from properties to reduce nuisance include both evidence-based and anecdotal methods. Evidence-based approaches include:

- Physical excluders such as fencing can be effective when designed correctly (Moseby et al., 2006; Robley et al., 2007). Existing fences can be modified with attachments at the that exclude cats including roller bars, netting, and plastic or metal sheeting.
- Ultrasonic deterrent devices are available, but the effectiveness of these devices varies (Crawford et al., 2018; Mills et al., 2000; Nelson et al., 2006).

Anecdotal approaches used to deter cats from digging include lining newly planted areas with chicken wire and laying large flat river rocks. Motion activated sprinklers are considered effective at deterring cats (Halls, 2013), but there is no research available to support this claim. Chemical or spray deterrents are a popular product available in stores, but these options have not been well studied. At least one study in The Netherlands found seven different sprays to be ineffective in deterring toileting behaviour, and for some, acted as an attractant for cats (Schilder, 1991). Mothballs are toxic to cats (and dogs; Norkus, 2018), and may attract cats, therefore are not recommend. Similarly, citrus peels are recommended as cat deterrents (Mills et al., 2000), however, citrus is toxic to cats (Plumlee, 2012).

3.2. The impact of all cats on pastoral industries

A desired outcome of the National Cat Management Strategy Group is that negative impacts of cats on New Zealand's pastoral industries are recognised, understood, and addressed. The presence of cats (feral and domestic) in New Zealand impacts pastoral industries through the transmission of disease to grazing species. The most important disease of concern in New Zealand is the protozoal infection toxoplasmosis. *T gondii* is one of the most successful parasitic organisms globally and is widespread throughout New Zealand. This protozoal parasite can infect all warm-blooded animals (reviewed by Stelzer et al., 2019). Cats living on farms is a risk factor for transmission of toxoplasmosis to livestock including pigs, sheep, goats, chickens and other poultry, cattle, horses and other equids, and deer (Gotteland et al., 2014; Kijlstra et al., 2004; Simon et al., 2017; Stelzer et al., 2019). Globally, sheep are commonly infected with *T gondii* (Dubey, 2009b; Stelzer et al., 2109). In New Zealand, between 85% to 61% were positive for *T. gondii* depending on the titre concentration (Dempster et al., 2011). Although this study did not include a representative sample, authors found a high degree of exposure

across flocks in all regions (West Coast was not included in the study) and a higher level of exposure to *T gondii* for flocks on the North Island compared to the South Island (Dempster et al., 2011).

The welfare problems related to toxoplasmosis are a result of physical health problems from infection and co-occurrence with other disease (Stelzer et al., 2019). Based on the Five Domains Model, health is a functional aspect of welfare and poor health can lead to negative mental impacts on an animal (Mellor et al., 2015). For example, respiratory problems, including laboured breathing, as a result of toxoplasmosis can lead to a negative mental state of breathlessness (Beausoleil & Mellor, 2014). Table 3 below lists studies describing negative impacts to animal health as a result of toxoplasmosis per animal species.

Table 3: Animal welfare-related impacts of *T gondii* (adapted from Seltzer et al., 2019)

Study	**Animal**	**Welfare-related problems**	**Country**
Klein et al., 2010	Pigs	co-occurrence of other disease leading to respiratory problems, morality, multi-systemic wasting syndrome; fever, depression.	Germany
Li et al., 2010	Pigs	anorexia and depression	China
Jiang et al., 2013	Pigs	high fever, dyspnoea, subcutaneous haemorrhage, abortion, enlargement and necrosis of liver and spleen	China
Hou et al., 2018	Pigs	Poor mental state, fever, dyspnoea	China
Kim et al., 2009	Pigs	fever, anorexia, neurological signs, mortality	China
Olinda et al., 2016	Pigs	apathy, dyspnoea, and poor general condition, mortality	Brazil
Basso et al., 2013	Pigs	Weight loss, fever, anorexia	Switzerland
Buxton et al., 1982; Buxton et al., 1988; Castano et al., 2016; Dubey, 1981; Esteban-Redondo et al., 1999; McColgan et al., 1988	Sheep	Fever, lack of appetite in ewe	Experimental

Buxton & Losson, 2007	Sheep-lambs	weakness	N/A
Burrells et al., 2018; Costa et al., 1977; Esteban-Redondo et al., 1999; Munday, 1978; Rommel et al.,1966; Stalheim et al., 1980; Wiengcharoen et al., 2011	Cattle	Parasetemia	Experimental
James et al., 2017; Schale et al., 2018	Horses	Co-occurrence with equine protozoal myeloencephalitis (EPM)	US
Dubey, 1985; Dubey & Desmonts, 1987; Sposito Filha et al., 1992	Horses, ponies	Mild fever	Experimental

Chickens, turkeys, ducks, and geese rarely show clinical signs or show no clinical signs of infection after of *T gondii (*Stelzer et al. 2019).

Globally, toxoplasmosis has been linked with abortions in pigs, sheep, and goats (Dubey, 2009b; Stelzer et al., 2019). Toxoplasmosis infection can result from the dam's ingestion of oocysts, from infected dam to foetus in utero, from infected ram to dam through semen, and from infected dam to offspring through milk (Stelzer et al., 2019). In New Zealand pastoral industries, toxoplasmosis infection poses economic impacts on livestock industries, related to abortion in sheep (Dempster et al., 2011) and deer (Patel et al., 2019). Infection with *T gondii* is the second most common cause of abortion in sheep (Beef and Lamb New Zealand, 2016), and in 2014, toxoplasmosis cost the sheep industry in the Hawke's Bay region of New Zealand approximately $18 million (Walker, 2014). The costs of toxoplasmosis to the farming industry are incurred through:

- loss of lambs through abortion, either low level insidious losses or large-scale abortion storms;
- the birth of weak non-viable lambs that fail to thrive and subsequently die;
- culling of fertile ewes that are assumed to be barren through undetected abortions; and
- the cost of vaccination of ewes to reduce the impact of the disease.

Faecal contamination of the environment by cats is the primary source of infection for pastoral species; these animals may ingest both oocyst-contaminated feed and water (Dubey, 2009b; Stelzer et al., 2019). For omnivorous species, such as pigs, consuming rodents infected with *T gondii* is also a transmission pathway (Kijlstra et al., 2004; Stelzer et al., 2019). Some studies have found no relation

or a protective factor between presence of cats and risk of *T gondii* transmission, indicating that cats alone may not be a risk factor; rather preventing feed and water contamination through proper farm hygiene is recommended to reduce transmission of *T gondii* to farmed animals (Stelzer et al., 2019).

A single-dose vaccine for toxoplasmosis available in New Zealand is an effective tool for reducing ewe abortions and foetal loss (Dempster et al., 2011; Dubey, 2009b). Vaccination of animals such as sheep may be an effective strategy for reducing zoonotic transmission of toxoplasmosis to humans (Innes et al., 2019). While the removal of feral and stray cats from farming communities may reduce the risk of toxoplasmosis, it will not prevent the disease altogether as companion cats will continue to act as reservoirs for the disease. Additionally, rodent population control is required for reducing the risk of toxoplasmosis on farm as rodents are an important link in the transmission of toxoplasmosis to previously uninfected cats or directly to animals such as pigs (Kijlstra et al., 2004). *T gondii* highlights the interconnection between animal welfare, human wellbeing, and the environment. Improving control of *T gondii* will benefit animals and reduce the risks to human health. Therefore, it will be important to educate the public, particularly people with companion cats, about this disease and their part in reducing the risk of *T gondii* transmission.

3.3. The impact of cats on biodiversity

A strategic goal of the National Cat Management Strategy Group is the protection of our native species and ecosystems is enhanced through the humane management of cats.

A desired outcome of the National Cat Management Strategy Group is that there are minimal negative impacts of cats on native species in New Zealand.

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

Cat predation may represent a significant cause of mortality for some bird species in urban locations (Baker et al., 2005; Greenwell et al., 2019). Cats commonly kill sick, old, and injured birds, fledglings, and those that fall from nests (Baker et al., 2008; Dierschke, 2003; Møller & Erritzoe, 2000). As a result, cat predation may represent a compensatory rather than additive form of mortality in birds, although

this likely varies with cat and prey density, prey species, and location. Where large numbers of birds are killed, cats likely kill a combination of individuals with poor and good long-term survival chances, not just those birds with poorer long-term survival chances (Baker et al., 2008). For New Zealand birds that have not co-evolved with mammalian predation pressure, cats have a greater negative impact on members of a species that are not considered vulnerable (e.g. fledglings; Farnworth et al., 2013b).

Where the urban predation rates are low, the impact of cats on birds may not be correspondingly low. Sub-lethal effects of cats on birds (primarily mediated through fear) may depress bird populations enough that low predation rates simply reflect low numbers of birds (Beckerman et al., 2007). This may also be the case with other targeted species such as lizards, frogs, and invertebrates.

Cats also prey on introduced species of small mammals, birds, lizards, frogs, and invertebrates that may have a significant negative impact on native wildlife. Cat management measures may result in increased numbers of these species and a correspondingly increased negative impact on native wildlife. This dynamic should be considered and addressed when planning cat management programmes (Farnworth et al., 2013b; Robley, 2004).

Any cat with outdoor access may prey on wildlife (including companion cats) but their prey varies depending on their location (Farnworth et al., 2013b; Gillies et al., 2003). Regardless of whether the species targeted is native or non-native and the effect on wildlife numbers, there can be negative welfare impacts on predated wildlife (Jessup, 2004).

T gondii transmission also impacts New Zealand's native wildlife. *T gondii* infection is a known cause of mortality of the critically endangered Hector's dolphins (*Cephalorhynchus hectori*; Roe et al., 2013). *T gondii* infection is also a potential factor influencing reproductive failure in New Zealand sea lions (Michael et al., 2016). In addition, *T gondii* has been found in shellfish (Putignani et al., 2011) but the significance is not yet clear.

T gondii can also impact birds. *T gondii* has been determined as the cause of death in four cases of native New Zealand birds including kereru, North Island kiwi, and North Island kaka (Howe et al., 2014), paradise shelduck, and red-crowned kākāriki (Hunter & Alley, 2014).

Effective cat management and mitigation of negative impacts of cats on native wildlife is an important component of maintaining New Zealand's native biodiversity. This includes management of feral and domestic cat populations.

3.3.1. Identifying and protecting sensitive wildlife areas from all cats

A strategic outcome of the National Cat Management Strategy Group is that sensitive wildlife areas are identified and protected from negative impacts from all cats.

Identifying sensitive wildlife areas will help determine where cat management will be most ecologically valuable. Organisations such as DOC and Queen Elizabeth II Trust and local authorities have programmes which identify and protect sites of high biodiversity (Predator Free New Zealand, 2016). The Greater Wellington Regional Council Key Native Ecosystems programme manages pests and threats at high biodiversity sites across the Wellington region, many in urban areas. The growing abundance of native species in those urban areas (Landcare Research, 2015) demonstrates the benefits of local pest control. The management of cats would complement existing pest control in these areas and greatly reduce the risk of predation for vulnerable native species.

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

- Within six years of the eradication of feral cats and rats from Raoul Island, five locally extinct seabird species were breeding again on the island (black-winged petrel; Kermadec petrel; wedge-tailed shearwater; sooty terns; red-tailed tropicbird). Spotless crakes and the Kermadec parakeets had recolonised the island from nearby predator free islands (Bellingham et al., 2010; Veitch et al., 2011).
- After cats were removed from Mangere Island in the Chatham Islands, Forbes parakeets and white-faced storm petrels recolonised the island (Bell et al., 2003; DOC, 2001). Chatham Island snipe were successfully reintroduced from Rangatira Island (Dowding et al., 2001).
- After cats were eradicated from Motuihe Island in the Hauraki Gulf tuatara were successfully introduced to the island (DOC, 2016).
- On Hauturu (Little Barrier Island), kokako, and tieke (saddleback) were released following cat eradication and have subsequently 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. Whilst the eradication of cats reduced cat predation of adult Cook's petrels, there was an increase in predation of Cook's petrel chicks and eggs by kiore (Polynesia or Pacific rat; 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 the island 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 also successfully introduced during 2009/10 (DOC, 2011).

The removal or exclusion of predators from sensitive wildlife areas ensures the safety of vulnerable native species in that area. Maintaining low numbers of cats or total elimination requires ongoing management at such sites. For example, 479 cats have been removed from the 1700 ha Pukaha/Mt Bruce buffer area in the northern Wairarapa since 2008. With continued intensive management of the site, the total number of cats captured fluctuates between 50 to 90 cats per annum, with a total of 79 captured and humanely killed in 2014/15 (pers comm Simon Kelton, DOC, 2016). Predator exclusion fences such as the fence surrounding Wellington's urban sanctuary Zealandia can be useful in preventing reinvasion of excluded species, however, they are 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, struggle with re-invasion (pers comm Simon Kelton, DOC, 2016).

Urban and suburban habitats may serve as an important habitat for birds and other native animals (Angold et al., 2006; Tratalos et al., 2007; Pennington et al., 2008; Seewagen & Slayton 2008; Longcore et al., 2009). Sites which retain native species (such as bush, wetland or coastal remnants) are often found on urban fringes and in rural locations and may also be near housing and development (Farnworth et al., 2013b). 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 (Farnworth et al., 2013b; Gillies et al., 2003). In areas where vulnerable, native wildlife persist, the presence of cats will likely exacerbate local species decline and, consequently, cat management is necessary in these areas to mitigate these negative effects. If it is determined that cats should be managed to protect native wildlife, then this should be part of a comprehensive predator control programme that targets multiple species of mammalian predators (Farnworth et al., 2013b).

3.3.2. Public education on the negative impacts of cats on biodiversity

A desired outcome of the National Cat Management Strategy Group is that the public understand the potential impacts of cat predation on New Zealand's unique environment.

The impact of feral cats on wildlife is well documented (Clancy et al., 2003; Clarke & Pacin, 2002; Jochle & Jochle, 1993; Patronek, 1998; Woods et al., 2003) and generally accepted by the public, however, the impact of companion cats on wildlife is less well recognised and accepted (Loss et al., 2018). A study in New Zealand found that members of the public were mostly concerned about impacts from feral cats, unmanaged strays, and colony cats on native and non-native wildlife (Walker et al., 2017). While 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 still hunt (Farnworth et al., 2013b). Although companion cats vary in their hunting activity levels and patterns, unrestricted, outdoor access facilitates predation of wildlife (Farnworth et al., 2013b; Lloyd et al., 2013). In addition to the negative impact of predation on wildlife, all cats can transmit the protozoal disease toxoplasmosis to wildlife causing mortality and morbidity in native species (Howe et al., 2014).

Conservation programmes aimed at mitigating companion cat predation of wildlife should include properly designed communication campaigns to give the programmes the best chance at altering cat-owner behaviour. Campaigns should use veterinarians to advocate messages to emphasise the benefits to companion cats of being inside and the positive impact on the owner (MacDonald et al., 2015). In addition, people who perceive higher risk associated with cats being outside have more negative attitudes toward cats being allowed outside (Gramza et al., 2016). For those cat owners who keep their cat outside, a campaign should focus on social norms highlighting the positive actions of others bringing their cats inside (MacDonald et al., 2015).

Diverse stakeholders are needed in a conservation campaign aimed at mitigating companion cat predation of wildlife (for example, government, conservation groups, community groups, veterinarians, and animal welfare organisations). All stakeholders involved should promote accurate and consistent information. 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 is useful for designing education and communication campaigns for cat owners. Fact sheets, social media, online video servers, and interactive forums could be used to communicate the negative impacts of cats on wildlife, mitigation strategies, and the benefits of cat management for the welfare of both cats and wildlife.

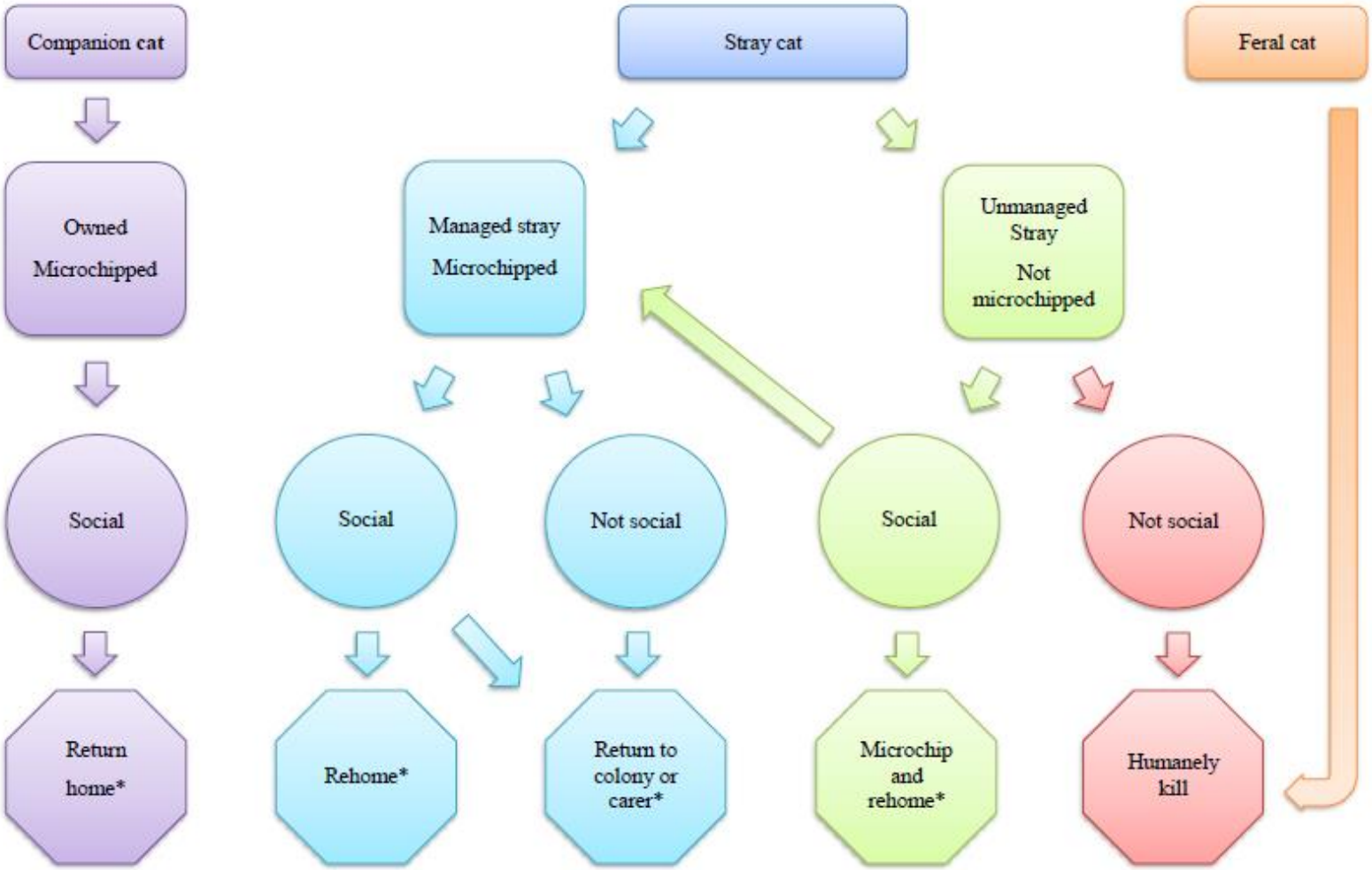
Containment of cats is not yet commonly considered an important component of responsible cat ownership in New Zealand. However, containing cats is an effective strategy to prevent wildlife predation outside of the owner's property. This strategy is further discussed in Section 4.3.2.

4. Approaches to effective and humane cat management

Effective and humane cat management will require an approach that considers the type of cat, the context requiring management, and the people involved. A strategic goal of the National Cat Management Strategy Group is that humane cat management is achieved through a multifaceted and integrated national management plan.

Effective and humane cat management will also require determining the nature of the human-cat relationship to identify the most appropriate cat category. For example, distinguishing 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. Figure 3: Cat management flow chart for cats found free roaming based on proposed cat population categories describes how different approaches to managing free roaming cats that are feral, stray, or companion.

Figure 3: Cat management flow chart for cats found free roaming based on proposed cat population categories



*Indicates all options should require containment in sensitive ecological areas.

4.1. Managing feral cats

An outcome of the National Cat Management Strategy Group is that there are no feral cats in New Zealand. This aligns with the strategic goal to minimise the negative impact of cats on native species in New Zealand.

A feral cat lives in the wild and is self-sustaining, and has none of its needs provided for by humans. Feral cats are found in most terrestrial habitats from sea level to alpine areas, but generally do not live around centres of human habitation (Alberthsen, 2014; Gillies et al., 2005; Webb, 2008). Feral cats are distributed throughout all main islands of New Zealand and are also present on several outlying islands (Parkes et al., 2014). Densities of feral cats vary widely and are largely dependent on the availability of prey (Gillies et al., 2005). Feral cats are generalist predators (Farnworth et al., 2013b) and, while they 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). New Zealand's native species are poorly adapted to respond to predation by cats, as they evolved in the absence of mammalian predators. Consequently, 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:

- Sustained control as part of wider predator control programmes (mustelids, possums, hedgehogs and rodents): this type of control occurs on an annual basis to manage ongoing reinvasion of feral cats living outside the area. Examples of sustained feral cat control operations include kiwi protection in Northland, shore bird protection at breeding sites (e.g. Chatham Islands), and Otago and Grand skink protection (e.g. Otago).
- Specific eradication of feral cats from offshore islands and fenced sanctuaries: examples include the eradication of feral cats from Raoul Island, Rangitoto & Motutapu Islands and Little Barrier Island (Campbell et al., 2011), and from the Zealandia and Maungatautari fenced sanctuaries (Burns et al., 2012).

The techniques used to control feral cats in both situations are similar, but in eradication programmes, the control efforts undertaken are more intensive. Adequate high-level resourcing and financing is required for successful intensive predator management programmes.

4.1.1. Techniques used to control feral cats

Control techniques currently used to for feral cats in New Zealand include poisoning, trapping, and shooting. The relative humaneness, effectiveness, and practicality of all methods of feral cat control should be considered using the most current science and best practices. A brief explanation of techniques is given below but the reader is advised to refer to detailed and up to date information, such as that produced and regularly updated by DOC (DOC 2011 a,b,c; DOC 2016), and PestSmart (Centre for Invasive Species Solutions, 2016), and by the defunct National Pest Control Agencies (NPCA) (National Pest Control Agencies 2015a,b,c,d; see https://www.bionet.nz/library/npca-publications/ for these publications). For all techniques listed below, there is variability within and between methods for how humane they are in controlling feral cat populations; this variability is discussed in each section.

Shooting

Lethally controlling animals by shooting is often considered a relatively more humane practice than other methods of control (Fisher et al., 2015; Littin et al., 2014). A humane shooting is one that should result in the least amount of time between when the animal is shot and until it is insensible and dead (Aebischer et al., 2014; Sharp, 2012b; Stokke et al., 2018). Evaluating the humaneness of shooting in the field is challenging because a shooter must evaluate the time to death from a distance (Hampton et al., 2015), animals vary in size which affects the time to death, and animals flee after being shot (Stokke et al., 2018).

Oftentimes, an animal's flight distance after it has been shot is evaluated as a measure of the accuracy of a shooting (Hampton et al., 2015; Stokke et al., 2018). At least one study has attempted to define the relationship between time of death and flight distance to develop practical guidelines that hunters can use in the field to evaluate if they have humanely killed an animal (Stokke et al., 2018). However, these types of evaluation tools are new, and not well tested in the field, therefore, hunters should rely on current best practices for humanely shooting animals. Targeting an animal's brain, or lungs and heart is considered to bring about the quickest death (Sharp, 2012; Stokke et al., 2018). However, distance between the shooter and animal impacts the probability that an animal is killed when shot (e.g. the closer the distance, the higher probability of a more humane kill; Aebischer et al., 2014; Hampton et al., 2015). Additionally, the more comfortable and less rushed a shooter feels, increases the probability a shot will kill an animal (Aebischer et al., 2014). Best practices for ensuring a more humane shooting include:

- Shooting must be performed by shooters who are trained, experienced, and skilled;

- The animal can clearly be identified and seen before shot;
- The correct firearm, ammunition, range and shot placement is used;
- Any wounded animal is promptly killed (Sharp, 2012); and
- If lactating cats are killed, then efforts should be made to find and humanely kill the surviving offspring (Sharp, 2012).

Due to a feral cat's behaviour to avoid humans, shooting them as a management technique is likely to be more successful when the cat is unaware of the person (Fisher et al., 2015). Shooting feral cats tends to be either opportunistic (during the day) or by spotlighting (at night), and can be useful as a supplementary technique to trapping, primarily to target specific trap-shy animals (Parkes et al., 2014) or to kill cats caught in traps (Fisher et al., 2015; Sharp & Saunders, 2012).

Trapping

Trap types include kill traps and live-capture traps (such as leg-hold and cage traps). Trap use in New Zealand is regulated by the Animal Welfare Act 1999 (New Zealand Government 1999). The Act sets specific requirements for the sale and use of traps and devices. For example, traps intended to live-capture must be inspected every 24 hours and within 12 hours of sunrise each day the traps are set beginning immediately after the day the traps are first set. Traps are not required to be approved under the Animal Welfare Act. A trap can be developed and sold until the point that it is regulated against (if required) – examples of such regulation are the Animal Welfare (Leg-hold Traps) Order 2009 and the Animal Welfare (Glueboard Traps) Order 2009.

Trappers should aim to minimise pain and distress when determining the method of killing cats. The method used should cause irreversible loss of consciousness and death as quickly and painlessly as possible. The choice of method depends on the confidence and skill of the operator, the species and age of the animal, the situation, and if the method is appropriate in the situation (NPCA 2015a). Three types of traps commonly used in New Zealand to manage feral cats include:

- Kill traps which rely on bait to lure a cat into the trap; the trap is triggered when the cat touches the bait. The trap kills a cat without need of human intervention.
- Leg-hold traps which catch a cat by its leg and hold it until the cat is killed by a trap operator. An effective leg-hold trap must catch and restrain a cat while minimising injuries. The use of leg-hold traps is restricted through the Animal Welfare Act 1999 and the Animal Welfare (Leg-hold Traps) Order 2007 (New Zealand Government 2007).

- Cage traps which use bait to lure cats into a device that they cannot escape; the door of the cage closes when a cat touches the bait or steps on a treadle to close the door of the cage. The cat remains in the cage until the trap operator returns and either releases or kills it.

If a person is required to kill animal that has been trapped, methods used should ensure the death is as quick as possible to minimise welfare harms to the animal (AVMA, 2013b; 2019; DOC 2011a, b, 2016; NPCA; 2015). Human safety concerns should also be considered with any method chosen. Killing by a veterinarian may be an option. In all cases, death should be confirmed afterwards and, if there is any doubt that the animal is dead, all methods should be followed by a secondary method to ensure death occurs. Drowning is never an acceptable kill method.

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. NAWAC has developed a guideline for assessing the animal welfare impacts of traps (NAWAC, New Zealand 2011) and manufacturers can opt to have their traps tested for welfare performance. The NPCA provide best practice guidelines for the use of kill traps to help trap operators undertaking feral cat control (NPCA, 2015a) or with leg-hold traps (NPCA, 2015b).

Traps can be assessed for their welfare performance to determine whether they have demonstrated they result in a more humane death (for lethal traps) or capture (for non-lethal traps). NAWAC has created assessment guidelines using criteria that evaluate traps based on time to insensibility and death (lethal traps) and severity of injury (non-lethal traps); traps either pass or fail assessment (NAWAC, 2011). These assessments are available to inform trap operators of which traps will minimise the negative welfare impacts (Bionet, n.d.).

Poisoning

This technique involves placing poison bait on the ground or in a bait station. It can be used for 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). The use of poisons can be effective in reducing feral cat populations, however, the relative humaneness of this technique varies due to the severity and duration of symptoms a cat experiences after ingestion (Littin et al., 2014; MAF, 2010).

4.2. Managing stray cats

Effective cat management should include strategies for domestic cat populations which include stray cats and companion cats. An outcome of the National Cat Management Strategy Group is that there are no stray cats in New Zealand. This aligns with the desired outcome that there is no adverse effect of cats on native species in New Zealand.

Stray cats live in and around human habitation, may or may not be socialised to people and may not have an identifiable owner. A proportion of these cats were likely previously owned (but strayed or were lost) or may have been unwanted kittens of owned or 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; Alberthsen 2014; Finkler et al., 2012). Stray cats make up a significant proportion of unwanted cats in urban areas and entering animal shelters (Alberthsen, 2014; Marston et al., 2009; Zito, 2015).

There are limited methods to reduce stray cat populations:

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

Limiting access to food resources (intentionally provided food and unintentionally provided food such as rubbish) will also assist in the control of stray cat populations.

4.2.1. Limiting flow of cats into the stray cat population

Significantly reducing or eliminating the contribution of feral cats to the stray cat population can likely only be achieved through greatly reducing the numbers of feral cats or eliminating feral cats entirely. Control methods and management strategies for feral cats are described in detail elsewhere (Biosecurity Tasmania 2016; Commonwealth of Australia 2015 a,b; Denny et al., 2010; Sharp et al., 2012;) but a summary and assessment are provided for this report in the previous section (Control of feral cats).

Limiting the flow of companion cats into the stray cat population involves preventing reproduction, supporting long-term responsible care of cats, reducing cat abandonment, and preventing cats roaming and subsequently straying and becoming lost.

4.2.2. Reducing the number of stray cats

Permanent removal of cats from the stray cat population

Adoption

An adoption programme for stray cats involves removing the cats from the stray population by either trapping them (trap and remove) or capturing them without a trap (usually for more social cats) and then finding permanent homes for them through an adoption programme. However, there is a limited capacity to absorb stray cats into the companion cat population because of oversupply of surrendered companion cats needing adoption and easily obtained cheap or free cats from other sources. Stray cat adoption is compounded by the higher cost of buying desexed kittens/cats while undesexed kittens can be obtained very cheaply and easily. Animal shelters generally desex cats prior to rehoming as a matter of policy to limit cat numbers but some private rescue groups, and many council pounds, rehome un-desexed cats, which can contribute to cat overpopulation.

Increased adoptions of cats, including stray cats, can be achieved 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; Lord et al., 2014; Marsh, 2010; Zito et al., 2015a).

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

Despite the range of strategies used by welfare organisations to increase adoptions of cats, the available information shows large numbers of cats that are categorised as 'stray' are euthanased in shelters. This indicates that strategies to increase adoption of semi-owned and unowned cats alone are not enough to have a significant positive impact on the outcome for many stray cats. However, widespread availability of low-cost adoption of desexed kittens/cats from all welfare/rescue groups could help address problems associated with the wide availability of undesexed kittens that can be obtained very cheaply and easily. Offering low cost adoption of desexed kittens/cats from all welfare/rescue groups would mean a more level playing field between welfare/rescue groups and other sources of kittens/cats and would result in fewer intact cats and, consequently, fewer unplanned litters of kittens.

Cat sanctuaries

Cat sanctuaries provide long term homes for stray cats in a confined area. These facilities are expensive to build and maintain (Lloyd & Hernandez, 2012) and tend to fill up very quickly; they can only care for a relatively small number of animals for an extensive period. Cat sanctuaries can provide a high level of care to cats and a valuable service to the community, however, many close each year due to insufficient funds, disease outbreaks, or an inability to properly care for the cats in the existing confined space.

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 psychological stress to the animals and put them at high risk of disease.

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

Trapping programmes

There are two potential outcomes for cats that are trapped and permanently removed from the population: a live outcome where cats are rehomed through adoption ('trap and remove' in this document; see above), or a lethal outcome where trapped cats are killed (called 'trap and kill' in this document).

Trapping and subsequent humane killing is generally considered to be a relatively humane method of controlling cat populations compared to other lethal methods. However, the ethics of this approach are questionable and controversial. Despite being considered more humane than other methods of killing cats such as poisoning, the use of humane traps cannot fully alleviate the significant welfare risks associated with trapping cats. Welfare outcomes are affected by a range of factors including the type of trap used, positioning of a trap with regard to environmental exposure, frequency of checking, potential for injury during escape attempts and distress caused by containment (Robertson, 2007). Any trapping should be undertaken in compliance with an agreed code of practice and standard operating procedures. Trap and kill also has minimal impact on non-target species and pose less danger to humans and pets than other lethal methods (Palmer, 2014).

Domestic cat-trapping programmes should comply with a welfare code of practice and procedures to ensure humane measures are undertaken. The NPCA (2015c) provide guidelines for monitoring and

control of feral and stray cat trapping. However, these are best practice guidelines and are not mandatory or enforceable. The NPCA (2015d) provide a user guide to legislation relating to terrestrial pest control to help contractors and control agency staff understand their statutory responsibilities. In contrast to New Zealand, some councils in Australia require trapping be conducted by authorised officers who set up, monitor, and remove trapped cats (usually individual cats that are causing a nuisance) to a local cat management facility (RSPCA Australia 2017). There are benefits in adopting a similar approach to achieve consistency and minimise welfare risks associated with trapping which may help gain greater community acceptance for trapping programmes.

Many approaches to trap and kill result in minimal overall reduction in cat numbers, because a small percentage of cats are affected by these programmes, and the limited capacity of shelters and pounds to remove unwanted cats (Hatley, 2003; Levy, 2012; Levy et al., 2013). Low-level culling of feral cats in Australia led to an increase in cat numbers (Lazenby et al., 2015). Similarly, traditional trap and kill efforts (undertaken by animal control agencies or through animal welfare organisations, when members of the public trap and bring unowned cats into animal shelters) are effectively low-level culling, and unlikely to result in significant long-term improvement in wildlife predation, spread of disease, public health, or cat welfare. Computer-based modelling consistently predicts failure of lethal control methods to eliminate cat populations unless high removal rates are achieved for long periods; these conditions are considered unrealistic in urban areas (Andersen et al., 2004; Budke & Slater 2009; Foley et al., 2005; McCarthy et al., 2013; Schmidt et al., 2009). One simulation model estimated that over 82% of cats in a population of 200 cats would need to be removed over 4,000 days to eliminate a population (McCarthy et al., 2013). Other estimates for effective removal rates range from over 50% of the female population (Andersen et al., 2004), or 55-60% in the absence of immigration (Nutter, 2005). Models predict that colonies can be kept small by very high-level culling every one or two years, but that this will not lead to long-term reduction in the numbers of cats as colonies will re-establish due to immigration (Nutter, 2005).

Eliminating the source of food on which cats rely is an important component for the success of a lethal cat removal programme. If this is not done, then immigration into the area for a source of food reduces the likelihood that the programme will be successful (Winter, 2004).

Some trapping programmes include rehoming of suitable cats on a small-scale (e.g. individual trapping of nuisance cats), but this may be problematic on a large-scale due to extra resources required, unless local community support was available (RSPCA Australia, 2017).

Successful trap and kill programmes can be difficult to implement and involve significant investments of resources. The effort required to eradicate cats from geographically isolated islands with intensive lethal control methods including trapping, shooting and poisoning is high. The mean effort to eradicate feral cats from six large islands was 543 ± 341 person-days per 1000 ha of island over 5.2 ± 1.6 years (Parkes et al., 2014).

Trapping activities in peri-urban and urban areas should consider the difficulty in implementing a programme that can remove sufficient numbers of cats, and the evidence that less than optimum removal rates may actually increase cat numbers (Lazenby et al., 2015). Eradication methods should be continuously applied due to immigration and introduction of cats into the population through abandonment and new litters from remaining cats (Hatley, 2015).

Controlling reproduction of stray cats

Desexing options

Surgical ovariohysterectomy (or ovariectomy) and castration remain the mainstay and gold standard for inducing permanent sterility in cats to manage cat populations and provide other health and behavioural benefits (Murray et al., 2008). Vasectomy/hysterectomy has been assessed as a theoretical alternative to castration/ovariohysterectomy (McCarthy et al., 2013), but there is not yet adequate field evidence to support the use of vasectomy/hysterectomy alone. There are cat welfare concerns, as cats that have undergone vasectomy/hysterectomy are still hormonally intact and more likely to fight and roam resulting in injury, disappearance, or death. Intact cats are also more prone to display the nuisance behaviours that can result in cat impoundment and euthanasia (Nutter, 2005).

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 management. 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).

Recently geographic information systems (GIS) have been used to identify specific areas that disproportionately contribute kittens to shelter intakes (Reading et al., 2014), areas of high concentrations of stray cats (Aguilar et al., 2012), and unmanaged cat colonies (Aguilar et al., 2013). Use of GIS can help focus targeted desexing and education campaigns (Aguilar et al., 2012; Reading et al., 2014) and used to assess the efficacy of implemented programmes (Reading et al., 2014).

Trap neuter and return (TNR) programmes

Trap neuter return (TNR) programmes involve trapping, desexing, vaccinating stray cats and then returning them to where they live. As part of TNR programmes young kittens and friendly adults are often removed and placed for adoption if homes are available. TNR is a non-lethal option for stray cats that are otherwise usually killed because they are poorly socialised to people or there are not enough homes available to rehome them. TNR is a humane method for cat population management by many organisations (AVMA, 2017; BC SPCA, 2017; Levy et al., 2003a; RSPCA UK 2014).

Indicators used to assess the success of TNR programmes include:

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

Using these measures, there are variable reports of the success of TNR as a cat management tool (Jones & Downs, 2011; Kilgour et al., 2016; Levy et al., 2014; Slater 2015). Some studied cat colonies managed with TNR have declined in numbers (Levy et al., 2003a; Natoli et al., 2006), but other studies report an increase in cat numbers over time (Castillo, 2003; Gunther et al., 2011); an increase in population is particularly evident when there are high rates of immigration into the colony from strays or abandoned owned cats (McCarthy et al., 2013; Miller et al., 2014, Natoli et al., 2006). In many places, legislation is already in place to discourage abandonment, but enforcement is difficult to achieve (Robertson, 2007).

Population modelling suggests that 75-80% of adult breeding cats in a colony need to be desexed to result in a decrease in the cat population (Foley et al., 2005; McCarthy et al., 2013; Miller et al., 2014). However, the percentage of cats that need to be desexed to result in population reduction will depend on many factors including the mean lifespan of cats in the colony, migration rates, population density, urbanisation, climate, availability of resources, and other environmental factors (Boone, 2015; Kilgour et al., 2016; Miller et al., 2014; Schmidt et al., 2009).

The majority of published studies on TNR are from the USA (Centonze et al., 2002; Levy et al., 2003a; Levy et al., 2004; Stoskopf et al., 2004; Weiss et al., 2013) and most are from overseas (Finkler et al., 2011a; Kilgour et al., 2016; Natoli et al., 2006; Tan et al., 2017).

An increasing body of evidence suggests that long-term TNR programmes can effectively reduce free-roaming cat populations, especially those programmes that include an adoption programme, monitoring, and desexing of new cats arriving into the colony (Hughes & Slater 2002; Kilgour et al., 2016; Levy et al., 2003a; Stoskopf & Nutter, 2004).

Table 4: Review of TNR studies

Study	Location	Methodology	Time	Effect
Actual population decreases				
Hughes & Slater, 2002	USA	TNR university campus, concurrent adoption for cats and kittens	2 years	Decrease in in number of cats and kitten intake and complaints to university pest services.
Levy et al., 2003a	USA	TNR on university campus, concurrent adoption programme	11 years	66% decrease in cat population; no kittens born after 4th year; 47% of cats adopted. Some immigration of cats into the colony (strays and abandoned cats) occurred, but the new cats were desexed or adopted before they could reproduce.
Nutter, 2005; Stoskopf & Nutter, 2004	USA	TNR and control colonies with no desexing	2 years	All TNR colonies stabilised; mean population decline 36% in TNR colonies; 47% mean increase in control colonies. Seven year follow up found TNR colonies stabilised and were declining in size while non-TNR control colonies increased in size and had high turnover of cats. One TNR colonies became extinct after 31 months, and the other colonies reduced to five or less cats. Both TNR and control colonies had consistent low-level immigration.
Natoli et al., 2006	Italy	Long-term TNR; 86% of original cats desexed	6 years	Overall decrease from 1655 to 1293 cats; 55 colonies had decrease in colony size, 20 remained stable in size, 28 had increase in size. The overall number of cats/colonies decreased over the study period from a median of 12 (range 4-50) to a median of 10 (range 2-40). TNR colonies controlled over a longer period (three, four, five or six years) decreased in size (by 16, 29, 28, and 32% respectively) whereas those TNR colonies controlled for two years or less increased in size (13%). The mixed programme success was likely due to constant abandonment of cats into the colonies keeping the numbers high.

Levy et al., 2014	USA	TNR, 54% of population desexed; concurrent adoption programme	2 years	Per capita shelter intake was 3.5-fold higher and euthanasia was 17.5-fold higher in the non-target area. Shelter cat intake from the target area decreased by 66% compared to a decrease of 12% in the non-target area. Only 0.5% of cats admitted to the TNR clinic in the study were euthanased due to health issues and only 0.3% cats died peri-operatively. Study also included a concurrent nuisance counselling programme for residents.
Johnson & Cicirelli, 2014	USA	TNR; 10,080 cats desexed	4 years	Number of cats and kittens impounded by city decreased by 29.1%, and euthanasia in the animal shelter decreased from 47% to 23%. Euthanasia of cats in the shelter due to upper respiratory disease decreased by 99% and the number of dead cats collected from the streets decreased by 20%.
Tan et al., 2017	Australia	Questionnaire on TNR activities	2.2 years	Cats in TNR programmes were fed once or twice daily and provided with some prophylactic health care. 69% of the cats in the colonies were desexed, and the median colony size decreased from 11.5 cats to 6.5 cats. In many Australian jurisdictions, TNR is illegal, which may have contributed to the small study sample (53 participants); results should be interpreted with caution.
Swarbrick & Rand, 2018	Australia	TNR university campus, adoption/rehoming	9 years	78% reduction of campus cat population where TNR activities took place; 30% rehomed or returned to owner, 30% dead of euthanased, 29% disappeared.
Kreisler et al., 2019	USA	TNR, adoption, euthanasia, vaccination, deworming	23 years	55% decrease in the free-roaming cat population; 80% decrease in number of visits to the colony veterinary clinic; increase in average age of active cat population from 16.6 months to 43.8 months; retrovirus prevalence decreased by .32% per year.
Zito et al., 2019	Manurewa, Auckland	TTNR pilot; 84% desexed and returned, 5% euthanased for health reasons, and 10% rehomed.	1 year	At local shelter near project site: 39% decrease in incoming adult strays; 17% decrease in incoming juvenile strays; 34% decrease in underage euthanasia; 7% decrease in unsocialised stray cats sterilised and returned; 47% decrease in unsocialised adult and juvenile stray cat euthanasia.

Actual population increases				
Neville, 1989	UK	TNR	4 years	Population fluctuated between 19 and 17, but no declines. There is a lack of details on this study, therefore, results should be interpreted with caution.
Castillo & Clarke, 2003	Florida	TNR	1 year	Population increased for colonies due to immigration of new cats dumped at the highly visible colony sites.
Castillo & Clarke, 2003	Israel	TNR and control colonies compared for immigration, emigration, and kitten survival.	1 year	Number of adults increased in TNR colony due to higher immigration and lower emigration than control; kitten survival increased in TNR colony. Number of adults in control colony decreased. Immigrant cats entering the TNR cat colonies were not desexed during the study period which may have contributed to the increase in colony size.
Simulated population changes				
Foley et al., 2005	USA	Population modelling	10 years; 7 years	Inconsistent reduction in per capita growth, the population multiplier, or the proportion of female cats that were pregnant.
Nutter, 2005	N/A	Population modelling of TNR	12.8 years	Elimination of a cat population with annual neutering rate of 75-85% per.
Andersen et al., 2004	N/A	Population modelling of TNR		Effective control of cat population with 75% desexing of female cats.
Budke & Slater, 2009	N/A	Population modelling of non-surgical compared to surgical contraception.	3 year	Stabilisation of the cat population size would require surgical desexing of over 51% of both adult and juvenile female cats annually. Once the population stabilises, approximately 14% of the total female population would require desexing annually or having 71% of the total female population and 81% of adult female population sterilised at all times to maintain a stable population.

Schmidt et al., 2009		Population modelling of TNR using different capture and immigration rates	25 years	With no immigration into the colony, the cat population size decreased 46%. Similar effect on population modelling occurred with lethal control programme.
McCarthy et al., 2013		Population modelling of lethal control, TNR, and 'trap-vasectomy-hysterectomy-return' (TVHR)		TVHR was superior to both lethal control and TNR in reducing cat population based on a decrease in feral cat populations at lower capture rates compared to lethal control or TNR. Cat days in the environment (one way of assessing possible cat impact on wildlife) were also predicted to decrease more rapidly with increased capture rates for TVHR).
Miller et al., 2014b		Population modelling of TNR compared to 'trap and kill'.		TNR can stabilise and reduce cat populations and be effective compared to the traditional 'trap and kill'. The model assumed that trapping efficiencies for 'trap and remove' and TNR were identical potentially understating the effectiveness of TNR.
Dias et al., 2017	Brazil	Population modelling of current sterilisation rate, 100% annual sterilisation of intact females, annual removal of cats to mainland, and latter two strategies combined; interviews with island residents on behaviours; estimations of free-roaming cat population size and density	50 years	Total population of cats on island was estimated at 1287; modelling the current sterilisation rate led to a 34.3% increase in population after 50 years; modelling the 100% sterilisation rate of intact females led to a 31.2% increase in population; modelling the removal of cats required an annual removal rate of 11.7% to stabilise the population; modelling the combined annual removal and 100% sterilisation of females required a removal rate of 9.2% to stabilise the population.

Health risks to cats and TNR

In addition to concerns about the efficacy of TNR, other concerns relate to the health and welfare of cats that are desexed and returned to colonies. Anthropogenic pressures on the health, behaviour, and lifespan of the cats concern many cat welfare advocates (Finkler et al., 2011b; Jessup, 2004; Levy et al., 2003; McManus et al., 2014). Some evidence indicates there are higher rates of kitten morbidity and mortality in high-density free-roaming cat populations have been found (Izawa & Ono 1986; Gunther & Terkel 2002; Gunther et al., 2011; Mirmovitch, 1995, Nutter et al., 2004). The two most common outcomes for colony cats are disappearance from the colony or death, most often due to motor vehicle trauma (Nutter, 2005).

Another concern about the welfare of colony cats is they are at high risk of infectious disease and may pass infectious diseases to the owned population of cats. Cat populations are likely to be contiguous groups where individuals may transition from one group to another (Kikillus et al., 2017). Companion cats that are allowed to roam may be at an increased risk of exposure to FIV through their interactions with stay and feral cats (Tran et al., 2019). Many studies indicate the baseline health status and infection rate of FIV (Feline Immunodeficiency Virus), FeLV (Feline Leukaemia Virus), *Cryptosporidium spp*., *Giardia spp*., and *Toxocara cati* of colony cats in many studies are similar to those of both feral and owned cats (Lee et al., 2002; Levy & Crawford 2004; Levy et al., 2006; Luria et al., 2004; Nutter, 2005;). However, there is evidence that stray cats are at greater risk of infectious disease including:

- A higher incidence of FIV in feral cats compared to companion cats (Norris et al., 2007; Nutter, 2004).
- A recent New Zealand study reported the seroprevalence for FIV was 14% among cats entering an animal shelter in Auckland, and the prevalence of FeLV antigen-positive cats was 1% (Gates et al., 2017).
- Older studies in New Zealand, reported a prevalence of FIV infection from 6.8% in healthy cats and 27% in sick cats, and the prevalence FeLV infection in cattery populations between 4.4 and 11% (Jones & Lee, 1981; Jones et al., 1995; Swinney et al., 1989).
- Feral cats had higher seroprevalence of *Bartonella henselae* and *Toxoplasma gondii* compared to owned cats in some studies, likely related to greater exposure of feral cats to the vectors or hosts of these organisms (Dubey, 1973; Nutter, 2005).
- One study of urban 'feral' cats in Brazil found fleas were present on 28% of the cats, and *Haemobartonella felis,* piroplasmas (*Cytauxzoon* spp. or *Babesia* spp.) and FIV infected 38%, 47% and 21% of the cats respectively. No cat was found to be infected by *Dirofilaria immitis* or FeLV (Mendes-de-Almeida at al., 2004).

Infectious conditions of cats will vary in different countries and locations which affects the welfare of those cats; the local conditions require careful evaluation if a TNR programme is to be considered for cat management. The accumulation in the environment and effect of ectoparasites and other pathogens carried by cats and other species, must also be considered (Longcore et al., 2009); these include fleas, *Haemobartonella felis, Ricksettia* spp, *Coxiella* spp (Akucewich et al., 2002; Chomel et al., 1996; Shawet al., 200), hookworms, roundworms (Anderson et al., 2003; Dubn´a et al., 2007; Uga et al., 1996) and *Toxoplasma gondii* (Dubey, 1973).

The capture, transportation, and surgery of cats associated with TNR has the potential to cause distress to cats and, additionally, some cats will be pregnant when desexed. However, it is possible to minimise distress during the TNR procedure and to safely desex pregnant females (Association of Shelter Veterinarians' Veterinary Task Force to Advance Spay-Neuter, 2016; Levy et al., 2002).

Gunther et al. (2015) raised concerns about the welfare of free-roaming cats living in highly developed and crowded cities in Israel based on the high number of public complaints related to cat injuries and distress. Higher incidences of welfare problems were associated with higher levels of breeding and numbers of kittens. The authors suggested that controlling the reproduction of the cats, thereby reducing the number of births (and associated parturition dangers) and number of kittens (as kittens tend to suffer high mortality), could have the potential to reduce the welfare concerns associated with free-roaming cats (Gunther et al., 2015). The location of the cat colony and its proximity to areas that are high risk environments for cats (such as busy roads) had the potential to affect the morbidity, mortality and quality of life of the cats in the colony. Therefore, in the interests of animal welfare, the location of the colony should be considered when assessing its suitability for a TNR programme.

A study in New Zealand found stray cats in managed cat colonies had good welfare, of a comparative level to owned cats, and unmanaged stray cats' quality of life scores were fair-to-good (Zito et al., 2019). In a number of studied TNR colonies, only a small proportion of the cats trapped needed to be euthanased due to debilitating conditions (Wallace & Levy, 2006). In addition, desexed free-roaming female cats have been found to have reduced cortisol levels and aggression compared to intact free-roaming female domestic cats (Finkler & Terkel, 2010). This suggests that the welfare of the individual cat is improved by desexing, likely due to reduced social and reproductive pressures; evidenced by lower aggression of the desexed females.

Other evidence has shown that desexed cats in colonies lived significantly longer than their non-desexed counterparts (Nutter, 2005), and the morbidity rate for cats in colonies significantly decreased with increased desexing rate (Gunther et al., 2016). Since the welfare of free-roaming cats

has been associated with the amount of care that is provided to them (Slater, 2007), the care provided to the cats in a cat colony likely affects animal welfare-related outcomes (Gunther et al., 2015).

Cost is another frequently cited concern about TNR programmes. These programmes require substantial investments of both time and money, but these costs diminish overtime as the proportion of desexed cats in the colony increases and fewer cats require desexing (usually only new immigrant arrivals; Hughes & Slater, 2002). Although no studies were found that compared the cost of TNR to lethal management programmes, both would require significant investment if properly implemented.

TNR programmes may be a useful cat management tool in urban areas where time and resources will allow the long-term reduction and eventual extinction of cat colonies (Stoskopf & Nutter 2004). The evidence in the literature suggests factors that contribute to the success of a TNR programme, in addition to high levels of desexing in the targeted area include:

1. **Immigration of cats is prevented or minimised**

   Immigration into the colony should be prevented or reduced to control cat numbers. Cats that join the colony should be desexed or adopted before they can reproduce (Guttilla & Stapp, 2010; Paterson, 2014). Immigration can be minimised by implementing public education programmes aimed at improving responsible cat ownership and implementing TNR programmes where geographical boundaries prevent introduction of cats into the programme area.

2. **The cat population is continually monitored**

   Cat numbers and arrival of new cats into colonies should be monitored so that new arrivals can be promptly adopted or desexed (Gunther et al., 2016).

3. **Researchers are active participants**

   Dedicated teams who implement the TNR programme with strict attention to detail are important for TNR success. Successful TNR programmes have been implemented with participation of the research team (Hughes & Slater, 2002; Levy et al., 2003).

4. **Cat adoption is an integral part of the programme**

   Adoption is an important part of successful TNR programmes (Levy et al., 2003; Stull, 2007). Combining adoption with TNR can offset immigration into colonies and help reach the removal threshold necessary for population decline (Andersen et al., 2004).

5. Carers/semi-owners are involved

Involving cat semi-owners/cat carers in a TNR plan can provide support and access to cat colonies, help to maintain positive public perceptions of a programme, and encourage community support and engagement (Ash & Adams 2003; Centonze & Levy 2002; Haspel & Calhoon, 1990; Kilgour et al., 2017; Zito et al., 2015c).

6. The cat colony is well-managed, and the programme is adequately resourced over the long-term

Successful cat colony management requires good communication and trust building with all stakeholders, and the engagement and involvement of all participants (Gunther et al., 2016; Kilgour et al., 2017). TNR programmes require long-term commitment and resourcing to achieve their aims (Kilgour et al., 2017; Levy et al., 2003). Colony selection for TNR should assess the risk to cat welfare and communities related to infectious disease and environments.

7. Stakeholders understand the programme and its aims

Successful TNR includes the public having access to information about the impacts of cats on wildlife and human health, the need for TNR, and how TNR works.

8. Programme outcomes are properly evaluated and reported

Assessment of a TNR programme should include accurate documentation of the targeted cat population prior to management efforts and throughout the study (Kilgour et al., 2017).

9. The programme does not conflict with wildlife management priorities

TNR programmes are unsuitable in locations adjacent to sensitive wildlife areas where wildlife protection is a priority (Guttilla & Stapp, 2010). Although TNR can lead to stabilisation and extinction of a cat colony over time, there is considerable variation in how long it may take due to multiple factors (Stoskopf & Nutter, 2004; see Table 4). Therefore, TNR is unsuitable when acute issues (e.g. significant cat impacts on threatened or endangered species) require rapid extinction of a cat colony (Stoskopf & Nutter, 2004), and there are other humane options.

TNR can improve cat heath and reduce cat-related conflict with the local community by reducing cat nuisance behaviours (e.g. aggression) in desexed animals (Finkler & Terkel, 2010; Gunther et al., 2016; Kilgour et al., 2016). Maintaining a small number of desexed cats in a community can be beneficial for

controlling rodents (Kilgour et al., 2016), as rats and mice represent a high proportion of urban cat prey in some countries (Barratt, 1997; Tschanz et al., 2010).

If TNR is considered for managing stray cats, managed and targeted TNR (mtTNR) should be used. The mtTNR programme is designed to systematically and comprehensively desex the majority of stray cats in the targeted area. Public education and stakeholder involvement are actively solicited as a critical component of the programme. Specific conditions must be met for the use of mtTNR including:

- Best practice mtTNR guidelines are followed.
- Desexed cats are ear tipped and identified with a microchip and (where possible and practical) external identification.
- Cats are returned to a person or group who takes responsibility for their care.
- Cats are registered on a stray cat register.
- mtTNR is not used in sensitive wildlife area, or exclusion and buffer zones around such areas.

4.2.3. Education programmes and support for stray cat carers

Stray cat carers are key stakeholders in the cat overpopulation problem (Alberthsen, 2014; Toukhsati et al., 2007; Zito, 2015, Zito et al., 2015b). Feeding of stray cats by human carers or semi-owners is a significant factor influencing stray cat numbers entering animal shelters and, in the community (Zito, 2015). Therefore, semi-owner engagement in potential solutions is important for successful management of cat populations. Education campaigns designed to acknowledge and connect with the perceptions and emotions of cat semi-owners are likely more effective at redirecting this behaviour than eliminating it (Zito, 2015a). Cat semi-owners are likely more amenable to non-lethal than lethal cat management strategies, since they are attached to the cats they care for and feel protective of them (Centonze et al., 2002; Zasloff et al., 1998; Zito, 2015a, c). Consequently, efforts to curtail the contribution of semi-ownership to unwanted cat numbers should concentrate on encouraging and facilitating more responsible caretaking, in particular, desexing, regardless of whether the semi-owner accepts ownership for the cat (Finkler et al., 2011a, b; Toukhsati et al., 2007; 2012a).

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 individual cats are desexed that are not part of a colony but rather are cared for by specific people who consent to having the cat desexed and returned to them (a semi-owner).

Desexing initiatives for stray cats should be priced for anyone to access to these services to encourage stray cat carers to desex the cats in their care. These programmes can be (and are already on a limited

basis) run by animal shelters, animal welfare organisations, local government, and private veterinarians. The success of such programmes is likely increased by implementing education campaigns targeted at stray cat carers (or semi-owners), 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).

Acceptance of ownership is not necessary to achieve the goal of reducing the contribution of semi-owned cats to unwanted cat numbers and improving cat welfare. The goal is not to encourage cat semi-ownership but rather, where people are already feeding stray cats, provide support (particularly to desex their cats) in the interests of improving cat welfare, preventing the birth of unwanted cats, and reducing cat numbers over time, as long as certain conditions are met.

4.3. Managing companion (owned) cats

Responsible ownership of companion cats is an important component of managing the cat meta-population, ensuring cat welfare, and contributing to a harmonious relationship between animals, the community and the environment through reduced wildlife predation. An outcome of the National Cat Management Strategy Group is that all owned cats are responsibly owned, including desexed, microchipped, and contained at home.

4.3.1. Responsible cat ownership

Responsible cat ownership encompasses a range of pre-acquisition and maintenance factors as discussed in section 2.2 of this report. Companion cat owners sit along an ownership spectrum from casual to responsible with 'casual cat owners' engaging in fewer management practices than 'responsible owners' (Centonze et al., 2002; Marston, 2009; Toukhsati et al., 2007). Effective companion cat management should include strategies that promote and facilitate components of responsible cat ownership which positively impact upon the cat meta-population including:

- Reduction in surrender and abandonment of companion cats (previously discussed in section 2.2.1)
- Limits on number of cats owned (see section 5.2.1)
- Containment (also termed confinement)
- Identification (e.g. microchipping)

- Registration (where required)
- Desexing

4.3.2. Cat containment

Containment of companion cats is important for a number of reasons including preventing cats from roaming, preventing unwanted reproduction, preventing wildlife predation, minimising community nuisance, minimising disease transmission, and reducing the risk to the cat of being injured or killed from traffic, fighting, dogs or human cruelty (Lloyd et al., 2013; Toukhsati et al., 2012b). Keeping cats fully contained (inside the house +/- a fully contained outdoor enclosure) is common in the United States and increasing in Australia (e.g. Elliot et al., 2019 report 46.5% of owners engage 24 hr containment), yet in New Zealand only 7.8% of cats are estimated to be confined indoors (Gates et al., 2019). Community acceptance for cat containment varies; some studies show broad support (Elliot et al., 2019; Lloyd & Hernandez, 2012; Sherwood et al., 2019; Toukhsati et al., 2012b) and others a lack of support, or even opposition (Sharp et al., 2012; Travaglia & Miller, 2018). New Zealand studies report 41% - 48% of interviewees support confinement to the owner's property at certain times; night-time confinement being the most supported, and non-cat owners show higher support than owners (Gates et al., 2019; Linklater et al., 2019; Woolley and Hartley, 2019; Walker et al., 2017). Containment techniques likely to result in higher effectiveness for conservation (e.g., 24-hr cat confinement) are less likely to be adopted by cat owners and are not often supported by veterinarians (Linklater et al 2019).

Targeted information that can increase the understanding of risk associated with cats being outside, may prove more useful in the adoption of cat containment to mitigate risk (Gramza et al., 2016; McLeod et al., 2017). In a recent New Zealand study, suburban owned cats fitted with individual cameras were found to engage in a high frequency of potentially life threatening behaviours including road crossings, encounters with other cats, consumption of potentially toxic substances, and exploration of storm drain systems and house roofs (Bruce et al., 2019). Similar risk behaviours have been documented for owned cats in the United States (Lloyd et al. 2013). Cats are observed to have larger home ranges at night than during the day (Metsers et al., 2010) and therefore may be more at risk if allowed to roam at night. GPS tracking of cats reveals they often travel much greater distances than owners are aware, and owners place increased importance on day-time confinement after learning the extent of travel (Roetman et al., 2018).

Restricting roaming behaviour through containment will also serve the dual purpose of protecting wildlife, however campaigns designed to encourage containment will be more successful if they concentrate on the welfare benefits to cats, or a combination of welfare benefits for cats and wildlife, rather than solely concentrating on the benefits in terms of wildlife protection (Wooley and Hartley, 2019; Hall et al., 2016; Toukhsati et al., 2012b; McLeod et al., 2015a; McLeod et al., 2017). Cat containment (indoors or to the owner's property), when proposed as a solution to the issue of cat predation on wildlife, received low support (25%) from New Zealand cat owners (Wooley and Hartley, 2019) reinforcing the need to concentrate on how containment benefits individual cat welfare Messaging framed through a 'cat benefit' lens elicited changes in Australian cat owner's containment intentions and adoption of behaviour (McLeod et al., 2017).

Cats hunt mostly during the day (Metsers et al., 2010) and may kill wildlife and mate within the confines of their owner's property, consequently the effects of containment will be limited unless cats are required to be contained indoors or within an enclosure/on a leash when outside 24 hours/day. Furthermore, compliance with regulations relating to the confinement of cats at night is largely unknown although it has been reported to vary between 32–80% in Australia (Toukhsati et al., 2012) making assessment of its effectiveness difficult.

Cat containment may result in negative health and welfare issues for cats, e.g. obesity, stress and stress-related health and behavioural issues (Herron & Buffington, 2010; Zoran & Buffington, 2011). Cat owners should provide their contained cats with an appropriate enriched environment and diet to mitigate potential problems and ensure their cats well-being (Ellis, 2009; Herron & Buffington, 2010). Owners also perceive a number of barriers to containment including: confidence that they can effectively contain their cat; relevant knowledge and skills to keep their cat contained; belief that containment will diminish their cat's quality of life; belief the cats' physical and psychological needs cannot be met in a contained space; belief that it is unethical to keep a cat contained; and perceived financial capacity to implement containment, i.e. for outdoor containment strategies (Crowley et al., 2019; Wooley and Hartley 2019; et al., 2015; Mcleod et al., 2017). To overcome these barriers and ensure well-being in areas where cat containment regulations are proposed, cat owners should be aware of how to provide a suitable and enriched environment for their cats and the benefits of this for cat welfare (McLeod et al., 2017; Lloyd & Hernandez, 2012; Toukhsati et al., 2012b).Transitioning cats from an outdoor lifestyle to an indoor lifestyle can be challenging, whereas anecdotally cats that are habituated to an indoor or contained lifestyle from an early age seem to cope better. More evidence to help determine how best to help cats and cat owners transition to and manage containment and ensure good cat welfare would be of great benefit.

Where owners are unable to confine their cats, promotion of effective methods to reduce predation is of benefit. Bells on collars are relatively ineffective in preventing overall predation (Calver et al., 2011; Crowley et al., 2019). However, a specially designed 'cat bib' does reduce predation, and cats tolerate this device well (Calver et al., 2007). A colourful, cat-specific anti-predation collar cover worn around the neck on a break-away collar (Birds Be Safe), has also been demonstrated to reduce predation (Hall et al., 2015).

There are a few areas in Australia where full or partial containment of cats is required. In these areas, cats are often required to be on a leash or within an enclosure. For example, in the Australian Capital Territory (ACT) a 24-hour containment regulation is in place across sixteen suburbs (Domestic Animals Act, Section 81). Anecdotally, no cat attacks on wildlife have been reported to the RSPCA ACT since the enactment of this regulation (RSPCA, 2018). Rates or compliance with containment regulations in Australia is not known.

Additionally, the requirement to contain cats within the confines of their owner's property may not prevent cats from killing wildlife on the property and presents a limitation to the effectiveness of cat containment. Other issues that are associated with cat containment regulations include:

- potential negative impacts of containment on cat health and behaviour
- inadvertent trapping of owned cats that are not contained (or have escaped)
- possible increased owned cat surrender or abandonment due to the imposition of an added responsibility of cat ownership

4.3.3. Identification

Identification is a fundamental tool of animal management at a community level. Mandatory identification generally refers to a requirement to have cats microchipped from a specific age, or if the cat is being transferred from one owner to another. A microchip is a small glass or surgical acrylic cylinder, about the size of a grain of rice, with an electronic chip contained inside. This chip carries a 15-digit number. Microchips are designed to generate electricity in the antenna by electromagnetic induction using a low-radio-frequency-signal provided by the microchip scanner (Saito et al., 2010; Lord et al., 2010). This is known as Radio Frequency Identification (RFID) and when the microchip is activated by the scanner it transmits the unique, pre-programmed, 15-digit identification number. Microchipping is the preferred method of identification because the chip cannot be removed, dislodged or lost without surgical intervention (Goodwin et al., 2018).

The benefits of effective identification (microchipping) include:

- If a cat is lost, the owner can be identified and contacted so the cat can be reclaimed.
- If an owned cat is found injured, the owner can be identified so that prompt and appropriate decisions can be made about the cat's medical treatment.
- If a cat is roaming and causing a nuisance, the owner can be identified and educated about their responsibilities, warned or penalised (subject to 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 displaced.
- Microchipping also allows for tracing and identification of cats in the event of a natural disaster or disease outbreak.

Microchipping is a well-supported management tool for cats in New Zealand, with almost 80% of the general public in favour of a national requirement for mandatory microchipping (in addition to restriction of cat numbers and mandatory desexing; Walker et al., 2017), and 31.2% of cats are reported by their owners to already be microchipped (Gates, 2019). Microchipping is commonly used as a tool to distinguish owned or managed stray cats from feral cats in pest management plans at a local and regional level across New Zealand (see appendix 2: Table 10: NZ Regional Pest Management Plans – Summary for Cats).

Microchipping is documented to increase the success of cats being reunited with their owners. In a US study, 39% of microchipped cats were reported to be returned to their owners, compared to only 2% that were not microchipped (Lord et al., 2009). Similar findings have been reported in Australian studies were return-to-owner rates were 51% for microchipped cats compared to only 5% for non-microchipped cats (Lancaster et al., 2015). During the 2011 Christchurch earthquake, 85% of owners of microchipped animals were able to be contacted within 3 hours by the New Zealand Companion Animal Register (NZCAR), compared to only 25% of non-microchipped animals were reunited with their owners within a 7-day period (NZCAR, 2019).

Some stakeholders have concerns about the potential for microchips to fail and the resultant inability to identify microchipped cats. Although this is a valid concern, the failure rate of microchips is very low. Of all the microchips registered on the New Zealand Companion Animal Register (NZCAR), the recorded failure rate is 0.1%. In addition, this is most likely an overestimate; when microchips are reported/recorded as failed NZCAR is unable to distinguish between implanter error, true microchip failure, and microchip reader error. In many cases, microchip failure is listed as the cause, but implant error is the reason for failure (NZCAR, 2019). Implant error, particularly by untrained implanters, can

significantly impact on the failure rate. NZCAR does not allow registration of microchips from implanters without some form of implant qualification (NZCAR, 2019). Other reasons a microchip may appear to fail include migration of the chip within the animal, low battery level in scanners, low quality scanners, scanning too quickly and even, metal near the scanner (Lord et al., 2008).

The most common complication reported is the migration of the microchip. Research suggests that migration occurs in less than 0.6% of cases (Lord et al., 2010). Migration should not affect the scanner ability to read the microchip if a robust scanning technique is used.

The risk of tumour growth associated with the presence of the microchip under the animal's skin is also a concern with microchipping. There is no good evidence to suggest that cats implanted with a microchip are at a higher risk for developing a tumour; if microchips do cause the formation of tumours, the risk appears to be extremely low. Millions of animals have been microchipped around the world since the early 1990's yet to date there are only two case reports of cats (Daly et al., 2008; Carminato et al., 2011) and two case reports of dogs (Vascellari et al., 2004; Vascellari et al., 2006) developing tumours at, or adjacent to, the site of a microchip in the published literature. In the two cases of tumour development associated with microchips reported in cats, the microchip was adjacent to, not embedded in, the tumour (Daly et al., 2008; Carminato et al., 2011). In one of the reported cases, the cat had also received numerous vaccines in the same area on its body (Daly et al., 2008). Since tumour formation can be associated with a wide range of injectable agents, including vaccines (Srivastav et al., 2012; Day et al., 2015), it was not possible to determine the origin (Vaccine-Associated Feline Sarcoma Task Force, 2005). There has been one reported case of tumour development around a microchip in a dog (Vascellari et al., 2004). Another case was reported where the microchip was attached to, but not embedded in, the tumour and rabies vaccines had also been given in a similar area (Vascellari et al., 2006). Therefore, the tumour could not be directly linked to the microchip itself (Vascellari et al., 2006; AVMA, 2013). In the UK, the Microchip Advisory Group (MAG) monitors adverse events associated with microchipping. The British Small Animal Veterinary Association (BSAVA) released a report from the MAG in 2004 that showed that in the 13 years since establishment of the monitoring programme, only two tumours were reported despite microchip implantation in more than 3.7 million pets in the United Kingdom (AVMA, 2013).

In some cases, soft tissue tumours surrounding a microchip have been described in laboratory mice and rats (Blanchard et al., 1999; Elcock et al., 2001; Tillmann et al., 1997 However, mice and rats are more susceptible than other species to developing foreign body-induced tumours (AVMA 2013; Haifley & Hecht 2012). Therefore, it is not appropriate to extrapolate the findings associated with foreign body-induced tumours in mice to risk in other species (AVMA 2013; Haifley & Hecht 2012). It

is possible for neoplasia to be induced by any foreign substance inserted into the body for long periods (AVMA, 2013; Brand et al., 1976; Elcock et al., 2001; Vascellari et al., 2006;). The WSAVA Microchip Committee has concluded that the benefits of microchip implantation far outweigh the potential health risks, as development of tumours at microchip implantation sites appear to be a rare event (WSAVA, 2002).

Other complications associated with microchipping are extremely rare, but do exist, and include the inappropriate placement of a microchip into the spinal canal. Five case studies of this occurring are documented in the scientific literature, of which one describes the inappropriate and forceful implantation of the microchip into the spinal canal of a 2-year old cat (Platt et al., 2017).

Solely relying on microchipping as the only form of identification may limit the capacity to locate owners efficiently; microchips are not visible, require access to a microchip reader and rely on the information linked with the microchip being accurate. It is common for microchipped cats that are lost and entering shelters to have data associated with their microchip that is inaccurate; this makes reuniting cats with their owners difficult (Alberthsen 2014; Alberthsen et al., 2013a). An Australian study showed that 37% of stray but microchipped cats entering RSPCA QLD had inaccurate data associated with their microchip (Lancaster et al., 2015). Nearly half of the cats were registered to a previous owner and nearly one third had either incorrect or disconnected contact phone details associated with their microchip. As such, 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 successfully help to reunite lost cats with their owners/carers prior to, or following, shelter admission (Alberthsen et al., 2013b; Lord et al., 2007; Lord et al., 2010). Collar use however does not appear to be a popular management technique with studies reporting collars to be worn by only approximately 1/3 of all owned cats in New Zealand (n=27.1%, Gates et al., 2019; 35.9%, Harrod et al., 2016). Reasons for not using collars are reported to include cat intolerance of collars, repeated collar loss and concern over collar safety (Harrod et al., 2016).

Mandatory identification

The introduction of mandatory cat identification (microchipping) has been associated with an increase in the reclaim rates of cats in the US (in combination with registration, and annual licensing (Lord et al., 2007; Lord et al., 2010) and in Australian Capital Territory (ACT) (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 (see appendix 2). In addition, some localities also require external identification (usually a council registration tag if cats must also be registered in that locality). In New Zealand, bylaws mandating microchipping of cats exist in Wellington City, where all cats over the age of 12 weeks are required to be microchipped and registered on the NZCAR (Wellington Consolidated Bylaw 2008 Part 2: Animals, s4.1), and in Palmerston North, where all cats over 6 months of age and born after 1st of July 2018 are required to be microchipped and registered on the NZCAR (Palmerston North Animals and Bees Bylaw 2018; s8.7).

Potential issues that need consideration before the introduction of mandatory identification include:

- 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 stray 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, 2015).

4.3.4. 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 places with laws to try and control rabies, as registration (licensing) is often driven by rabies control laws in these areas (see appendix 3: International examples of existing cat control specific legislation).

Recent research shows between 61%-76 % of New Zealanders consider registration to be important for owned cats, although cat owners are generally less supportive than non-owners (Gates et al., 2019; Walker et al, 2017). The benefits of mandatory registration may not be clear if it is implemented in addition to mandatory identification (e.g. microchipping). On the other hand, income from cat registrations could be allocated to support community initiatives such as desexing, microchipping or cat containment. Uptake of these initiatives could then provide useful measures to assess the impact of registration.

4.3.5. Mandatory desexing

Mandatory desexing reduces cat overpopulation and is a key aspect of responsible ownership of cats which has positive long-term health and behavioural benefits. New Zealand public support for the implementation of mandatory desexing is reported to be greater than 64% (Gates et al., 2019).

In July 2018, mandatory desexing was implemented for the first time in New Zealand by the Palmerston North City Council, and applies to all cats over six months of age, born after the 1st of July 2018: exemptions are in place for registered breeders (Palmerston North Animals and Bees Bylaw 2018; s8.7). Up until this time, reports of the implementation of legislated mandatory desexing have come predominantly from the USA and Australia where requirements differ in the various localities. Some localities in the USA require that rehoming agencies (e.g. pound, animal shelter) desex cats and kittens prior to placement in a new home. This may be in addition to mandatory desexing for owned cats or a stand-alone requirement (see appendix 3: International examples of existing cat control specific legislation).

Mandatory desexing requirements in place outside of New Zealand appear to only be monitored occasionally. Most commonly this seems to involve comparing data pre- and post- mandatory desexing introduction in the following areas:

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

In Australia, some data were collected in 2007 to assess the impact of mandatory desexing when it was introduced in 2001 in the Australian Capital Territory (ACT). There is only one shelter for cats (RSPCA ACT) in the ACT and a handful of rescue organisations that deal with relatively small numbers of animals (Australian Veterinary Association Centre for Companion Animals in the Community, 2007). Overall, no positive impact associated with the introduction of the legislation was demonstrated. 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.

Legislative mandatory desexing will be of benefit in 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. Responsible cat owners, who can afford desexing, already do so (although some do so only after the cat has had one litter of kittens). 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, 2015). In New Zealand, 93.2% of cats are reported by their owners to be desexed, with the most common reason for not desexing being cost and general feeling it isn't necessary (Gates et al., 2019). In the US and Australia, 90% of desexed cats live in higher income households (Marsh, 2010; Toukhsati et al., 2007). Cat surrender has been associated with a lower socio-economic status (Zito, 2016a) and several studies have identified lower desexing rates among owner-surrendered cats (Alberthsen, 2014; Alberthsen et al., 2013b; Marston et al., 2009; Alberthsen et al., 2013b). These findings suggest there is a need to develop more innovative strategies for targeted promotion of desexing and provision of avenues for accessing affordable care (Gates et al., 2019).

Accessible desexing schemes

There are anecdotally reported success stories for free/low cost/subsidised desexing programmes. Examples include:

- Snip 'n' Chip, free desexing and microchipping scheme (SPCA New Zealand, 2019)
- National Desexing Network, Australia (Animal Welfare League of Queensland 2017)
- Operation Wanted, Royal Society for the Prevention of Cruelty to Animals Queensland (RSPCA QLD), Australia (Royal Society for the Prevention of Cruelty to Animals Queensland 2017)
- The Gold Coast City Council subsidised desexing scheme as part of the Australian Getting to Zero (G2Z) initiative (Animal Welfare League of Queensland 2017)
- New Hampshire's Animal Population Control Program, USA (Target Zero 2016)
- First Coast No More Homeless Pets in Jacksonville, Florida, USA (Target Zero 2016)

Characteristics common to successful desexing initiatives are:

- Programmes help caretakers with a genuine need. Several criteria are used to decide who can access these desexing programmes including income targeting, geographic targeting, and programmes for senior citizens.

- Programmes are affordable for poverty-stricken caretakers and caretakers with poverty-level incomes.
- Programmes are accessible to caretakers, including consideration of transportation of cats to the surgery location. Options to address this include providing services through a network of private veterinary clinics, a mobile surgical unit, or 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).
- Programmes have enough funding to desex large numbers of animals from indigent households every year for several years. It has been reported that desexing five 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 programmes 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, 2016).

Pre-pubertal desexing

The 'traditional' age of desexing cats is six months of age. Unfortunately, this allows cats to reach reproductive maturity before they are desexed (Clark et al., 2012; Joyce et al., 2011; Zanowski, 2012); cats may reach reproductive maturity as early as three and a half months of age (Farnworth et al., 2013a; Little, 2001). Delayed desexing of owned cats is reported to result in the production of unwanted litters of kittens (Alberthsen et al., 2013b). Despite the high rate of desexed companion cats in New Zealand, the age at which these cats are desexed and if they had a litter of kittens before desexing is unknown and may impact upon meta-population numbers. Eight percent of owners of un-desexed cats in New Zealand consider it important for the cat to have one or more litters (Gates et al., 2019). In Australia, between 12-20% of cats have a litter before they undergo the desexing procedure (Jupe et al., 2017) with less than 50% of cats under two years of age desexed compared to more than 93% aged over two years desexed (Johnson & Calver, 2014). It is likely the situation is similar in New Zealand. Cats are prolific breeders and many owners are unaware that their cat may reach puberty by four months of age, which is well before the traditional desexing age of six months (Jupe et al., 2017). A high number of well socialised kittens from owned litters are surrendered to shelters (Animal Welfare League of Queensland, 2010; Marston et al., 2009; New et al., 2000) and although many may 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). This can be addressed through the introduction of pre-pubertal desexing (sometimes termed 'early-age desexing' because it is performed earlier than the traditional six months of age) (Alberthsen et al., 2013b; Fournier, 2004; Johnson & Calver, 2014; Manning & Rowan, 1992). Pre-pubertal desexing is routine procedure for animal shelters; commonly kittens are desexed between six and eight weeks of age and when they are over one kilogram in body weight (Kustritz, 2007; Looney et al., 2008). For companion cats pre-pubertal desexing is normally carried out between three and five months of age (Leung et al., 2016). The AVMA endorses the recommendation of the Veterinary Task Force on Feline Sterilization Recommendations for Age of Spay and Neuter Surgery (2016) that companion cats not intended for breeding are desexed by 5 months of age. Multiple benefits from pre-pubertal desexing have been demonstrated for the individual cat, including faster surgical procedure with less trauma and stress for the individual animal, less associated complications and reduced recovery times (NZVAb, 2018; Howe, 1997), and benefits in terms of cat population management (Farnworth et al., 2013a; Joyce et al., 2011; Porters et al., 2014; Spain et al., 2004; Yates et al., 2013). Other benefits include decreased risk for mammary carcinoma, elimination of reproductive emergencies such as pyometra and dystocia, and potential decrease in behavioural problems linked with cat relinquishment (Veterinary Task Force on Feline Sterilization Recommendations for Age of Spay and Neuter Surgery, 2016).

Pre-pubertal desexing of cats is supported by national and international veterinary associations including; the New Zealand Veterinary Association (NZVA), American Veterinary Medical Association (AVMA), Australian Veterinary Association (AVA), and the British Veterinary Association (BVA) with the optimal age for owned companion cats considered to be four-five months in Australia and New Zealand (Jupe et al., 2017). However, this procedure is not yet universally accepted among New Zealand veterinarians working within the community where there are divided opinions on pre-pubertal desexing (Farnworth et al., 2013a; Yates et al., 2013) and concern about risk and long-term health complications (Jupe et al., 2017). Additionally, veterinary students in Australia and New Zealand are not commonly graduating with the knowledge and skills to perform pre-pubertal deseing (Jupe et al., 2017). The scientific literature supports that pre-pubertal desexing is a safe procedure which can be performed from 6 weeks of age (Howe, 2015), with no difference in health and behaviour outcomes for cats desexed under 12 weeks of age comparative to over 12 weeks of age (Howe et al., 2000; Spain et al., 2004), Veterinarians are an important link in communicating with cat owners and ensuring that owned kittens are desexed before reproductive maturity (Fournier, 2004; New et al., 2000; Stavisky, 2014; Welsh et al., 2014). Encouragement of veterinarians to accept this procedure and training to ensure that they are comfortable delivering this service is very important (Farnworth et al., 2013a;

Yates et al., 2013). International reports suggest that the performance of pre-pubertal desexing is increasing, for example, 70% of veterinarians in British Columbia are reported to perform pre-pubertal desexing (Sherwood et al., 2019).

Table 5: Implications of Cat Management Strategies

Strategy	**Implications for policy**
Adoptions	Data on the adoption of unowned cats is inaccurate, as these data will include some semi-owned cats. Shelter and pound statistics on stray cats should be categorised into socialised, unsocialised, managed and unmanaged cat population categories to assist pathway planning for individual cats, understanding the cat populations contributing to shelter intakes, and devising effective strategies to reduce intake.
Cat Sanctuaries	Cat sanctuaries are neither a viable nor humane cat management tool, although they may be of limited use in some situations. Cat sanctuaries do not effectively address cat overpopulation and the money spent to house a few hundred cats could be used for programmes that are more effective.
Trapping	Lethal control methods may eliminate cat populations with consistent and long-term high removal rates; however, this is unrealistic in urban areas due to community opposition; potential for owned cats to be mistakenly caught and killed; and lack of enough and sustained resources. Current indiscriminate trapping and killing of stray cats in urban areas is unlikely to result in long-term improvement for issues of concern, such as wildlife predation, spread of disease, public health, or cat welfare. Lethal control of feral cats is the only strategy included in this report for feral cats. Due to the nature of feral cats not being socialised, and the likelihood of their proximity to sensitive ecological areas, other options of management are neither humane nor appropriate.
TNR	TNR can effectively reduce cat numbers and nuisance and lead to the eventual extinction of cat colonies. When managed appropriately, cats in managed TNR colonies can have reasonable welfare. Substantial investments of both time and money are required for effective TNR programmes, although these costs diminish over time. TNR is not suitable in sensitive wildlife areas. Domestic and international evidence suggests the public would support TNR as an alternative to widespread lethal cat management in urban areas. Conservationists are concerned about the impacts of cats on wildlife, and although these concerns may be somewhat mitigated by improving the effectiveness of TNR programmes and specifying conditions on its use, they will likely persist.
Education and support for cat carers	Education programmes targeting stray cat carers (semi-owners) are an important component of stray cat management and represent a change in the way that the community, animal welfare groups, and policy/law makers approach stray cat carers. It is prudent to accept that people will continue to feed stray cats despite attempts to stop this behaviour; efforts to engage stray cat carers in solutions to manage stray cat numbers and improve cat welfare, should allow people to continue to care for the cats. Targeted desexing programmes

	for managed stray cats (semi-owned cats) will be valuable for reducing the number of unwanted kittens, reducing the number of stray cats (and likely reducing the impact of cats on wildlife), and improving the welfare of stray cats.
Responsible cat ownership	Responsible ownership of companion cats and managed stray cats is an important component of managing the cat meta-population. Reducing cat surrender through initiatives, which address situations that lead to surrender, are of great benefit and should be continued. The inclusion of an abandonment offence under new cat management legislation could improve the ability for cases of abandonment to be investigated and enforced by officers warranted under this legislation.
Cat Containment	Regulations that mandate 24-hour containment of cats are more likely to achieve the assumed goals of reducing wildlife predation, breeding of unwanted cats, reducing risk to cat welfare, and the occurrence of cat nuisance behaviour, than limited containment regulations. Cat owners and carers should be educated about the benefits containment brings for cat welfare, rather than the benefit to wildlife or community, to encourage compliance. Where containment is not mandated education about effective anti-predation measures should occur to mitigate the risk, cats pose to wildlife. After a containment regulation is introduced an increase in admissions, adoptions and euthanasia at shelters may be observed if wandering cats are trapped in breach of the containment regulations, or if containment laws deter people from owning cats. As such, containment regulations should be preceded by owner and carer education and facilitation of behaviour change towards appropriate cat containment solutions to help safeguard cat health and welfare and prevent surrender.
Identification	Mandatory identification (microchipping) is a useful management tool for cats because it facilitates timely and well-informed decision making about a cat's ownership/management status and the consequent prompt and appropriate action that should take place for each individual cat. Consideration should be given to the additional mandatory requirement for cats to display a collar and tag. To safeguard cat welfare, quick-release collars should be used. Ear-tipping should also be used as a distance visualisation method in stray cats. The impact of mandatory identification laws could be measured by monitoring the percentages of cats reunited with their owners or carers after being lost and comparing this to reclaim rates pre- and post- the introduction.

Registration	Mandatory registration may be a useful tool to support other management practices such as limiting numbers per household, mandatory identification and desexing, and regulating breeding. Its implementation and administration could be expensive, and the cost of enforcement and monitoring may be prohibitive. However, resulting funds could be allocated to support low-cost desexing initiatives where needed.
Mandatory desexing	The implementation of mandatory desexing is likely to have a positive impact on cat management in terms of reducing cat overpopulation and in turn should result in a decrease in cat predation on wildlife and a decrease in animal shelter/control cat intake and euthanasia. Mandatory desexing will be most effective if cats are desexed before the onset of sexual maturity, measures are put into place to ensure desexing of cats is priced to be accessible, mandatory identification is also introduced, and legislation is adequately enforced. Formal assessment of the impact of national mandatory desexing should occur and would be a beneficial addition to the literature in the field of cat management.
Increasing public understanding of the importance of responsible cat ownership and facilitating behaviour change	Regulation is an important tool as it clearly defines what is acceptable regarding legal requirements. However, legislation alone is not an effective instrument for addressing cat population, nuisance and predatory issues. Education and community support programmes should be component of any strategy to manage cats. 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.

5. Humane and effective framework for cat management in New Zealand

A strategic goal of the National Cat Management Strategy Group is to support humane and effective cat management through an appropriate legislative, regulatory, and educative framework.

5.1. Current framework

A strategic outcome of the National Cat Management Strategy Group is for responsible agencies are identified to implement legislative and regulatory requirements. The Animal Welfare Act 1999 (the Act) is the main piece of 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 found in the Codes of Welfare. Under the Act, owners and persons in charge of animals are required to meet the physical, health, and behavioural needs of the animals in their care in accordance with good practice and scientific knowledge.

However, the Act does not expand on these obligations; for example, it does not detail what constitutes an appropriate amount of food or water for a species (to include this information in the Act would make it a very lengthy and unwieldy document). Therefore, codes of welfare are produced to expand on the basic obligations of the Act by setting minimum standards and recommending best practice for the care and management of animals. Codes of Welfare also reference regulations issued under the Act. Regulations impose enforceable requirements on owners and persons in charge of animals. Codes of Welfare are produced for either a species, or function, (e.g. animals used in entertainment). The relevant code of welfare for cats is the Animal Welfare (Companion Cats) Code of Welfare 2018.

The current key legislation relating to cats and cat management in New Zealand are listed with links to the full documents in Table 6. In addition, the pertinent sections of each piece of legislation relevant to cat management are in appendix 1. The New Zealand Council Bylaws pertaining to cats are summarised in appendix 2, and examples of cat control legislation from other countries are provided in appendix 3.

Table 6: Key legislation relating to cats and cat management in New Zealand

The Animal Welfare Act 1999	www.legislation.govt.nz/act/public/1999/0142/latest/DLM49664.html

Animal Welfare (Companion Cats) Code of Welfare 2018	www.mpi.govt.nz/protection-and-response/animal-welfare/codes-of-welfare/
Resource Management Act 1991	www.legislation.govt.nz/act/public/1991/0069/latest/DLM230265.html
Biosecurity Act 1993	www.legislation.govt.nz/act/public/1993/0095/latest/DLM314623.html
Conservation Act 1987	www.legislation.govt.nz/act/public/1987/0065/latest/DLM103610.html
Wildlife Act 1953	www.legislation.govt.nz/act/public/1953/0031/latest/DLM276814.html
National Parks Act 1980	www.legislation.govt.nz/act/public/1980/0066/latest/DLM36963.html
Local Government Act 2002	www.legislation.govt.nz/act/public/2002/0084/latest/DLM170873.html

5.2. Improving the legislative and regulatory approach

5.2.1. National Cat Act

A strategic outcome of the National Cat Management Strategy is implementation of a National Cat Management Act.

This will allow for mandated, comprehensive, and consistent implementation of nationwide humane management of all cat populations in New Zealand. An appropriate national legislative framework should include:

- Measures to protect the welfare of cats (particularly where lethal management methods are used);
- Measures to mandate responsible cat ownership and caretaking.

5.2.2. Bylaw Alignment with National Legislation

Limits on the number of cats

Limiting the number of cats that can be kept by an individual owner is an attempt to reconcile the conflicting interests of pet owners with property owners and cat nuisance issues. It is also sometimes discussed as a measure to manage overall cat numbers. Restricting cat numbers is likely to benefit cat welfare (as multi-cat households can be highly stressful environments for many cats), if cats are still able to benefit from living with compatible conspecifics.

New Zealanders show a high level (70%) of support for limits to be placed on the number of cats owned per household (Walker et al., 2017) and a number of local councils already impose a standard maximum limit of two to five cats per household (see section 3.1.2).

Restrictions on the number of cats allowed per household may also assist in preventing cases of animal hoarding and help prevent the establishment of kitten farms/mills. Where there are no strict 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.

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 may assist in addressing the problem of kitten farming/ kitten mills and other poor practices that compromise cat welfare and health. These regulations may have indirect benefits in reducing cat overpopulation and cat predation on wildlife, and in the promotion of responsible pet ownership. When implemented alongside ownership regulations, breeding regulations can also limit the number of breeding cats owned, litters born and require cat breeders to meet minimum standards of care and containment. Where breeding regulation is effectively enforced and includes breeder traceability and requirements for microchipping and prepubertal desexing of kittens may be significant.

Limiting the number of cats allowed to be owned	Limiting the number of cats that can be kept is suited to managing the conflicting interests of cat owners and non-cat owners and may assist in reducing overall cat numbers when used in combination with other responsible pet ownership strategies. 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.

Breeding Regulation	Regulations on breeding need further evaluation 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. Breeding regulation may also be of use in trying to combat poor breeding practices that compromise cat welfare and health.

5.3. Improving the educative approach

A strategic outcome of the NCMSG is for the development of an educative framework that focuses on public engagement on humanely and effectively managing all cats in New Zealand. An educative framework will include different approaches to cat management based on the cat category and community support.

5.3.1. Increasing responsible cat ownership

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.

Increasing public understanding of the importance and benefits of responsible cat ownership will involve consistent public messages, including messages about the legal requirements for cat owners; these messages need to come from government and animal welfare organisations, education programmes in schools and social marketing campaigns.

Progress has been made in increasing public understanding of the importance and benefits of responsible cat ownership, particularly in relationship to the impact of cats and cat caretaking practices on wildlife (Chaseling, 2001; Department of Sustainability and Environment, 1999; Perry, 1999). This is demonstrated by a recent survey of New Zealanders' (N=1011) attitudes towards cat predation and management. The majority (82-86%) of respondents expressed concern regarding the predation of native wildlife by feral and stray cats and a high number (69%) of respondents also expressed concern regarding predation by owned cats (Walker et al., 2017). Fewer participants (38-60%) were concerned about the predation of non-native wildlife by cats, suggesting a higher value placed on native species (Walker et al., 2017).

Successfully changing human behaviour about managing their companion cats will require and understanding of the behaviour, the audience, which type of action will best suit the behaviour

targeted, and the need for evaluation to determine if and why success is achieved (McLeod et al., 2019). Behaviour change is facilitated by changing attitudes and beliefs relating to cats and responsible cat caretaking. The Theory of Planned Behavior (Ajzen, 1985; 1991) can predict volitional human behaviours, including behaviours towards animals (Coleman et al., 1998; Rohlf et al., 2012; Toukhsati et al., 2012a). Modification of beliefs related to attitudes, social norms, and self-efficacy has the potential to change related 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 approximately 63% (owners and non-owners) that wandering cats endanger or kill native wildlife (Toukhsati et al., 2012b). This study also 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 (Toukhsati et al., 2012b), indicating an alignment of beliefs about cats and cat owner behaviour.

In a 2018 study, 512 Australian cat owners, who did not contain their cats, were randomly assigned to view one of three short video messages: one framed to highlight the negative impact of cats' on wildlife and biodiversity ('wildlife protection' frame), one framed to highlight the health and safety benefits of keeping cats contained ('cat benefit' frame), and a control message focused on general information about cats ('neutral' frame). The results revealed that both the 'wildlife protection' and 'cat benefit' messages increased owners' motivation to contain their cat and their beliefs that they could effectively contain their cat to achieve the desired outcomes (McLeod et al., 2018). Both studies (McLeod et al., 2018; Toukhsati et al., 2012b) demonstrate the relationship between beliefs and related behaviour; people who believed that cat containment was important (to protect their cats and wildlife) were most likely to contain their own cats or report intentions to implement a cat containment solution and adopt containment behaviour.

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

Areas related to cat management that will require a change in community attitudes, beliefs, and subsequently behaviour include:

- A better understanding and acceptance of the intrinsic value of cats;
- The impact of cats and cat caretaking practices on wildlife;

- Acceptance of responsible ownership and care measures such as:
    - Cat containment
    - Pre-pubertal desexing
    - Desexing of stray cats being cared for by a non-owner
    - Cat identification (microchipping)

Awareness of the benefits to cats of the responsible ownership care measures listed above and other behaviours with positive impacts on cat welfare such as providing enrichment for cats, particularly contained cats (Toukhsati et al., 2012b).Presenting information in a logical, myth-debunking approach is typically the most common way to share information, however, a recent study found that more effective strategies to inspire behaviour change are underused including: choosing a trusted messenger to deliver the information, framing that emphasises loss rather than gains and local significance, and a focus on values, goals, social norms, and compelling stories can improve uptake of information for behaviour change (McLeod et al., 2017).

5.3.2. Public engagement on stray and feral cat management

Managing stray and feral cats will require a better understanding of the multiplicity of values, attitudes, and beliefs that people have for cats (Deak et al., 2019; McLeod et al., 2019). Recent reviews of this topic emphasise the key challenge to implementing and maintaining successful cat management is having the social license to do so (Deal et al., 2019; McLeod et al., 2019). Fuelling controversies in whether the public support feral cat management is confusion in determining if a cat is truly feral or stray (Deak et al., 2019). This is highlighted throughout this report as an important aspect of determining the most humane and effective programme for managing free-roaming cats, and subsequently, in improving public support of such activities. People have different connections to types of cats, which underscores the need to identify the values they attach to cats (Deak et al., 2019).

TNR as a strategy

Different factors influence people's support for TNR including: demographics, residential location (particularly rural vs urban), attitudes, ethics, values, and cat ownership (Ash & Adams, 2003; Kellert & Berry, 1980; Lauber 2007; Lord 2008; Lloyd & Hernandez, 2012; Lloyd & Miller, 2010). A New Zealand study found public preference for TNR as a management tool for stray cats (Walker et al., 2017). A number of studies overseas have also reported broad public support of TNR (Kellert & Berry, 1980; Lord, 2008) and a preference for non-lethal animal management in general (Agee & Miller, 2009;

Zinn et al., 1998;); but others have reported mixed results and less support (Lohr & Lepczyk, 2014; Lloyd & Hernandez, 2012; Lloyd & Miller, 2010).

The diversity of views about TNR indicate the need to thoroughly consult different stakeholder groups when determining the best course of action for managing stray cats (Deak et al., 2019). At least one study with Australian members of the public found most respondents supported TNR, despite this not being the current government approach to cat management (Rand et al., 2019). The study also found that found that a barrier to supporting TNR are negative belief towards cats, thus, a desire to manage them lethally (Rand et al., 2019). However, more research on public attitudes to cat management in New Zealand would provide a better understanding of the social context; there may be differences between public opinion and the operating policy of local governments, animal control, and welfare organisations.

The factors that affect the potential efficacy of TNR (for example, the immigration rate and environment) vary considerably between different areas and countries (Kilgour et al., 2017). The definition of 'success' of a cat management programme is likely to differ for welfare organisations, conservation biologists, local government and policy makers (Longcore et al., 2009), which creates controversy (Dauphine & Cooper 2009; Kilgour et al., 2017). For welfare organisations and cat advocates, success is likely measured through improved cat health and welfare; a stable or reducing population; and reduced admissions and euthanasia of unowned cats in animal shelters (Neville, 1983; Longcore et al., 2009; Zaunbrecher & Smith, 1993). For conservation biologists, complete and rapid extinction of a cat colony and reduction or elimination of cat predation on wildlife is likely the measure of success (Jessup, 2004; Longcore et al., 2009; Nogales et al., 2004). For local government and policy makers, success will most likely be measured by reduction of nuisance complaints and conflicts involving cats, improved public opinion, and reduced cat management costs. It is important to note that no assessments of success of TNR programmes based on the impact of cats on wildlife have been reported. It is important that conservation scientists and advocates identify the environmental implications of using TNR and contribute this evidence to the assessment of this cat management tool (Longcore et al., 2009).

Lethal control as a strategy

It is important to consider socio-political and practical implications of a trap and kill programme for urban and peri-urban cat management (Hatley, 2003). It is difficult to ensure that unconfined, owned cats and semi-owned cats would be unaffected by such a programme (Robertson 2007). Furthermore, many members of a community may be opposed to lethal cat control programmes, particularly in

urban areas (Ash, 2001; Deak et al., 2019; Hurley, 2013; Levy et al., 2013; Marston et al., 2008; Paterson, 2014; Robertson, 2007; Walker et al., 2017; Wilken, 2012) and non-lethal cat control measures, or even inaction, are more often accepted (Liordosa et al., 2017; Lloyd & DeVore, 2010; Medina et al., 2016; Walker et al., 2017). Consequently, it is unlikely that implementation of intensive, high-level and large-scale culling would be accepted in most urban areas. Indeed, such programmes can meet fierce opposition, protests, and sabotage attempts (Hatley, 2003; Nealy-Brown, 2002; Nogales et al., 2013; Parkes et al., 2014; Sterba, 2002).

If an intensive and large-scale culling programme is considered, a pervasive, intense, and the continuing campaign to educate the public about the impacts of cats on wildlife and human health and the resulting need for culling would be necessary (Medina et al., 2016; Proulx, 1988). A public education campaign should be planned and implemented well before a culling operation commenced and would likely need to include public service announcements on television, radio, social media and in newspapers, and education in schools. It can be difficult to develop effective communication programmes; it is necessary to begin the development process with a clear understanding of target audiences, including their attitudes and beliefs (Fishbein & Ajzen, 2010; Jacobson, 2009). Changing public attitudes takes time and ideas need to be continually put before the public. In addition, local government programmes aimed at reducing immigration of cats into the unowned population would need to be strictly enforced (Hatley, 2003).

6. Ensuring cat management strategies are effective and humane

A strategic goal of the National Cat Management Strategy is to ensure effective strategies are used to manage all cats in New Zealand.

6.1. Monitoring and Evaluation of cat management

A strategic outcome of the National Cat Management Strategy is for cat management activities are monitored and evaluated to ensure effective outcomes.

Policies aimed at improving cat management included in a legislative and regulatory framework should be evaluated to assess effectiveness for cat management, humaneness, cost effectiveness, and potential for implementation and enforcement. Determination of which cat management strategies are the most effective whilst ensuring high welfare standards can minimise the need for lethal control of cats.

There are currently few 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. 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. The few existing assessments relate to the impact of desexing initiatives (and TNR programmes in overseas countries) on animal shelter cat intake and euthanasia numbers and the increase in reclaim rates associated with identification of cats. Clear and measurable objectives are needed for initiatives and transparently report formal assessment based on the objectives.

6.1.1. Using ethical principles of animal management to guide action

Minimising tensions between concerns for protecting the welfare of cats, and the concerns for communities and the environment will require approaches that ensure transparency in decision-making that provides balanced concern for all stakeholders involved in managing populations of animals. An ethical framework to decide action towards animal population control can be useful for deciding and evaluating actions. Using both an ethical and evidence-based approach, Dubois et al. (2017) have created a framework for making decisions about animal population control based on the following questions:

- Can the problem be mitigated by changing human behaviour?
- Are the harms serious enough to warrant wildlife control?
- Is the desired outcome clear and achievable, and will it be monitored?
- Does the proposed method carry the least animal welfare cost and to the fewest animals?
- Have community values been considered alongside scientific, technical, and practical information?
- Is the control action part of a systematic, long-term management programme?
- Are the decisions warranted by the specifics of the situation rather than negative labels applied to the animals?

The Dubois et al. (2017) framework explicitly includes questions about humans first altering their actions, and questions how attitudes about the perceived value of an animal, or lack thereof, can influence decisions.

6.1.2. Using adaptive frameworks to manage cats

Transparency and empiricism in the decision-making process can be promoted using adaptive frameworks (Warburton & Norton, 2009). Adaptive frameworks are useful for cat management activities such as TNR that benefit from monitoring and evaluation including tools such as population modelling, population monitoring, and adaptive management are necessary to engage all stakeholders and improve effectiveness (Boone, 2015; Perry & Perry, 2008; van Heezik, 2010;). Implementation of standardised TNR approaches should be based on best-practice methods that are coordinated under an adaptive management framework, where monitoring data are regularly evaluated to improve the management programme.

Important strategies for evaluating management efforts for domestic cats should include metrics on the following (Adapted from Identifying Best Practice Cat Management in Australia; RSPCA Australia 2018):

- 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
- Retention of companion cats
- Proportion of companion and stray cats desexed
- Community satisfaction and support for cat management
- Wildlife prey abundance

For stray cats, strategies such as adoption, TNR, and targeted desexing will be effective in reducing cat populations when they are combined. In addition, monitoring the number of stray cats desexed and adopted can provide useful evaluation of educational strategies targeted towards stray cat carers. It is important to include evaluation of the barriers to carers desexing the stray cats for which they provide care.

For companion cats, Table 7 sets out a series of measures that could be used to evaluate the overall success of cat management strategies, and measures specific to individual strategies. Evaluation of

the success of cat management programmes should include pre- and post- implementation monitoring using specific measures such as those in the table.

Table 7: Evaluation of strategies to manage owned cats

Strategy	**Measurable indicators**	**Effective at reducing cat overpopulation? ***
Reducing cat surrender and abandonment	• Number of companion cats surrendered to animal shelters • Number of cat abandonment complaints received by SPCA inspectorate	Yes – with help of animal welfare organisations and through enforcement and incorporation into cat management legislation
Containment	• Uptake of cat containment • Use of outdoor cat enclosures • Use of environmental enrichment for contained cats	Potentially – if strict 24-hour containment in combination with mandatory identification and strategies to control stray cats
Mandatory identification	• Reclaim rates recorded by shelters, pounds and veterinarians • Number of microchips registered on the NZCAR	Yes – especially if used with collar and tag requirements
Mandatory desexing	• Number of companion cats desexed before sexual maturity • Shelter/pound admissions of kittens • Shelter/pound euthanasia of kittens • Number of kittens/cats being sold/given away on trading platforms (e.g. Trade Me ™ or other media)	Potentially - if pre-pubertal desexing and aimed at desexing prior to sale/transfer/return and if adequately enforced
Targeted and affordable desexing	• Number of desexed cats from low income areas • Number of kittens/cats being sold/given away on trading platforms (e.g. Trade Me ™ or other media) • Intake to shelters	Yes
Pre-pubertal desexing	• Number of cats desexed prior to sexual maturity • Retention of adult cats desexed prior to sexual maturity	Potentially – theoretically effective but not yet adequately assessed

	• Age of mother cat when kittens are surrendered to animal shelters and pounds • Number of kittens/cats being sold/given away on trading platforms (e.g. Trade Me ™ or other media)	
Mandatory Registration	• Reclaim rates recorded by animal shelters and veterinarians • 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)	No – but may assist indirectly where funds are directed to cat management activities
Limiting cat ownership	• Number of hoarding complaints dealt with by SPCA inspectorate	No – but may assist in reducing public nuisance from cats, kitten farms and resolving animal hoarding cases
Breeding regulation	• Number of breeding complaints dealt with by SPCA inspectorate • Number of kittens/cats being sold/given away on trading platforms (e.g. Trade Me ™ or other media)	No – except in specific kitten breeding circumstances
Educational strategies	• Support for cat management strategies • New Zealander's preferences for and opinions about cat management;	Yes – if applied to specific areas of need
Facilitation of behaviour change	• Support for cat management strategies	Potentially - if encouraged and resourced at the national level

Modified from Identifying Best Practice Cat Management in Australia, (RSPCA Australia, 2018).

6.2. Collecting and managing data on cat management activities

A strategic outcome of the National Cat Management Strategy Group is that robust data collection and management inform cat management activities.

Successful long-term cat management will be assisted by the collection, analysis, and reporting of accurate data about different facets of cat management.

- 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);
- New Zealanders' attitudes towards, and interactions with, stray cats including the intentions of stray cat carers;
- Typical cat dispersal rates, dispersal rates under different conditions, and the survival rates of dispersing cats (Miller et al. 2014b; Miller et al. 2014a);
- 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).
- Determination of whether 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);
- Methods used to control cat populations including lethal and non-lethal approaches;
- Shelter statistics that correspond to cat management activities including intake, euthanasia, and adoption.

Data on cat management should be accessible to stakeholders with an interest in supporting, monitoring, and evaluating activities to ensure they are effective and humane.

7. Collaboration between government, NGOs, and the community

A strategic goal of the National Cat Management Strategy is that humane and effective cat management is achieved through multi-stakeholder collaboration. This will require identifying and understanding the different stakeholders and their relationships with and concerns regarding cats including: cat owners, cat carers, breeders, pet retailers and manufacturers, veterinarians, local and central government, animal welfare, and rescue organisations, animal control organisations, the farming community, conservation groups, and the general community.

7.1. New Zealand Government

A strategic outcome of the NCMSG is for the New Zealand government to take an active role in supporting multi-stakeholder oversight of cat management strategies. Relevant Ministries and the New Zealand government should take steps to address cat management in a holistic manner that addresses both feral and domestic cat management. Opportunities should be created for national consultative groups on feral cat control and domestic cat management to discuss common issues to encourage greater stakeholder collaboration, and integration of initiatives. This will help focus attention and resources to achieve greater success. Core areas of focus should be applied to cat management including science, action, and partnership. The New Zealand Government can facilitate collaborative research in areas specifically relating to feral cat control and domestic cat management, and integration of feral and domestic cat management.

7.1.1. 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
- Local Councils
- Ministry for Primary Industries
- Department of Internal Affairs
- Ministry for the Environment
- Approved Organisations
- Police

7.1.2. 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 to cat management.

Current legislation relating to cat (domestic and feral) management is complex. 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.

7.1.3. Developing and sharing resources

Awareness and education are important for effective cat management and having one agency coordinate the development of materials will help ensure consistency and cost-effectiveness. An example of this is found in the Australian state of South Australia where there is a Dog and Cat Management Board, which has developed guidelines to assist councils to establish cat bylaws, and produce resource materials promoting responsible cat ownership; these can be used by all councils and other groups including veterinarians and animal welfare organisations. This could be a role fulfilled by a cat management task force or management board in New Zealand.

7.2. Local government

A strategic outcome for the NCMSG is for local New Zealand governments to coordinate community cat management activities and liaising with national cat management activities. 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, cat carers, 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 discouraging no-pet clauses in tenancy agreements, 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

In the absence of national law, some local councils, including Wellington City Council and Palmerston North City Council, have introduced by laws pertaining to cat management, but other New Zealand councils have few if any bylaws pertaining to cat management. If councils develop and submit a cat management plan, these plans can incorporate priority areas, education and support programmes (e.g. accessible desexing and microchipping schemes), research and evaluation activities. Councils in New Zealand undertaking this focus public attention on cats and this would complement a national cat management plan.

7.3. Organisations and professionals with an interest in cat management

A strategic outcome of the NCMSG is for organisations representing conservation groups, animal welfare, veterinary medicine, and industry take an active role in cat management.

7.3.1. Conservation groups

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); this includes small local grass roots conservation groups. Conservation groups also have an important role in community engagement and in promoting and implementing good welfare practices in relation to cat management.

7.3.2. Animal welfare organisations

Animal welfare organisations manage unwanted cats brought to animal shelters and implement initiatives to address unwanted cats in the community. Welfare organisations play an important role in community education and engagement, including facilitating adoption drives, desexing programmes and promoting microchipping. Animal advocacy groups may also assist conservation groups and government with advice on addressing animal welfare risks associated with cat management programmes.

Many advocacy and rescue organisations in New Zealand contribute to the humane management of cats. Some are also involved in research (e.g. SPCA) and have a great reach within the community to facilitate formal studies.

7.3.3. Veterinarians

Veterinarians have a role to play in the management of cats including:

- Educating clients and the public about responsible cat ownership, cat impacts on wildlife, cat welfare and the need for cat management;
- Encouraging adoption of cats from welfare organisations and pounds;
- Supporting and implementing pre-pubertal desexing; and
- Supporting community initiatives such as accessible desexing programmes for cats

In addition, the New Zealand Veterinary Association plays a role in providing advice and assisting with cat management initiatives.

7.3.4. Cat breeders

Cat breeders play a role in educating buyers about responsible cat ownership and ensuring that all legal requirements and health requirements are met for cats and kittens sold. Responsible cat breeders have responsibilities including:

- Registering as a breeder;
- Complying with the Animal Welfare (Companion Cats) Code of Welfare;
- Desexing kittens before 4 months of age, unless sold to another registered breeder; and
- Complying with relevant regulations and legislation.

7.3.5. 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 programmes and low-cost microchipping for cats;
- Selling only desexed, vaccinated, and microchipped kittens and cats from responsible breeders; and

- Supporting initiatives to rehome cats from animal shelters and pounds through their retail outlets.

7.4. Individuals with an interest in cat management

A strategic outcome of the NCMSG is that individuals including people who do and do not provide care to cats take an active role in cat management.

7.4.1. Cat owners

Cat owners have an important 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;
- Complying with the Animal Welfare (Companion Cats) Code of Welfare;
- Having any cats/kittens desexed prior to 4 months of age; and
- Compliance with relevant regulations and legislation.

7.4.2. Stray cat carers

Stray cat carers have a role in cat management including:

- Taking responsibility for the cats they care for, including providing appropriate health care and euthanasia when required. This should also include recognising 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 programmes and TNR programmes;

- Helping to educate other cat carers about the impact of cats on wildlife and what can be done to mitigate these impacts; and
- Identification of the cats they care for with a microchip and external identification.

7.4.3. People who neither own nor provide care for cats

People who neither own nor provide care for cats have a role to play in cat management including:

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

8. Conclusion

This report has presented a comprehensive multi-stakeholder approach to cat management in New Zealand that requires investment from all levels of government, use of effective and humane management strategies to reduce the number of cats, and incorporates monitoring and evaluation of management activities to determine decision-making.

Currently, there is no national strategy for cat management in New Zealand, despite the need to address the negative impacts that cats have on urban, rural, and wild environments, and the poor welfare outcomes for cats that are poorly or not at all managed. Protecting cat welfare and New Zealand's unique ecosystems do not have to come at a cost to each other. Effective and humane cat management will be successful in protecting both cats, people, and ecosystems when strategies are grounded in an understanding of cat populations and correspond to the multiplicity of values that cats hold in New Zealand.

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

The Animal Welfare Act 1999 (current as at 7 October 2019)

Key sections of the Animal Welfare Act 1999 (the Act) that relate to cats have been included below for reference. A full version of the Act can be found online at http://www.legislation.govt.nz/

The purpose of the Act is described in the statute title as follows;

An Act-

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

(i) to recognise that animals are sentient:

(ia) to require owners of animals, and persons in charge of animals, to attend properly to the welfare of those animals:

(ii) to specify conduct that is or is not permissible in relation to any animal or class of animals:

(iii) to provide a process for approving the use of animals in research, testing, and teaching:

(iv) to establish a National Animal Welfare Advisory Committee and a National Animal Ethics Advisory Committee:

(v) to provide for the development and issue of codes of welfare and the approval of codes of ethical conduct:

(b) to repeal the Animals Protection Act 1960

Definitions: (section 2 of the Act: Interpretation)

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 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 as:

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

Part 1: Care of animals

9 Purpose

(1) 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.

(2) This Part accordingly-

(a) requires owners of animals, and persons in charge of animals, to take all reasonable steps to ensure that the physical, health, and behavioural needs of the animals are met in accordance with both-

(i) good practice; and

(ii) scientific knowledge; and

(b) requires owners of ill or injured animals, and persons in charge of such animals, to ensure that the animals receive treatment that alleviates any unreasonable or unnecessary pain or distress from which the animals are suffering; and

(c) imposes restrictions on the carrying out of surgical procedures on animals; and

(d) provides for the classification of the types of surgical procedures that may be performed on animals; and

(e) specifies the persons or classes of persons who may perform each class of such surgical procedures; and

(f) specifies certain minimum conditions that must be observed in relation to the transportation of animals.

Obligations of owners and of persons in charge of animals

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.

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.

Offences

12 Animal welfare offences

A person commits an offence who, being the owner of, or a person in charge of, an animal, —

(a) fails to comply, in relation to the animal, with section 10; or

(b) fails, in the case of an animal that is ill or injured, to comply, in relation to the animal, with section 11; or

(c) kills the animal in such a manner that the animal suffers unreasonable or unnecessary pain or distress.

14 Further animal welfare offences

(1) A person commits an offence who, being the owner of, or a 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.

25 Penalties

A person who commits an offence against section 12 or section 14(1) or section 14(2) or section 21(1) or section 21(2) or section 22(2) or section 23(1) or section 23(2) is liable on conviction,—

(a) 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; or

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

Part 2: Conduct towards animals

27 Purpose

The purpose of this Part is to state conduct that is or is not permissible in relation to a species of animal or animals used for certain purposes—

(a) by prohibiting certain types of conduct; and

(b) by controlling the use and sale of traps and devices used to kill, manage, entrap, capture, entangle, restrain, or immobilise an animal.

Ill-treatment of animals

28 Wilful ill-treatment of animals

(1) A person commits an offence if that person wilfully 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—

(a) 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

(b) 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.

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—

(a) 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

(b) 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.

29 Further offences

A person commits an offence who—

(a) ill-treats an animal; or

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

(c) 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

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

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

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

(g) 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

(h) 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.

Ill-treating, hunting, or killing wild animals or animals in wild state

30A Wilful or reckless ill-treatment of wild animals or animals in wild state

(1) A person commits an offence if the person wilfully ill-treats a wild animal or an animal in a wild state.

(2) A person commits an offence if the person recklessly ill-treats a wild animal or an animal in a wild state.

(3) A defendant has a defence to a prosecution for an offence against subsection (1) or (2) if the defendant satisfies the court that the conduct alleged to constitute an offence is or is part of a generally accepted practice in New Zealand for the hunting or killing of wild animals of that type or animals in a wild state of that type.

(4) In determining whether wilful or reckless ill-treatment of an animal has occurred, a court may treat an act or omission as lawful (and not subject to subsection (1) or (2)) if satisfied that—

(a) the act or omission was done in the course of performing functions for the purposes of another Act; and

(b) not to treat the act or omission as lawful would be contrary to the purpose and principles of that Act.

(5) Nothing in subsection (1) or (2) applies to—

(a) a wild animal in captivity (other than in captivity in a safari park); or

(b) the accidental or inadvertent killing or harming of an animal; or

(c) any act or omission necessary to protect a person's life or safety.

(6) Nothing in subsection (1) or (2) affects section 179 or 181.

(7) A person who commits an offence against subsection (1) 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.

(8) A person who commits an offence against subsection (2) 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.

30B Hunting or killing

(1) Nothing in this Act makes it unlawful to hunt or kill—

(a) any animal in a wild state; or

(b) any wild animal or pest in accordance with the provisions of—

(i) the Wildlife Act 1953; or

(ii) the Wild Animal Control Act 1977; or

(iii) the Conservation Act 1987; or

(iv) the Biosecurity Act 1993; or

(v) any other Act; or

(c) any other wild animal or pest; or

(d) any game animal in accordance with the provisions of the Game Animal Council Act 2013; or

(e) any fish caught from a constructed pond.

(2) Subsection (1) is subject to sections 30A and 30C to 30E and Part 6.

30D Captured animals

(1) If a person has in captivity an animal captured in a wild state (not being an animal that has been captured for the purpose of facilitating its imminent destruction), this Act applies in relation to that person as the person in charge of that animal.

(2) If a person has in captivity an animal captured in a wild state (not being an animal caught by fishing) for the purpose of facilitating its imminent destruction, section 12(c) applies in relation to the killing of that animal.

(3) Nothing in subsection (1) or (2) applies in relation to a wild animal that is hunted and captured in a safari park.

(4) Nothing in section 30B applies to any wild animal or pest that is farmed or kept as a pet (other than a pest fish that is caught from a freshwater fish farm by a recreational fisher).

30E Certain provisions relating to traps and devices not excluded

Sections 30B and 30C do not restrict the application of sections 34 and 36.

Traps and devices

34 Restrictions on use of traps and devices to kill, manage, entrap, capture, entangle, restrain, or immobilise animals

A person commits an offence who, without reasonable excuse and for the purpose of killing, managing, entrapping, capturing, entangling, restraining, or immobilising an animal, —

(a) uses a prohibited trap or a prohibited device; or

(b) uses a restricted trap or a restricted device in contravention of any provision of an Order in Council made undersection 32.

35 Restrictions on sale of traps and devices

(1) A person commits an offence who, without reasonable excuse, sells, attempts to sell, or offers or exposes for sale, a prohibited trap or a prohibited device.

(2) A person commits an offence who, in selling a restricted trap or a restricted device, contravenes, without reasonable excuse, any provision of any Order in Council made under section 32.

Inspection of traps

36 Obligations relating to traps

(1) A person who, for the purpose of capturing alive a mammal, bird, reptile, or amphibian, sets a trap or causes a trap to be set must—

(a) manually inspect that trap, or cause a competent person to manually inspect that trap, within 12 hours after sunrise on each day the trap remains set, beginning on the day immediately after the day on which the trap is set; or

(b) manually inspect that trap, or cause a competent person to manually inspect that trap, within 24 hours after the capture of an animal in the trap, but this paragraph applies only if—

(i) the person monitors the trap with an electronic monitoring system (such as a system of capture sensors and a wireless communication network) that is maintained by the person and that is reliable; and

(ii) the monitoring system operates in such a way that it promptly communicates the fact that an animal has been captured in the trap and enables the person to meet the person's obligations under subsection (2) within that 24-hour period.

(2) A person who, for the purpose of capturing alive a mammal, bird, reptile, or amphibian, sets a trap or causes a trap to be set must—

(a) remove, or cause to be removed, any live animal found in that trap; or

(b) attend properly to the care of the animal or, without delay, kill the animal.

(3) A person who, without reasonable excuse, fails to comply with subsection (1) commits an infringement offence.

(4) A person who, without reasonable excuse, fails to comply with subsection (2) commits an offence and is liable on conviction, —

(a) in the case of an individual, to a fine not exceeding $5,000; or

(b) in the case of a body corporate, to a fine not exceeding $25,000.

Penalties

37 Penalties

A person who commits an offence against section 29 or section 31(1) or section 34 or section 35(1) or section 35(2) is liable on conviction,—

(a) 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; and

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

Part 7: Provisions relating to administration

120 Purpose

The purpose of this Part is to—

(a) specify the criteria for an organisation to be declared as an approved organisation; and

(b) provide for the appointment of inspectors and auxiliary officers; and

(c) specify the powers and duties of approved organisations in relation to animals in their custody; and

(d) specify the powers of inspectors and auxiliary officers, including their powers of search and their powers in relation to animals.

Powers in relation to injured or sick animals

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, —

(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.

(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.

139 Destruction of impounded animals that are diseased, injured, or sick

Despite section 138, if—

(a) an inspector, auxiliary officer, or veterinarian certifies in writing that an animal impounded in a pound under the Impounding or the Dog Control Act 1996 is so diseased, injured, or sick that it is in a state of continual suffering; and

(b) the territorial authority having jurisdiction over the pound is unable to find the owner of that animal within a reasonable time after the inspector, auxiliary officer, or veterinarian has given such a certificate, —

the territorial authority must, without delay, destroy that animal or cause it to be destroyed.

Disposal of animals in custody of approved organisations

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, re-home, 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.

142 Obligation to maintain register

(1) An approved organisation must record in a register the numbers and types of animals sold, re-homed, destroyed, or otherwise disposed of under section 141, and include in that register, in relation to each animal,—

(a) particulars of the date when custody of the animal was obtained and of the date when the animal was disposed of; and

(b) a record of whether the animal was sold, re-homed, destroyed, or otherwise disposed of.

(2) The records in relation to each animal must be kept for at least 1 year after the date on which the approved organisation obtained custody of the animal.

Animal Welfare (Companion Cats) Code of Welfare 2018

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 to companion cats. It applies to, 'all persons responsible for the welfare of companion cats 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). Only the Minimum Standards have legal effect. 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.

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 Schedule II, 'Assessment of Body Condition of Cats', 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 Schedule II, 'Assessment of Body Condition of Cats'.

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.

(b) 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 bylaws for its district for 1 or more of the following purposes:

(a) protecting the public from nuisance:

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

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

Appendix 2: Council Bylaws pertaining to cats

Table 8: NZ North Island Council Bylaws pertaining to cats

Council	Bylaw
Auckland Council	There is no specific reference to cats in the Animal Management Bylaw 2015. There are no restrictions on the number of cats that you can keep on your property. The Animal Management Bylaw 2015 requires all animal owners to make sure their animals do not create a nuisance or health risk to anyone else.
Carterton District Council	The Wairarapa Consolidated Bylaw 2019 Part 6 Keeping of Animals, Poultry and Bees section 5 Keeping of Cats states: "5.1. No person shall keep, on any residential property in the district, more than three cats of age three months or more, for a period exceeding 14 days, without the permission of an authorised officer." This consolidated bylaw was adopted by Carterton District Council, Masterton District Council and South Wairarapa District Council in June 2019.
Central Hawke's Bay District Council	There is no specific reference to cats in the Keeping of Animals, Poultry and Bees Bylaw 2018.
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 2007 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 Regional Council	There is no bylaw in reference to keeping cats.
Hamilton City Council	There is no reference to cats in the Hamilton City Animal Nuisance Bylaw 2013.
Hastings District Council	The Hastings District Council Consolidated Bylaw 2016 states: A person must not keep, provide food to or provide shelter for, on any premises: (a) if the premises are a stand-alone self-contained residential unit, more than four cats over the age of six months; (b) if the premises are one of two self-contained residential units, more than two cats over the age of six months in each residential unit; (c) if the premises are one of three or more self-contained residential units, more than one cat over the age of six months in each residential unit; (d) subject to clause 10.4.7, if the premises are not used for residential purposes, more than four cats over the age of six months on those premises.
Hauraki District Council	There is no reference to cats in the Hauraki District Council Nuisance Bylaw 2019.
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 Council	The Horowhenua District Council's Animal Nuisance and the Keeping of Pigs, Poultry and Bees Bylaw 2014 states: "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 an endangerment to neighbouring animals. If 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 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	The Hutt City Council Control of Animals Bylaw 2018 states: "2.1 All animals shall be kept in a manner that is not, or is not likely to become, a nuisance, dangerous, offensive, or injurious to health. 2.2 All animals shall be kept in a manner that ensures they have adequate physical well-being through acceptable nutrition, environmental, health and behavioural stimulus, and adequate mental well-being. 2.3 All domestic animals, other than domestic cats, found at large and not within their owner's property may be seized and impounded by an authorised officer."
Kaipara District Council	The Kaipara District Council General Bylaws 2008 states: "No person without the written authority of Council shall keep more than five cats of an age greater than three months on any property zoned residential, commercial or industrial. In granting permission to keep more than five cats Council may set conditions as it seems fit to ensure that no nuisance shall arise to the public or any resident in the area."
Kapiti Coast District Council	There is no reference to cats in the Keeping of Animals, Bees and Poultry Bylaw 2010.
Kawerau District Council	There is no reference to cats in the General Bylaw: Control of Stock, Poultry and Bees 2019. Pet animals such as cats, caged birds, pet rabbits and dogs are excluded from this bylaw.
Manawatu District Council	The Animal Bylaw 2019 Part 3 – Cats states: "10 Number of Cats on Premises

	10.1 Any person Keeping cats must not Keep, on any one Rateable Property in the District, more than four cats over the age of three months. 10.2 On a Rateable Property that contains more than one dwelling, no more than one cat over the age of three months per dwelling is allowed to be Kept. Clauses 10.1 and 10.2 do not apply to: (a) Any cats over the age of three months being kept for no longer than 14 days; and (b) Lawfully established Vets, SPCA or similar registered charities, and boarding premises. 11 Cats becoming a Nuisance or Injurious to Health 11.1 If, in the opinion of any Enforcement Officer, the Keeping of any cats on a Premises is, or is likely to become a Nuisance 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 Nuisance effects. 11.2 Compliance with a notice under clause 11.1 must take place within the time specified in such notice, not being less than 14 days."
Masterton District Council	The Wairarapa Consolidated Bylaw 2019 Part 6 Keeping of Animals, Poultry and Bees section 5 Keeping of Cats states: "5.1. No person shall keep, on any residential property in the district, more than three cats of age three months or more, for a period exceeding 14 days, without the permission of an authorised officer." This consolidated bylaw was adopted by Carterton District Council, Masterton District Council and South Wairarapa District Council in June 2019.
Matamata-Piako District Council	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 than 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 Whangarei 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.
Palmerston North City Council	The Palmerston North Animals and Bees Bylaw 2018 states: 8. CATS ON PREMISES 8.1 No person may keep more than three cats per dwelling on any private land in the urban area without a permit issued under this Bylaw. 8.2 If the Council issues a permit to a person to keep more than three cats under clause 8.1 then the permit holder must comply with the conditions of that permit. 8.3 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. 8.4 The restrictions of clauses 8.1 and 8.3 shall not apply to kittens below the age of three months. 8.5 Nothing in clause 8.1 applies to the SPCA or other animal shelter or a lawfully established veterinary clinic or cattery. 8.6 Nothing in clause 8 precludes the need for a resource consent under the District Plan.

	8.7 Every person who keeps cats must ensure: a. Cats over six months of age are microchipped and registered with the New Zealand Companion Animals Register, or other Council approved microchip registry. b. Cats over six months are desexed (unless kept for breeding purposes and are registered with a nationally recognised cat breeders' body including New Zealand Cat Fancy Ltd. and Catz Inc.). 8.8 Clause 8.7 applies to all cats born after 1 July 2018.
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 2019 states: "6. Cats 6.1 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. 6.2 Clause 6.1 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. **Note:** 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 Ruapehu Bylaw 2018 states: 25 CATS 25.1 No person or household shall keep more than 4 cats older than 6 months without a permit from Council. 25.2 No person shall feed and/or attract feral cat(s) to their premises.
South Taranaki District Council	The Keeping of Animals bylaw 2018 states: "9.0 Encouraging nuisances by Feral or Semi Domesticated Animals (including Cats)

	9.1 No person shall provide sustenance, harbourage or comfort to feral or semi domesticated animals so as to cause them to become a nuisance to other persons. 9.2 Where feral or semi domesticated animal(s) cause a nuisance, the owner of the property from which such animals emanate shall be required to abate the nuisance caused by the animal(s). Actions may include but are not limited to: a) claiming the animal(s) as a domestic owned pet and keep it in such a state as to abate any nuisance; b) permanently removing it so it no longer causes a nuisance to others; or c) The Council removing feral or semi-domesticated animals causing a nuisance, and claiming costs from the owner or person giving sustenance, harbourage or comfort.
South Waikato District Council	The Keeping of Animals: Poultry and Bees Bylaw 2017 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 Wairarapa Consolidated Bylaw 2019 Part 6 Keeping of Animals, Poultry and Bees section 5 Keeping of Cats states: “5.1. No person shall keep, on any residential property in the district, more than three cats of age three months or more, for a period exceeding 14 days, without the permission of an authorised officer.” This consolidated bylaw was adopted by Carterton District Council, Masterton District Council and South Wairarapa District Council in June 2019.
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	The Keeping of Animals, Cat, Poultry and Bees Bylaw 2018 states: "8 CATS 8.1 No household shall keep more than three (3) cats where, in the opinion of an authorised officer acting on a complaint, the number becomes offensive to the occupier of a neighbouring property, a threat to public health, or an endangerment to neighbouring animals. 8.2 If the keeping of 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 an authorised officer may, by notice in writing, require the person who owns the premises to do all or any of the following: d. Reduce the number of cats kept on the premises, e. Require the cats to be neutered or speyed where permitted to do so in law, f. Take other such precautions as are deemed necessary and specified by the authorised officer to reduce the effects listed in sub-clauses a-c above. It is the duty of the owner or occupier of the premises to abate the nuisance as required in the notice within the time period specified in that notice.
Taupo District Council	Cats are excluded from the Animals Poultry and Bees Bylaw 2016.
Tauranga City Council	There is no reference to cats in The Keeping of Animals Bylaw 2018.
Thames-Coromandel District Council	Cats are excluded from the Animal Nuisance Bylaw 2019.
Upper Hutt City Council	There is no bylaw in reference to keeping cats.
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	- The Wellington Consolidated Bylaw 2008 Part 2 Animals states: - "4. Cats

	- The bylaw on microchipping cats was passed at the Environment Committee on 4 August 2016. The bylaw will come into place in early 2018, giving owners 18 months to meet the new requirement for cats to be microchipped. - **4.1** All domestic cats over the age of 12 weeks must be microchipped and the cat's microchip registered with New Zealand Companion Animal Register.
Western Bay of Plenty District Council	There is no reference to cats in the Animal (excluding dogs) Bylaw 2019 other than: "No Person may cause or allow any Animal, except for cats or birds, kept within any Premises to escape or wander so as to be offensive or be likely to endanger any Person."
Whakatane District Council	There is no reference to cats in the Control of Animals (excluding dogs), Bess and Poultry Bylaw 2018.
Whangarei District Council	There is no reference to cats in the Animals Bylaw 2017.

Table 9: NZ South Island Council Bylaws pertaining to cats

Council	**Bylaw**
Ashburton District Council	There is no reference to cats in the Keeping of Animals, Bees, and Poultry Bylaw 2016.
Buller District Council	The NZS 9201: Part 13 The Keeping of Animals, Section 1306: The keeping of cats states: "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."
Central Otago District Council	There is no reference to cats in the Bylaw's Part 4 : Keeping of Animals, Poultry and Bees.
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 2018.
Dunedin City Council	There is no reference to cats in the Keeping of Animals (excluding dogs) and Birds Bylaw 2016 other than: "Every person keeping an animal, other than cats, pigeons, and doves, shall be responsible for ensuring that the animal is caged or otherwise restrained within the boundaries of the private land on which it is kept."
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 Keeping of Animals, Poultry and Bees Bylaw 2016.
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 Keeping of Animals in Settlement Areas Bylaw 2017.
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. The Kaikoura District Council website has information on responsible cat ownership: https://www.kaikoura.govt.nz/our-district/environment/biodiversity/
Mackenzie District Council	There is no bylaw in reference to keeping cats.
Marlborough District Council	The Animals Bylaw 2017 states: 8. Restrictions on keeping cats

	(1) No person may keep on any land more than four cats over the age of 3 months without the prior written permission of Council. (2) Nothing in this bylaw applies to the SPCA or other animal shelter or a lawfully established veterinary clinic or cattery.
Nelson City Council	There is no reference to cats in the Urban Environments Bylaw 225 2015.
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 2018 Chapter 17 The Keeping of Animals, oultry and Bees.
Waimakariri District Council	There is no bylaw in reference to keeping cats.
Waimate District Council	There is no reference to cats in the Waimate District Consolidated Bylaw 2018.

Waitaki District Council	The Waitaki District General Bylaw 2018 states: "If, in the opinion of any Authorised Officer, the keeping of animals (including domestic companion cats) or birds on any Rateable Property or Dwelling house is, or is likely to become: a. A nuisance; or b. Injurous; or c. Hazardous to the health, safety or amenity of any persons or their property, then the Authorised Officer may by written notice require the owner or occupier of the Rateable Property or Dwelling house to do all or some of the following: i) Reduce the number of animals or birds kept on the Rateable Property or Dwelling house; and/or ii) Take other precautions as may be considered necessary to reduce the effects listed in a. to c. of Bylaw 54."
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.

Table 10: NZ Regional Pest Management Plans – Summary for Cats

Council	Status	Definition	Rule
Auckland	Unowned Cat[1] (*Felis catus)*	(a) Any cat which is not: (i) Microchipped, or otherwise identified with owner's name and address; and (ii) Registered on the New Zealand Companion Animal Register b) which is within any site that contains a resident or breeding or roosting population of any regionally or nationally threatened bird, reptile or amphibian, and is in a rural area.	• Hauraki Gulf site-led programme 7.1.2.2: ○ Rule 7.1.2.2.1 No person shall move or allow to be moved any unowned cat to or among islands within the Hauraki Gulf Controlled Area. ○ Rule 7.1.2.2.2 No person shall bring any cat within 200m of any cat-free island within the Hauraki Gulf Controlled Area. Rule 7.1.2.2.3 All commercial transport operators moving goods or people to or among Hauraki Gulf Islands must attain and maintain Pest Free Warrant accreditation. ○ Rule 7.1.2.2.4 All persons intending to move a building to or among islands in the Hauraki Gulf Controlled Area must notify Auckland Council at least 10 working days prior to movement, to arrange inspection and approval by Auckland Council.

[1] Note: based on current knowledge of species distributions at time of writing, sites that meet these criteria are shown in Map 3. Note also cat control will only be undertaken on public land or on private land with consent of land occupier (see principle measures of achievement overleaf). Note: this programme does not prevent the continuing sale and distribution of cats within the region.

			• Auckland region site-led control programme 7.7.4.1[2]:
			  ○ Rule 7.7.4.1.1 No person shall abandon, or cause to be abandoned, any cat within the Auckland region.
			  ○ Rule 7.7.4.1.2 No person shall feed any cat on any park within the Auckland region that contains a resident or breeding or roosting population of any threatened native bird, reptile or amphibian.
			• Rule 7.7.4.1.3 Any owner of a cat must ensure their cat does not enter an intensively managed site as defined by Map 10 (see ARC RPMP).

Bay of Plenty	Non-RPMP pest	Considered part of the region's biosecurity framework but not subject to provisions in this RPMP.	None listed
Gisborne	Pest: feral cat	Cats without a collar/harness or microchip that are found outside the Gisborne urban area or a rural ownership. They have none of their needs provided by humans and survive by hunting their food.	• Where a Site Led Pest Management Programme has been declared, all occupiers shall on a complaints basis, and unless otherwise agreed between the neighbours and an authorised GDC staff member, control feral cat, act to significantly reduce the chance of these pests from their property re-infesting the adjacent property.
Wellington	Pest: pest cat	Pest cat means any cat within the Wellington Region that is: (ii) Not microchipped in an area where microchipping is compulsory, and free-living, unowned and unsocialised, and has limited or no relationship with or dependence on humans, or	• Rule 1. No person shall feed or provide shelter to pest cats on private or public land within the Wellington Region, without the permission of the occupier.

		(iii) Not microchipped, or registered on the New Zealand Companion Animal Register, and is free-living, unowned and unsocialised, and has limited or no relationship with or dependence on humans	
Hawkes Bay	Pest: feral cats	Any cat living in a wild state and not being kept as a domestic pet.	• All occupiers within a Predator Control Area shall maintain cats in accordance with the Hawke's Bay Regional Predator Control Technical Protocol (PN 4970).
Northland	Pest: cats (feral, stray)	Feral: Cats that have none of their needs provided by humans. Stray: Stray cats are companion/domestic cats that have been lost or abandoned. They may have many of their needs indirectly supplied by humans and live around centres of human habitation.	None listed besides the Biosecurity act pest rules.
Waikato	Pest: feral cats	Feral cats resemble domestic cats in size and colouration. They live in most terrestrial habitats, including sand dunes, pasture, forest, tussock and scrub, from sea level to elevations of about 3000m. If conditions are favourable they can have three litters per year. Feral cats are present throughout the region. Feral cats differ from stray cats. Stray cats are defined as cats that rely on food or shelter that is provided intentionally or otherwise by humans. This category includes animals kept on farms for rodent control and abandoned cats living in urban fringe situations such as rubbish dumps. Reproduction in these populations is not usually manipulated by humans. Feral cats are defined as	• No person shall knowingly abandon or release, or cause to abandon or release to the wild any cat. • No person shall actively assist in the maintenance of any feral cat.

		free-living cats that have minimal or no reliance on humans, and which survive and reproduce in self-perpetuating populations (National Possum Control Agencies 2009. Feral and Stray Cats, Monitoring and Control, a Preliminary Guideline Towards Good Practice).	
Canterbury Chatham	Species/organism of interest: feral cats	None listed.	None listed.
Otago	Pest: feral cats	Not much of a definition. Only comparison with other cats: 'They tend to be solitary and territorial compared to domestic stray or unwanted cats that tend to form colonies.' Feral defined as: wild or otherwise unmanaged.	• No person shall keep, hold, enclose or otherwise harbour in any place, either in transit to or present on Quarantine and Goat Islands any feral cats.
Southland	Pest: feral cats, Bengal cats. Pest agent: domestic cat	Only comparison with other cats: 'Feral cats tend to be solitary and territorial compared to domestic stray or unwanted cats that tend to form colonies.' Feral defined as: wild or otherwise unmanaged. Domestic cats are only considered pest agensts: 1. within the Stewart Island Rakiura Site-led Programme Zone; and 2. where they are not de-sexed and microchipped	• Rule 6: No person other than an authorised person shall possess, keep, hold, enclose or otherwise harbour any Bengal cat within the Southland region. ○ Exemptions to this will be considered by Environment Southland where it can be demonstrated that any animal has been de-sexed and micro-chipped for identification and the person is not living on, or travelling to, Stewart Island/Rakiura or any other offshore island. • Rule 7: Any person who detects or suspects the presence of any Bengal cat within the Southland region, must immediately report the pest's presence and location to Environment Southland. • Rule 25: No person shall keep, hold, enclose, either in transit to or present on Stewart Island/ Rakiura site any feral cat.

			• Rule 27: Note: This is a pest agent rule. No person shall: (i) keep, hold, enclose or otherwise harbour in any place, either in transit to or present on the Stewart Island/Rakiura site any domestic cat; or (ii) release into the wild on the Stewart Island/Rakiura site any domestic cat. ○ Any person who is responsible for a domestic cat that is de-sexed and its identity microchipped is exempted from the provisions of Rule 27(i).
Tasman and Nelson	Pest: feral cats. Species/organism of interest	Not defined.	No rules listed.

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 11: Australian state-based legislation for domestic cat management*

Element	**ACT**	**NSW**	**QLD**	**SA**	**TAS**	**VIC**	**WA**
Cat registration	No	Yes by 6 months	No	No	No	Yes from 3 months	Yes from 6 months
Identification (collar & tag)	No	No	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 12 weeks	Yes prior to sale/ transfer and by 12 weeks	Yes by 6 months	Yes at 3 months	Yes by 6 months of age
Desexing	Yes by 3 months	No	No	Yes by 6 months	Yes by 6 months	No	Yes by 6 months

Breeder registration	Yes from 3 months for entire cat	No	No	Yes by 6 months	No	Yes if have >3 fertile cats	Yes by 6 months
Breeder required to comply with Standards	Yes	Yes	No	Yes	No	Yes	No
Must 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 Management Plans	No	No	No	Yes	No	Yes	No
Modified from the 'Comparison of key elements of state-based cat management legislation' table in Identifying Best Practice Cat Management in Australia (RSPCA Australia 2018)							

* There is no territory-based legislation relating to cat management in the NT.

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' (Human Canada: www.humanecanada.ca/animal_control).

Other municipalities are bringing in bylaws requiring cats to be registered and identified and placing limits on the number of cats allowed to be kept. 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 1st 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."

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

behaviour 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[3] pursuant to the sterilization[4] 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[1].

(f) The purpose of this section is to authorize the humane trapping, collection, and sterilization[2] 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

[3] Desexed

[4] Desexing

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 harbour 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.

Appendix 4: Response to consultation feedback

Dear Stakeholder,

Thank you for taking the time to give feedback during the first and/or second round of consultation on the National Cat Management Strategy draft documents. We appreciate your input and engagement with this important issue and recognise the importance of working with the many stakeholders in cat management.

There was great diversity in the involved stakeholders' positions and approaches to the issue of cat management. It has been the National Cat Management Strategy Group's (NCMSG) intention to devise a strategy that is evidence-based, measured, moderate and practically applicable. While the NCMSG carefully considered all the feedback given it is acknowledged that it has not been possible to incorporate all of the suggestions or accommodate all points of view.

A number of common themes came up in the draft strategy consultation. These summarised below with responses to each of the main concerns or queries.

Concerns about microchips

A number of stakeholders expressed concerns about the potential for microchips to fail and the resultant inability to identify microchipped cats. Although this is a valid concern, the failure rate of microchips is very low. Of all the microchips registered on the New Zealand Companion Animal Register (NZCAR), the recorded failure rate is 0.1%. In addition, this is most likely an overestimate as when microchips are reported/recorded as failed NZCAR is unable to distinguish between implanter error, true microchip failure and microchip reader error (for further information please see the relevant section of the final strategy background document). There is no brand of microchip currently on the market that is immune to failure but microchipping is still far more reliable than other identification measures. In addition, the NCMSG recommends that cats also have external identification (a collar and tag). Other measures can also be used to increase the chance of a lost cat being reunited with his/her owner/caretaker (please see further information later in this document and in the final strategy background document).

There seems to be some misunderstanding surrounding the issue of mandatory microchipping and the perception that this will lead to the killing of more cats. In fact, it should be quite the opposite (and this is certainly the intention). Currently it is common for unidentified cats, particularly

unsocialised cats, to be humanely killed if they are taken into custody by animal control officers, or if they end up at a pound or shelter. Mandatory microchipping will mean more cats are microchipped and this gives them a greater chance of being identified and returned to their owner. In addition, as mentioned above, the NCMSG is advising a number of other measures also be implemented to increase the number of cats reunited with their owners, rehomed or managed by non-lethal methods (for more detail see later).

There also seems to be some confusion about what generally happens to unwanted cats. This makes it difficult for people to recognise the need for and benefits of the strategies that are proposed in the cat management plan. In the interests of transparency and improved understanding, the NCMSG wants to make the current situation clear. When a cat is brought by a person other than the owner into an organisation that accepts cats, such as a pound or shelter, the following should occur (this does occur in some pounds/shelters/organisations but not all):

1) The cat's behaviour is assessed, to try and determine if the cat is socialised or unsocialised.

2) The cat is assessed for illness and/or injury, if the cat's behaviour allows this. Sometimes unsocialised cats displaying very fearful behaviour need to be sedated or anaesthetised before assessment can occur. Therefore, if a veterinarian is not available, this may not be possible.

3) The cat is checked for a microchip or other identification. This can be extremely difficult with unsocialised cats displaying very aggressive behaviour (see note above).

If the cat is identified, the following steps generally occur:

- Attempts will be made to contact the owner using the identification details.
- If the owner cannot be located, the cat will be kept for a hold period (usually for 7-8 days) to allow a possible owner to come forward. The cat will be listed on the lost and found databases during this time, lost and found flyers may also be put up in the area where the cat was found and local veterinarians contacted.
- If the owner cannot be located and the cat is seriously ill or injured and it is not considered possible to keep the cat comfortable for the hold period, the cat will be humanely killed (with the authorisation of a warranted inspector, if within the 7-day hold period).

If the cat is **not identified,** the possible outcomes for that cat are:

- The cat will be kept for a hold period (usually for 7-8 days) to allow a possible owner to come forward. The cat will be listed on the lost and found databases during this time. Lost and found flyers may also be put up in the area where the cat was found, and local veterinarians contacted.
    - If the cat is seriously ill or injured, and it is not considered possible to keep the cat comfortable for the hold period, the cat will be humanely killed.
    - If, after a "settling down" period has passed, the cat appears to be unsocialised, and the cat displays fearful (and aggressive and dangerous) behaviour, and the assessor considers that the cat is most likely to be unowned and the cat unsuitable for rehoming due to his/her behaviour, the cat will be humanely killed (with the authorisation of a warranted inspector). This occurs where the cat's behaviour indicates that holding the cat would be distressing and cruel for the animal and would put staff at significant risk of injury during the hold period. The time given to see if the cat calms down, if any, will depend on the organisation and assessor, and varies considerably (see later for further information that addresses the inconsistent nature of cat behaviour assessments).

If no person comes forward to reclaim the cat (it is unusual for cats to be reclaimed), after the hold period, the cat's health and behaviour will be assessed again to determine if the cat is suitable for rehoming.

- If the cat is deemed suitable for rehoming, efforts are generally (dependent on organisation) made to rehome him/her.
- If the cat cannot be rehomed or develops health or behavioural issues whilst in care that preclude rehoming, the cat may be humanely killed.
- If the cat is not deemed suitable for rehoming due to health or behavioural reasons, the cat will be humanely killed.

Comments were made by some stakeholders about trying to provide adequate protection for roaming or lost microchipped cats and non-microchipped companion or stray cats. Procedures should be followed to give the cat and owner/caretaker (if there is one) every possible chance to be reunited. In fact, the NCMSG advocates that all organisations should follow a consistent and comprehensive protocol to ensure that cats have the best outcome possible. This includes recommending steps to follow for a member of the general public who finds a cat. This protocol should include the following procedures:

3.1) If the cat has no external identification and is a healthy stray then, if it is possible and safe to do so, the cat should have a paper collar put on and returned to where he/she was found. For example, the New Zealand Companion Animal Council (NZCAC) has a free paper collar download available from: www.animalregister.co.nz/images/downloads/170720_pet_collar_template.pdf.

- Finder details should be put onto the collar with a request for the owner/carer to get in touch with the finder to let them know the cat has a home/carer. Ideally, this should be done BEFORE the cat is taken to a sheltering organisation. Once the collar has been put on the cat a few days should be allowed to pass to give a possible owner/carer time to get in contact. If, after 2-3 days, no one comes forward and other ways of checking for a carer (for example, asking neighbours and putting up flyers, NZCAC also has a free lost pet flier available for download and individualisation: www.animalregister.co.nz/lostpetflyer.aspx) have been tried and have also failed, then the cat can be taken to a sheltering organisation. If the cat is sick/injured, or in an unsafe location or situation, the cat should be taken to a sheltering organisation without delay.

3.2) Once the cat is taken to a sheltering organisation the cat should be checked for a microchip and for external identification before any decisions are made about the cat's future. The NCMSG is recommending that it be mandatory for cats to have physical identification and a microchip and this should increase the numbers of cats that benefit from the protection of being identified.

3.3) If no identification can be found, or the owner/carer cannot be contacted through the available identification details, the cat should be listed on lost and found databases and websites where people may search for a lost cat. This may include:

- New Zealand Companion Animal Register (NZCAR)
- Pets on the Net
- Neighbourly
- Trade me™.

These measures are all recommended to increase the likelihood of owners/carers finding their lost cats. It should be noted that NZCAR currently has a free scanner offer that is open to veterinarians, SPCAs, rescue organisations, pet shops, or any other organisation that helps to repatriate lost animals. Furthermore, the New Zealand Companion Animal Council is bringing pet facial recognition technology to New Zealand; this will be another method to help reunite lost animals, including cats, with their owners. The NCMSG is also encouraging all

veterinarians and animal health care providers to scan all animals at every consultation, to check that microchips are still working and to prompt owners to update their details.

4) Behaviour assessment of the cat should be carried out before any decisions are made about the cat's future. Additionally, the NCMSG is advising that a standardised and robust behaviour assessment is used to consistently evaluate cats throughout NZ. The SPCA will be developing guidelines to help those assessing cats to be as objective, fair and consistent as possible in the decision making process.

It is important to highlight that it is NOT suggested anywhere in the plan that all unmicrochipped cats be killed. In fact, it is explicitly stated in the plan that every effort should be made to find a non-lethal outcome for each cat. Humane killing should be the last resort, though this will likely be the outcome for unsocialised stray or true feral cats. At present, unsocialised stray or feral cats are already killed; consequently, no recommendations are anticipated to lead to an increase in the number of cats killed.

Additionally, if individual cat owners/caretakers are particularly worried about their cats, they have the opportunity to use a GPS tracking unit for their cat (in addition to microchipping and external ID) and new facial recognition technology when it becomes available in New Zealand. Furthermore, confining cats to the owner/caretaker's property will also help to safeguard the cats.

Another concern expressed was that microchipping may be prohibitively expensive for some people. In order to address this potential limiting factor, the strategy also calls for free or low cost microchipping as part of cat management campaigns.

Stray cat hold times

Some stakeholders believed that the hold time should be increased for cats of unknown ownership status or cats whose owners cannot be found. However, holding cats for long periods of time is a significant welfare issue. If the cats are truly unsocialised stray or feral cats, there is little to no chance that they will be claimed, this means that these cats will be subjected to significant suffering for no reason as they are extremely distressed by being held. It is believed that the mandatory 7-day hold period already subjects unsocialised stray or feral cats to unreasonable distress. Therefore, if a behavioural assessment indicates that the cat is an unsocialised stray or feral cat, the best outcome in terms of animal welfare, is for that cat to either be returned (after desexing) to where he/she was living if he/she is healthy and this is possible, or, if a non-lethal option is not available, then the cat should be humanely killed without the cat serving the full 7-day hold period. There are significant

welfare issues associated with the hold period for even a socialised cat; confinement is stressful, cats may become ill, particularly with diseases that have a stress-induced component. For socialised cats a 7-day period is considered to be a reasonable balance between allowing the owner time to find the cat and protecting the cat's welfare by not subjecting him/her to a long holding confinement. It is important to highlight that the vast majority of even owned cats are never reclaimed by their owners (usually less than 2%). If the recommended procedures are followed, cats that have owners/carers looking for them should have ample opportunity to be claimed. In addition, stray cats will still be given every opportunity to find a new home after their 7-day hold period is completed as long as they are of suitable behaviour and health.

Some stakeholders made the valid point that some (potentially many) adult cats displaying unsocialised behaviour could be socialised, given enough time and resources. However, due to the numbers of these cats being brought to pounds and shelters this is not feasible, simply due to the fact that there are not enough resources (human, time or financial) available to try and socialise all of these cats. In order to understand the magnitude of this issue, consider that approximately 1000 cats/year are humanely killed because they are unsocialised stray or feral cats, in just one shelter in New Zealand.

Indeed, currently there are not enough homes available for all socialised cats, so even if the unsocialised cats were socialised, it would currently be extremely difficult to find them homes. For some of the cats, it may also cause unreasonable and unnecessary distress and a negative quality of life.

Mandating components of the cat management plan

A number of stakeholders expressed the belief that various components of the plan should be mandated. The NCMSG acknowledges that it will likely be necessary to mandate components of the plan in order to make them effective. However, the group is not in a position to do so; this mandate will need to come from central and local government. The NCMSG also believes that change will need to be incremental and that part of this will be incremental change in the public's attitudes and behaviours towards cats, achieved through education and awareness campaigns.

Legislation

Although there was general agreement from stakeholders that legislation should be based at central government level and standardised across the country, there were mixed opinions about where the

responsibility should lie for the implementation of legislation. Most stakeholders were in favour of a collaborative approach between central and local government and welfare organisations. Some stakeholders questioned what the role of a national cat management task force would be in this mix. These are valid questions and will need to be addressed. however, the national cat management plan is a *strategic* plan, not an *operational* plan. If the plan is to be adopted, then further work will need to be done to devise an appropriate operational plan that includes detail on how the different components and involved stakeholders will work together to achieve the desired outcomes. Funding and support from government and other stakeholder groups will be necessary in order to achieve this.

Monitoring and reporting on management strategies

Stakeholders expressed their belief that the effectiveness of the management strategies would need to be monitored and reported in a way that is available to the public. The NCMSG is in full agreement and has made recommendations in the document regarding this.

The need for more research

Many stakeholders believe that more research is needed and the NCMSG recognises and agrees the importance of research specific to the NZ situation. In the draft plan the group has listed a large number of areas in which we believe more information relating to cat management is needed. This list has been revised and added to after the consultation (please see further information in the final strategy background document). This includes a need for more research about New Zealand opinions on cat management and also about which management strategies are the most effective whilst retaining welfare standards and minimising the need for lethal control of cats.

In addition, concerns were raised about the lack of evidence of the impact that companion and stray cats are having on New Zealand native species and ecosystems. Some stakeholders thought that the negative impact of cats was over-estimated in the draft background document and commented that many native animals are killed by other causes, which may have a greater impact than cats (for example, poisons, window collisions, road traffic accidents and ecological degradation). Other stakeholders expressed the opposite point of view, that the negative impact of cats was under-estimated. The NCMSG agrees that more information is needed about the impact that cats have on native species and ecosystems. Research is ongoing in this area and is wholeheartedly supported by the NCMSG. Based on the evidence that is available, cats can and do have a negative impact on native species and ecosystems and are not currently being adequately managed to mitigate this. Therefore, the NCMSG feels that improvements in cat management are needed while the research is ongoing;

this is why the national cat management plan has been developed. However, it will need to be modified and refined as more evidence and evaluations are available.

It was highlighted that some groups have collected data in areas where they believe the strategy is lacking. Some stakeholders also feel that individuals, communities, and groups around the country have information that has not been utilised. The NCMSG agrees that this is likely and the group needs access to the data that people are suggesting they have. Therefore, we call for this information, and a resource to manage this information, to be made available. In addition, the NCMSG calls for people and resources to help assess this data and make an appropriate research plan, as our group does not have the resources to do this in isolation.

Cat categories

There were concerns expressed by some stakeholders that the division of cats into categories and the use of this categorisation in the management algorithm is too complicated. The NCMSG recognises that this categorisation system may appear to be overly complicated. However, the cat sub-populations involved in the unwanted cat problem are complex and so, as a reflection of this, the categorisation system is also relatively complex. In particular, the cats previously referred to just as 'stray cats' cannot realistically all be combined into one category (as many suggested); the diverse characteristics of this group must be acknowledged and management must differ for the different subcategories. In addition, the added divisions within each category will allow the different groups of cats to be legally managed while also providing added protections for cats previously unprotected.

Trap neuter and return (TNR)

As expected, the suggestion that TNR be one of the management strategies available to communities received much comment and very mixed responses; some stakeholders were supportive and others vehemently opposed to the use of TNR, saying that all stray cats should be humanely killed or rehomed. There was concern expressed that no unowned cats (including managed stray, colony, or community cats) should be allowed, as if the cats are not having all their needs met by people, they may suffer from poor welfare and also will have more than a minimal impact on wildlife.

Under the proposed plan, all cats that can be rehomed would be rehomed. Managed and targeted TNR (mtTNR) simply offers a non-lethal option, in appropriate circumstances, rather than just humane killing, for cats that cannot be rehomed. It is important to highlight that the use of mtTNR as proposed in the strategy is a means to reduce unowned cat numbers (to none, ideally, or at least minimal

numbers) in areas where trap and humane killing programmes (TE) are not appropriate or desired by the community; ongoing management of cats through mtTNR is not the goal. In addition, stakeholders should note that TNR is not considered a wildlife conservation tool and is not intended for use with feral cats. TNR is a short-term strategy (albeit short-term meaning over some years) to reduce the numbers of stray cats with the ultimate goal of having very few or no stray cats in New Zealand. Despite TNR not being a conservation tool, the reduction in cat numbers achieved through TNR programmes in areas where otherwise cats would not be managed will help conservation efforts over the long term. Furthermore, the plan clearly recommends that mtTNR be conducted with adherence to best practice guidelines and used in conjunction with best practice cat colony management; this will help to protect cat welfare and also have benefits for the community (less likelihood of nuisance from cats) and wildlife (cats that are having all of their needs provided are likely to have less of a negative impact on wildlife). The NCMSG believes that there is the need for mtTNR and best practice cat colony management guidelines to explain what is believed to constitute a well-managed cat colony. As new evidence comes to light these guidelines can be adapted and improved. Funding is needed to provide the resources needed to produce, distribute and help to implement these guidelines.

It is acknowledged that mtTNR is not appropriate in all situations. In instances where mtTNR is inappropriate (for example, near a sensitive wildlife area) the NCMSG supports trap and rehome. Where no other humane and non-lethal opinions are available the NCMSG reluctantly acknowledges that trap and humane killing methods for stray cats may be necessary, if this is the only option available and cat numbers must be reduced to safeguard the survival of vulnerable native species.

Feral cat eradication

Stakeholders generally accepted the need for humane eradication of feral cats. It was commented that methods of humane killing for all cats should be specified and, preferably, should not include poisons. Methods of humane killing are intentionally not listed in the plan, as this document will not be updated regularly. Over time further research and scientific evidence should lead to improved and more humane feral cat control methods; it is vital that the most up to date and humane methods are used. It is of utmost importance that those reading the cat management plan and involved in feral cat control refer to those sources that provide regularly updated best practice, evidence-based guidelines. This is what is recommended in the plan.

Concerns about the cost of cat confinement

A number of stakeholders expressed concern that the cost of cat confinement would be prohibitive. Although there would certainly be costs associated with this, it is important to highlight that these are no different from the costs involved with dog confinement. The public has accepted the need for dog confinement and the associated costs. Education of the public so that cat confinement is accepted in the same way as the public have generally accepted the need for dog confinement, will be needed to facilitate a gradual shift in attitudes, behaviour and social norms. Cat confinement and the associated cost will then become an accepted part of responsible cat ownership, just as it is for dog ownership.

Some concern was expressed that, if confinement of cats becomes more widespread, wandering cats may be targeted. However, no evidence to support this concern has been found. It is also important to highlight that the management plan does not recommend that cat confinement be mandated across the whole country but that it should be encouraged and facilitated. Some local governments may decide that cat confinement should be mandated at a local level, particularly in sensitive wildlife areas.

Containment or restriction of outdoor access for cats is generally supported in sensitive wildlife areas. However, there were differing opinions on what areas need protecting. Some stakeholders believe that cat confinement in urban or farm settings may provide less benefit because native species are less common and pest birds and rodents are abundant. Other stakeholders expressed the contrasting view, that urban green areas are an important source of wildlife interaction for the majority of the population and should be protected from predators. The NCMSG acknowledges that there will be diverse opinions on the merit of protecting specific areas and, also, that a rural-urban divide is likely in these opinions. It will be important for councils and organisations involved in cat management programmes to decide what a sensitive wildlife area is and plan which areas in their jurisdiction are not suitable for mtTNR and implement other cat management methods in those areas. On a national level certain areas can be designated as no mtTNR zones, then decisions can be made locally about other areas on a case-to-case basis with local government/councils. In those areas that local government and organisations decide are sensitive wildlife areas, a decision will need to be taken about how to manage cats in those areas. If a trap and rehome or a humane kill programme is decided on to manage cats, then it is important that the council takes responsibility for this. Welfare organisations cannot be expected to eradicate cats. Not only would this go against the mandate of the majority of these organisations, it would also be contrary to what their supporter base would expect and desire. Therefore, such actions could result in the loss of financial support, on which these organisations rely. If the council will not or cannot undertake a humane kill programme, serious discussion is required about the risk of doing nothing to manage cats in that area as opposed to a

welfare organisations instigating and maintaining a mtTNR programme. Ongoing assessment and adjustment will be needed.

Nuisance behaviours

No stakeholders want the management strategy to, in any way, allow or encourage cruelty towards cats. A number of stakeholders expressed the opinion that a definitive and unambiguous list of nuisance behaviours should accompany the management strategy to try and prevent repercussions for 'normal' behaviours considered nuisance behaviours by some people. This is a valid concern but in reality, all cat 'nuisance behaviours' are normal behaviours. Education is a key component of making people aware and accepting of normal cat behaviour, but also a key component of ensuring that cat owners limit the nuisance their cat causes to others (even if the nuisance comes from normal cat behaviour). Confinement of cats will assist with mitigating nuisance issues. Stakeholders should also be aware that nuisance behaviours are set out under local government law, the cat management plan cannot define these. Each local area would have to examine and assess whether to update their local government laws about what constitutes nuisance behaviour for cats.

Summary

To address the feedback from the consultation process, changes, detail and clarifications have been added to the sections discussed above and others, including cat confinement, cat identification and collars, anti-predation devices, mtTNR/TNR, TE, stray cat management and research needs.

The National Cat Management Strategy recommendations and background document are now finalised and is attached to this email.

Thank you once again for your engagement and input. The NCMSG looks forward to New Zealanders working together to improve cat welfare, responsible cat and mitigate cats' negative impact on wildlife through well designed and managed cat management that are both humane and effective.

Yours sincerely,

The National Cat Management Strategy Group