



Centre for Companion Animals in the Community

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Submission to Queensland Government on the discussion paper:

Managing Unwanted Cats and Dogs, July 2007

The presence and euthanasia of unwanted animals in pounds, shelters and veterinary clinics is as distressing to members of the Australian Veterinary Association as it is to those who work in Pounds, Shelters and other rescue organisations.

It is inappropriate and unacceptable that animals, whose nature is to enjoy a relationship with humans, should be born only to end their days in confinement and at the hands of the people they were born to trust. The stress caused by daily dealing with animals who may be unwanted, ill, injured, and who have to be euthanased, is well recognised [Rohlf & Bennett, 2004].

This submission outlines a response to each of the four management tools provided for discussion by the Queensland Government.

1. education
2. identification
3. registration
4. desexing

Executive summary

The Australian Veterinary Association (AVA) is an association of professional veterinary scientists who have vast expertise and experience in the management of animals.

The AVA shares the concerns of the public, the Queensland Government and animal welfare organisations in the destruction of large numbers of cats and dogs each year in shelters, pounds, and rescue organisations. It is a sad and terrible situation, one which all of our members care about both personally and professionally.

The proposed responses outlined by the Queensland Government are for the most part sensible and balanced, and demonstrate a good understanding of the scientific and community issues.

The AVA offers comments on each of the four management tools:

1. Education

The AVA pioneered one of the earliest coordinated national education programs for primary school children – AVA PetPEP. Independent evaluation of PetPEP on two occasions found it to be a high quality and valuable program.

In recent years, the program has evolved, and has now become a part of the NSW Department of Local Governments education package to every primary school in that state.

The AVA strongly recommends an educational program directed towards responsible pet ownership.

2 Registration and

3. Identification

Veterinarians have been at the forefront of microchip use for over a decade, and the AVA can offer considerable expertise in this area.

The AVA supports the establishment of efficient, practical and functional microchipping and registration systems that identify animals and their owners for the purposes of animal recovery, control and management.

4. Desexing

Veterinarians believe desexing to be a major tool in management of pets.

The Australian Veterinary Association (AVA) supports desexing of companion animals. Desexing is important in population control and has other benefits for the behaviour and health of animals.

In general, the AVA does not support mandatory desexing, and considers that owner education is the most effective approach to encouraging owners to have their pets desexed.

The AVA does not support mandatory desexing as a tool for preventing animals being euthanased in shelters for the following reasons:

- theoretical modeling based on science predicts it will fail
- it has not been shown to work in jurisdictions where introduced, including Australia

- there is no evidence it will redress the situation for animals in shelters
- there is a poor understanding of the root causes for animals arriving in shelters
- it will be an expensive waste of precious animal management resources, which would be better directed to proven methods.

1. Education

The AVA strongly recommends an educational program directed towards responsible pet ownership. The AVA is willing to assist the Queensland Government with this task.

Educating the Public about Responsible Pet Ownership

Research and studies of pets in our society have found that pets are good for our health and well being, and bring tremendous joy and companionship to their owners. It is also acknowledged that pets may cause problems. Management of animals in our community therefore requires a judicious balance of education and legislation.

Educating the community about responsible pet ownership is an effective approach to the challenges of pet management in our society. This should involve pet owners and non pet owners, and include indigenous communities.

Learning about pets is immensely popular with primary school children. Over 15 years ago, the Australian Veterinary Association (AVA) pioneered an education program about responsible pet ownership for primary school children. This program called PetPEP (Pets and People Education Program) has been revised and refined into a powerful educational tool for children throughout Australia. Since then other similar education packages for children have been developed. The RSPCA and Animal Welfare League (AWL) in some States have developed programs. The Delta Society Australia has developed a program specifically targeted at preventing dog bites, called Delta Dog Safe.

It is worth noting that, apart from the RSPCA program in South Australia, all other education programs direct their resource towards children, including other RSPCA State based programs. It is widely acknowledged that children can influence their parents and other significant adults. All programs are aiming for the same outcome i.e. responsible pet ownership.

With this in mind, the Australian Companion Animal Council (ACAC) [www.acac.org.au] produced an education package for the NSW Department of Local Government. This program, called SPOT (Safe Pets Out There) incorporates the AVA PetPEP, Delta Dog Safe and the programs produced by the RSPCA (NSW) and the AWL (NSW). [see www.spot.nsw.gov.au] When children are presented with the SPOT program, brochures are given to them to take home to their parents, further educating the community.

The SPOT program has 3 modules:

1. Safe Behaviour Around Dogs (Delta Dog Safe)
2. Pet Care, Health and Welfare (AVA)
3. Kindness, Care and Safety (RSPCA NSW: AWL NSW)

Government legislation is included in the program content.

Feedback from teachers indicates the SPOT educational program has been well received. Information presented to children is frequently passed onto parents and other significant adults.

These educational programs have been developed by teachers and veterinarians, with input from local and state government departments, welfare associations and other relevant organisations.

The benefits of such programs are many and include:

- The choice of an appropriate pet to suit the household
- A greater understanding of the importance of pets to children and their families
- A reduction in the number of unwanted companion animals being euthanased in pounds by (1) improving behaviour and socialisation, especially dogs, resulting in more sustainable pets (2) Discouraging inappropriate overbreeding of dogs and cats.
- A reduction in number of dog bites and interaction with unsafe dogs
- To have a cohort of young children (and their parents) who will behave more safely and sensibly around dogs – both the family pet and other people’s pets. In the longer term producing a generation of children (and subsequently adults) who are better informed about the benefits of pets in society and how best to live safely and in harmony with them.
- More informed on Government legislation e.g. microchipping and registration
- Increased empathy and kindness towards animals and the generation of respect and good citizenship by caring for the people and animals of our world
- More contented pets
- May be used in indigenous communities to the benefit of the animals and the health of that community. (refer to the organization Animal Management in Rural and Remote Indigenous Communities (AMRRIC))

The AVA strongly recommends an educational program directed towards responsible pet ownership. The AVA is willing to assist the QLD Government with this task.

2. Registration, and 3. Identification

The Australian Veterinary Association (AVA) regards radiofrequency identification (RFID) [microchips] as the preferred form of permanent identification for animals. The AVA supports the establishment of efficient, practical and functional RFID systems that identify animals and their owners for the purposes of animal recovery, control and management.

Where state governments enact laws or regulations to control microchip identification systems for domestic animals, the Australian Veterinary Association (AVA) hopes that they will institute similar protocols to those of Domestic Animal Registries Inc (DAR) or subcontract DAR to perform registry control and auditing functions.

The Australian Veterinary Association has spent many years and thousands of person-hours investigating and developing positions on microchip identification and registration systems. This has been done with extensive consultation with government agencies, animal welfare organisations and industry.

At present, the model that most closely resembles AVA Policy and position on registration and identification is the system currently used in Victoria.

It should be noted, however, that historically compliance with registration was only moderate: 64% of dogs and 41% of cats were registered in 2004 [McMurray 2004].

In addition to microchipping, it should also be recognised that simple collar and tag identification provides additional benefits, in that it is low cost, effective and flexible. In many cases a collar and tag can return lost animals through community channels before they become a burden on shelters and pounds.

The full AVA policy document is in APPENDIX I

4. Desexing

Recently the role of desexing in preventing unwanted animals has been the subject of considerable debate.

The cause of this debate is not whether desexing is a useful tool in managing pet populations – history demonstrates that it has been highly successful [BIS Shrapnel, 2006] because pet populations are no longer increasing. The cause of this debate is whether *mandatory desexing* will provide *additional* improvement to the status quo.

The AVA position on desexing is as follows:

The Australian Veterinary Association (AVA) supports desexing of companion animals. Desexing is important in population control and has other benefits for the behaviour and health of animals. In general, the AVA does not support compulsory desexing, and considers that owner education is the most effective approach to encouraging owners to have their pets desexed.

The logic behind the case for mandatory desexing appears to be:

If fewer animals are capable of reproducing, then fewer animals will be born, and fewer animals will be unwanted or not find homes, and so fewer will enter shelters, pounds and rescue organisations, and fewer will end up being euthanased. A higher proportion of animals will be wanted, will be responsibly owned, and will not end up being unwanted or abandoned in shelters. The ultimate goal - fewer animals dying before their time - will be realised.

And how to achieve a lower birth rate? By increasing the proportion of animals desexed. And how to make them get desexed? Make desexing mandated by law.

Unfortunately, this apparently simple solution has failed where it has been tried, including in Australia, and will fail if introduced more widely.

Mandatory desexing is easy to call for and appears, on the surface, to be a logical solution to high euthanasia levels in shelters and pounds. Theoretical modelling and real-world evidence, however, strongly suggests that the logic is fundamentally flawed.

Theoretical modelling.

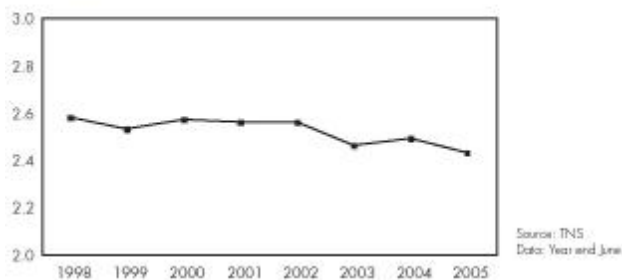
Theoretical modeling explains why an increase in current desexing rates by mandating the practice will fail to achieve the desired outcome – that is, fewer animals euthanased in shelters.

Before discussing the real world experience, it is important to understand the science behind the story. The Australian Veterinary Association is an association of professional scientists, and despite the consequences of mandatory desexing meaning more income through increased case load for practising veterinarians, the AVA still does not support mandatory desexing. The concept fails on scientific grounds. What follows are some key scientific concepts which underpin the AVA's position.

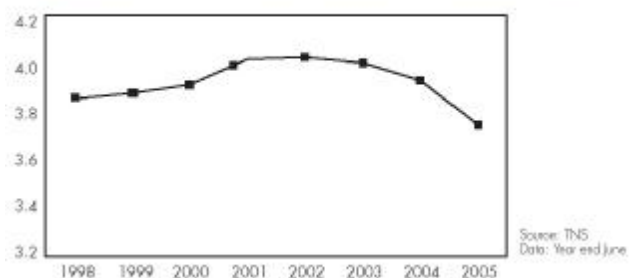
1. Cat and dog population dynamics

Annual national surveys of pet owners reveal an irrefutable finding: owned cat and dog numbers are in steady decline. Cats have dropped from 3.2 million cats in households in 1988 to 2.3 million cats in 2006. Dogs dropped from 4 million dogs in households in 2000 to 3.75 million in 2006. [BIS Shrapnel, 2006]

Cat population – trend line estimates, 1998-2005 (million)



Dog population – trend line estimates, 1998-2005 (million)



Unlike most other countries, Australia's owned pet populations have failed to keep pace with human population growth. Rather than a pet population "explosion", Australia's pet populations are no longer increasing and are stable or in decline.

2. Zero Population Growth.

Population modeling undertaken in several studies [Nassar, Mosier and Williams, 1984] [Nassar R, Mosier J. 1982] [Baldock, FC, Alexander, L & More, SJ, 2003] has found that in order to achieve stable populations of dogs and cats, 76-88% of female cats should be desexed, and 66-77% of female dogs should be desexed.

Surveys of desexing rates of owned animals indicate that in most areas of Australia, these Zero Population Growth thresholds have been approached or exceeded. This goes some way to explain why owned pet populations are no longer increasing.

3. Cat sub-populations

As outlined in the Queensland Government discussion paper, there are 3 recognised sub-populations of cats, divided along ecological lines: *owned*, *stray* and *feral*. It is important to realize that although surveys of cat and dogs numbers [BIS Shrapnel, 2006] and desexing capture data on the *owned* population, shelter populations represent data capture *across the entire spectrum* of sub-populations.

4. Reasons for surrender

Although often cited as the primary reason for animal relinquishment, 'overpopulation' does not represent the dominant factor in surveys that have investigated reasons for surrender. An American study [Salman, New, Scarlett, Kass, Ruch-Gallie & Hetts, 1998] found 71 reasons for owner relinquishment of cats and dogs, where 'overpopulation' represented only

8% of this relinquished population. Other studies have also found that owner relinquishment was a minor contributor to shelter populations. [Zawistowski, Morris, Salman, Ruch-Gallie, 1998] [Interim findings, Vic BAW study on cats in shelters, pers.comm. R.McMurray]

Experience with mandatory desexing: overseas.

Experience in several overseas jurisdictions demonstrates that mandatory desexing is not a successful strategy.

Numerous counties in the USA have at one time mandated desexing of pets. It has been generally unsuccessful, and very wasteful of sparse animal management dollars. [Allen L. 2006]

Jurisdiction	Legislation	Outcome
San Mateo County, California	Mandatory desexing, 1991	<ul style="list-style-type: none"> • Dog deaths in shelters increased 126% • Cat deaths in shelters increased 86% • Licences (registration) decreased 35%
Los Angeles, California	Mandatory desexing, 2000	<ul style="list-style-type: none"> • Decline in dog licencing compliance • Animal control budget increased 269% from \$6.7m to \$18.0m
Capitola, California	Mandatory desexing, 1991	<ul style="list-style-type: none"> • licencing compliance has dropped significantly.
Montgomery County, Maryland	Mandatory desexing - REPEALED	<ul style="list-style-type: none"> • an estimated 50% decline in licensing compliance • euthanasia rate declined faster before the law (34%) compared to after the introduction of the law (21.5%)
Fort Worth, Texas	Mandatory desexing - REPEALED	<ul style="list-style-type: none"> • reduced licensing compliance • reduced rabies vaccination • increase in rabies disease
King County, Washington	Mandatory desexing with permit systems ("spay or pay"), 1992	<ul style="list-style-type: none"> • reduced licensing compliance • increased animal management costs by 56.8%, with a concomitant increase in revenue of 43.2% • Euthanasia rates fell at a slower rate after passage of the ordinance • Increase in adoptions
Aurora Colorado	Mandatory desexing with permit systems ("spay or pay")	<ul style="list-style-type: none"> • reduced licensing compliance

Experience with mandatory desexing: Australia.

In 2001, the Australian Capital Territory became the first Australian jurisdiction to mandate the desexing of all dogs and cats by 6 months of age, unless the owner obtained a permit to keep the animal "intact" [ACT Domestic Animals Act 2000 Pt 74]. The cost of the permit was higher than the price of desexing for almost all dogs and cats, to make compliance more attractive.

There are only two shelters for dogs and cats in the ACT – the ACT Dog Pound run by Domestic Animal Services (ACT Government - dogs only), and RSPCA ACT (dogs, cats and most other species). There are a small number of rescue organisations that deal with relatively insignificant numbers of animals. In 2007, data was collected from the RSPCA ACT and from RSPCA's national website, to compare the impact of mandatory desexing legislation after 6 years. [AVACCAC Cats 2007 – see APPENDIX II]

Analysis of this data is summarized in the following table. A full analysis of this can be found in APPENDIX II.

CATS:	Before 2001 mandatory desexing legislation	After 2001 mandatory desexing legislation
Intake to shelters	Increasing to 1998, then decreasing to 2001	No further improvement to date
Return to owners	Decreasing from 1997 to 2001	No further improvement to date
Adoption rates	variable	No improvement to date
Euthanasia	Increasing to 1998, then decreasing to 2001	No further improvement to date

There has been no positive impact associated with the introduction of the legislation. Trends in cat intake and euthanasia in the ACT RSPCA shelter parallel those for NSW (which has no mandatory desexing legislation) and for Australia as a whole [see APPENDIX II].

DOGS:	Before 2001 mandatory desexing legislation	After 2001 mandatory desexing legislation
Intake to shelters	Increasing to 2000, then decreasing	Some decrease
Return to owners	Decreasing from 1997 to 2001	Increased
Adoption rates	variable	No improvement to date
Euthanasia	Increasing to 1998, then decreasing to 2001	No further improvement to date

RSPCA ACT CEO Michael Linke reported that "In 2006 no cat or dog was euthanased as a result of over population in the shelter." [Linke M 2007]

Why has mandatory desexing failed to achieve its intended outcome – namely the reduction of euthanasia – in the ACT? The most simple explanation is as follows:

CATS:

The majority of cats relinquished to the shelter were never owned. They were free-living stray, colony and feral cats who are unsuitable to be pets. Because they are not owned, they are not desexed. Because they are unsuited to be pets, they are euthanased. This situation is similar to that reported in Victoria [R.McMurray, pers.comm] and overseas [www.fanciers.com/npa/owned-cats.html]

In the ACT in 2006:

- 16% of the intake of cats were euthanased because they were feral (39% of cat euthanasias) ,
- 8% of the intake were euthanased for behavioural reasons (21% of euthanasias) and
- 16% of the intake of cats were euthanased for health reasons (40% of euthanasias)
- No cats were euthanased due to overpopulation. [Linke 2007].

RSPCA shelter staff agree [pers. comm.] that the majority of animals euthanased are feral, or unowned or semi-owned (street cats, colony cats, residents in factories, educational institutions, hospitals, and residential complexes for the disadvantaged).

Of those cats in the ACT that are owned, desexing rates are high. As long ago as 1993 [Paxton D. 1994], ACT enjoyed a rate of desexing (92%) higher than that determined to result in zero population growth (88% of female pet cats). [Nasser R, Mosier J. 1982] This is an excellent level of compliance, and it seems unlikely that compulsion would dramatically increase this number.

In Australia in 2003, the percentage of pet (i.e. owned) cats desexed was 93.6% of females and 91.1% of males. The percentage of desexed pet cats has been steadily rising. [Baldock, FC, Alexander, L & More, SJ, 2003]

DOGS:

The majority of dogs entering shelters were relinquished for behavioural reasons. They had been owned, but the human-pet relationship had failed.

RSPCA ACT employs veterinarians, veterinary nurses and animal behaviourists. Animals euthanased therefore represent those which were unsuitable to be rehabilitated - those whose health or behaviour problems were so significant that return to health or amelioration of behaviour problem was deemed impossible or impractical, despite the intervention of appropriately trained and dedicated health care professionals.

Inadvertent negative consequences of mandatory desexing: Cats

One highly undesirable effect of mandatory desexing legislation is that the cats which are most likely to be desexed under the legislation, are those of responsible owners, which have more likely been selected, raised and trained in ways to make them more behaviourally acceptable and more suited to pet ownership.

Given the importance of genetics in cat behaviour [Karsh and Turner, 1988] [Overall K 1997], the impact of mandatory desexing will be to reduce the gene pool of genetically good natured cats, while permitting genetically less suitable cats (feral) to carry on breeding. This will precipitate the behavioural (and probably health) deterioration of the Australian owned pet cat population.

High rates of desexing amongst owned cats (see above) in response to community pressure, education and veterinary advice, may be responsible for the dramatic decline in Australia's cat population over the last decade [Baldock, FC, Alexander, L & More, SJ, 2003] . As this decline is forecast to continue into the foreseeable future, it is likely to limit access to pets.

Inadvertent negative consequences of mandatory desexing: Dogs

While it may be possible to reduce the number of dogs entering shelters and pounds by vigorous enforcement of mandatory desexing legislation, this is unlikely to reduce the number of dogs euthanased. The majority of dogs euthanased in well run shelters are for behavioural reasons, and these shelters perform a worthwhile community service. In this case, mandatory desexing legislation would prove a costly waste of resources.

Solving the problem of euthanasia of animals in shelters

The single most useful recommendation is that the collection of useful shelter data in a consistent form and its reporting to a central authority should be actively encouraged and possibly mandated.

Without such data, no measure introduced to reduce the suffering of animals or to enhance animal ownership can be judged.

When such data produces a clear indication of the *reasons* for animals entering shelters, and the *reasons* some of them are destroyed, then policy and programs can be developed. An example of a sensible approach would be as follows:

DOGS:

Dominant reason for entry to shelter: owner relinquishment due to behaviour problem(s).

*The main tools to reduce the intake and euthanasia rate of **dogs** in pounds and shelters:*

- *increase the proportion of dogs identified*
- *provide sound behavioural advice to assist owners with more appropriate pet selection*
- *give owners skills in raising and training their puppies*
- *provide expertise in remedial behavioural training*
- *conduct temperament assessments in shelters*

CATS:

Dominant reason for entry to shelter: cats were never owned. Stray or feral.

*The main tools to reduce the intake and euthanasia rate of **cats** in pounds and shelters:*

- *increase the proportion of cats identified*
- *target the feral and stray cat population with scientifically sound and community accepted strategies, which may include poisoning (a cat specific toxin is nearing release in Victoria) and or Trap-Neuter-Release programs. More research and community debate is required to find the most successful and best accepted methods in different areas of Australia.*
- *Cat owners: better education in cat selection, raising, keeping conditions, and temperament and behavioural training.*
- *Government and industry groups (including veterinarians and the welfare sector) need to be more proactive in this regard.*

*Vigorous enforcement of mandatory desexing legislation with respect to **cats** will not reduce the number of feral and unowned cats entering or being euthanased in shelters.*

Alternatives to mandating desexing

The arguments in favour of mandatory desexing are built on assumptions, and the science of the real world indicates that these assumptions are flawed.

To address the problem of animals euthanased in shelters, it is essential that the causes for their situation are understood and quantified, before introducing any legislation. The evidence from around Australia and internationally indicates the 'overpopulation' model is too simplistic, especially in the face of a declining owned pet population.

A complex problem has a complex solution, and the solution must start with a quantified description of the problem.

Until that occurs, *voluntary* desexing should be promoted through community education programs, and coupled with other animal management tools such as identification, microchipping, registration, healthcare, etc. This approach has been highly successful in managing the owned pet population to a point where it is no longer increasing.

Summary

Queensland should not follow the failed ACT experience nor tread the expensive and ineffectual USA path. Instead, measures to encourage voluntary desexing of pets not intended for breeding (especially by reduced price registration) are recommended, together with enhanced education programs and serious efforts to control the unowned cat population.

Fundamental issues and recommendations:

1. There is a lack of rigorous data on why animals enter shelters.

Researchers have, since the 1970s, called for robust statistics from shelters. The purpose of this data is not simply to count the number that enter or leave, but to understand *why* they arrived to the shelter, and *why* some are destroyed.

Unfortunately, good quality shelter data is rarely available for independent evaluation by qualified and keen analysts. Without such data, it is difficult to understand the root causes of animals entering shelters. On the rare occasions this analysis is conducted, it is usual to expect a complicated picture to emerge - a picture that renders 'overpopulation' models far too simplistic, and possibly misguided. Three case studies are presented as examples:

Case 1:

A Monash University study commissioned by the Victorian Department of Primary Industries Bureau of Animal Welfare in 2006 [R.McMurray, BAW, pers.comm.] found that only 21% of cats entering the State's 3 largest shelters were owned and the remainder were unowned or feral. Of those that were owned, approximately one third were surrendered due to excess numbers of cats in the home. Taking one third of 21% means only approximately 7% of cats were surrendered by their owners due to excess numbers. In other words 93% of cats arrived into Victorian shelters for reasons other than 'overpopulation'.

The AVACCAC is unaware of any similar studies in Queensland, making it almost impossible to determine the root causes in Queensland shelters.

Case 2:

Analysis of RSPCA Yagoona shelter (Sydney) data for euthanasia for year 2004/05 revealed that the vast majority of cats and dogs that were destroyed in that shelter were unfit for adoption. [Lawrie, Gaal, Withers, Widdison, Awad, 2006]. Ninety-eight percent (98%) of dogs destroyed in Yagoona were unsuitable to be placed into homes for reasons including ill-health, old age, and dangerous temperament. Eighty-nine percent (89%) of cats destroyed were also unfit for adoption.

With the vast majority of euthanasias occurring for reasons other than excess numbers ('overpopulation') it becomes clear that simple 'overpopulation' models must be replaced by more sophisticated models, which can only be based on high quality data derived through careful collection and analysis.

Case 3:

A well know welfare researcher in the USA, M. Salman, published analysis of reasons for owner relinquishment of cats and dogs to twelve shelters in the USA. [Salman, New, Scarlett, Kass, Ruch-Gallie & Hetts, 1998]. Salman and colleagues found that of those that were intentionally surrendered by their owners, only 8% of dogs and 15% of cats were surrendered due to overpopulation. The remainder was surrendered for other reasons, such as temperament, owner health, change in living circumstances etc.

Surrender by owners to shelters occurs for many reasons, and without this information, the solutions to shelter issues cannot be derived. The Salman research and the recent BAW study (Case 1) demonstrate that overpopulation is not the most significant issue. These studies also demonstrate that the collection and analysis of high quality data is critical to the solving the issues of animals in shelters.

RECOMMENDATION #1:

A government funded *independent* and *qualified* auditing process be established to identify causes, drivers and consequences of animal populations in shelters. It may be necessary to mandate data collection and reporting.

This process should be a cooperative process and involve universities, government, AVA veterinarians, industry and animal welfare agencies.

For further discussion, see APPENDIX III

2. There is a distinction between *unwanted* and *un-owned* cats

The title of the Queensland Government discussion paper “Managing unwanted cats and dogs” omits a significant part of the issue for animals that are in shelters.

Statistics from many shelters across Australia describe a significant proportion of cats (up to 80%) [BAW interim report, pers.comm. R.McMurray, Victorian DPI] that enter shelters are from non-owned sources.

It is known that a significant population of stray cats co-habit Australia’s cities alongside people. These cats thrive on food waste and seek shelter in the built environment. These cats are ‘survivors’ and are free-living and breed at will. They can often be found inhabiting rubbish tips, industrial estates or vacant city lots. Some kittens born in this population are innately confident and friendly and approach humans and will be taken in as pets, or brought to an animal welfare shelter.

There is also good evidence that many people will feed cats they do not own [Toukhsati, 2005], suggesting that there is enough supply of nutrition to keep these un-owned, free-living cats reproducing into their next generation. Ecological modeling would suggest that these urban strays resemble other populations of feral urban wildlife (eg mynahs, foxes, starlings) in being in some form of equilibrium, and have a self sustaining population [Jarman P, van der Lee G, 1995]. These non-owned cat populations are self-sustaining regardless of the level of recruitment to or from the owned population.

At present there have been no resources devoted to solving this problem. These cats are left to fend for themselves, and to burden the community.

The size of this problem has not been measured, but the impact of the non-owned cat can be seen at every shelter across Australia.

3. Not all animals euthanased in shelters are suitable as pets

In many cases there is good reason for a proportion of cats and dogs in shelters being unwanted: they are completely unsuited to being pets.

Cats require an early critical socialization and contact period with humans during their development. Without this occurring, a cat will not tolerate the norms of pet ownership: handling, confinement, patting, companionship, etc. Cats in shelters that are highly timid, aggressive, or wild, and remain so despite a period of adjustment in the shelter, are generally deemed unfit for adoption and are destroyed. This is an unfortunate consequence of a cat that has been born to an un-owned mother, and missed out on the critical socialization period in the first 9 weeks of life.

The primary cause for relinquishment of dogs to shelters is for behaviour problems, typically of young adult dogs [Patronek et al 1996]. These dogs arrive in shelters due to a failure of the human-pet relationship, not because there are too many dogs. In many ways this could be prevented through improved dog owner education to better manage owner expectations and dog behaviour.

Dogs that are aggressive or temperamentally unsound should never be placed back into the community, and unfortunately for these dogs and the shelter workers, the responsible solution is euthanasia.

Shelters must make a distinction between those animals that are suitable as pets and those that are not, as part of their policy and practice. It is incumbent upon these shelters to report the numbers of animals in these categories, in order to gain a clearer picture of the issues.

On the occasions when these numbers are reported, a surprising and complicated picture emerges. (see *Case 2*, above)

RECOMMENDATION #2:

Shelter data collected through the process identified in Recommendation #1 be utilized to identify where the problem areas lie.

Strategic and targeted programs are developed and adequately resourced to remedy the situation(s).

See APPENDIX III

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APPENDIX I

AVA Policy extract and supporting information on electronic identification of animals:

5.1 - Electronic identification of animals

Policy

The Australian Veterinary Association (AVA) regards radiofrequency identification (RFID) as the preferred form of permanent identification for animals. The AVA supports the establishment of efficient, practical and functional RFID systems that identify animals and their owners for the purposes of animal recovery, control and management

Background

RFID uses a radiofrequency signal transmitted between an electronic device ('transponder' or 'microchip') and a reading device ('scanner'). The information provided by the transmitted signal identifies the transponder and, by cross reference to stored data (in a 'database' or 'registry'), identifies the animal carrying that transponder.

The identification device (microchip) is a small transponder that is designed to pick up energy from the electrical field created by a scanner. The transponder uses the energy to power an integrated circuit attached to its antenna. The integrated circuit (the actual microchip) creates a signal of specific characteristics, including the transponder's identification data, and transmits it to the scanner, using the same antenna.

The scanner receives the signal transmitted by the transponder, either by the same antenna that created the energy field or by a separate receiving antenna. The scanner interprets the signal, converting it from binary data to decimal or other format, and then sends it to a visual display, a computer, or other device. Microchip implants will not be detected in animals unless there is a network of competent and compatible readers installed in pounds and shelters, animal welfare agencies, veterinary clinics and other places where animals are handled.

There are many methods of RFID, as well as different requirements for different categories of animals, industries, species and uses. The effective functioning of these systems involves specific technical and operational considerations.

The AVA is working with regulatory authorities, industry bodies and other interested parties to develop efficient national RFID systems. For some categories of animals, organisations or bodies other than the AVA will be a more appropriate source of animal identification standards. AVA members should comply with industry guidelines or standards for animal identification that have been formally endorsed by the AVA. In all other cases, the AVA protocols for electronic identification of animals shall apply.

The AVA has identified four essential elements that must be integrated and controlled in order to provide effective and reliable RFID systems. These are:

- *the electronic device (ie the microchip implant or transponder)*
- *the reader (scanner) network*
- *database (registry) operation and management*
- *defined operational procedures for implantation and scanning.*

Guidelines

The following guidelines should be observed for electronic identification of animals:

RFID is a national concern and, while recognising local legislative requirements, a national perspective must be maintained at all times.

Standards for Australian RFID systems should be based on the International Standards Organization (ISO) standards ISO 11784 and ISO 11785, with significant modifications to suit Australian conditions. The Australian Standards are AS 5018 and AS 5019, with an Informative Annex ZB relating to registry function.

The RFID device must cause no harm to the animal, be durable enough to function for the intended identification period and meet the performance requirements of the AVA.

The database registry has a central role in all aspects of management, security and accountability of electronic identification systems. Proper registry management is the only assurance of uniqueness of numbers of RFID devices. This includes the management of records of transponders in the country and audit trails of installed devices.

The AVA will only endorse database registry systems that comply with AVA protocols for the species involved and where identification and listing in the database system are for the life of the animals involved.

To ensure maximum effectiveness, there must be strict adherence to defined operational procedures and protocols for implantation and application of devices, recording of information and scanning procedures.

Protocols for electronic identification of companion animals

Introduction

The objective of these protocols is to facilitate the establishment of efficient, practical and functional RFID systems that permanently identify companion animals and their owners for two purposes:

- *to enable the prompt reunion of lost companion animals with their owners*
- *to serve as a tool in urban animal management.*

For the purposes of these protocols, 'companion animals' are taken to be any animals other than horses that are normally kept as pets. 'Companion animals' is not intended to include reptiles, zoo animals or wildlife that is not normally kept as pets.

The identification device (microchip implant/transponder)

All electronic animal identification devices for companion animals must conform with the following criteria:

- *The lifespan of the device and the transponder must be compatible with the expected maximum lifespan of the animal being identified (20 years for a dog or cat).*
- *In recognition of the current transition from the use of older non-ISO-compliant FDX-A technologies (Destron 125 kHz, AVID 125 kHz non-encrypted and Trovan 128 kHz) to FDX-B devices compatible with ISO 11784, FDX-A technologies were able to be used until 31 December 2001 to enable sufficient time to upgrade the reader network to ISO capability. The significant installed base of FDX-A microchip technologies in some species must be acknowledged and protected by policies and protocols. However, it is expected that those involved with companion animals will now have readers with ISO capacity and that only ISO-compliant FDX-B transponders should be used. FDX-A technologies should no longer be used. Any new RFID schemes should employ ISO-compliant FDX-B devices from inception.*
- *Subject to the above, the transponder used must carry a unique, unalterable identification number (bits 27–64 of the data stream as defined in ISO 11784) and a manufacturer code number (bits 17–26) issued by the International Committee of Animal Recording (ICAR). Thus the unique number is made up of a 15-digit number, where the first 3 digits are the manufacturer code.*
- *Devices that can be reprogrammed after implantation should not be used for the identification of companion animals.*
- *Microchip implants must also conform to the following criteria as detailed in the Australian Standard AS 5019: Electronic Identification – Radiofrequency Methods.*

- *The implant and transponder shall be robust enough to withstand the anticipated traumas at its implantation site (maximum acceptable failure rate 0.1%).*
- *Transponders in implants for use in companion animals must not utilise HDX technology irrespective of whether the implant is compatible with ISO 11784.*
- *The implant shall be biologically inert and come pre-sterilised and individually packaged ready for implantation via a delivery system that maintains sterility of the device and the implantation process.*
- *Transponders shall be designed and manufactured to minimise migration once implanted.*
- *The transponder shall have an effective real-life situation minimum (worst orientation) read range of 50 mm with the appropriate reader.*
- *All adverse reactions should be reported to the AVA on the approved form.*

The reader (scanner) system

The following general requirements apply to the reader system for microchip implants:

- *Pounds and shelters, animal welfare agencies, veterinary clinics and other places where animals are handled must have the capacity to read all types of acceptable RFID transponder implants used in companion animals.*
- *The reader/transponder interface must be responsive enough to enable the identification details to be read when the reader is passed over the site of implantation to meet the requirements of Australian Standard AS 5019 as detailed below.*
- *Suppliers of readers should have readily available replacement equipment and an efficient repair service.*
- *Reader systems for microchip implants must meet the requirements detailed in the Australian Standard AS 5019.[1]*

5.5 - Domestic Animals Registries Inc

Position statement

Where state governments enact laws or regulations to control microchip identification systems for domestic animals, the Australian Veterinary Association (AVA) hopes that they will institute similar protocols to those of Domestic Animal Registries Inc (DAR) or subcontract DAR to perform registry control and auditing functions.

Background

DAR is a registry watchdog organisation comprising representatives from the AVA, RSPCA Victoria, Cat Protection Society Victoria, and the Dog and Cat Management Board of South Australia. It is a separate legal entity set up for the specific purpose of supervising microchip registries on behalf of the community.

DAR has developed protocols to ensure the performance of registries of data on owners and their domestic animals that have been permanently identified by implanted radio frequency identification (RFID) technology ('microchipping') and to inspire public confidence in these registries.

Registry service providers (RSPs) agree to enter into a legally binding contract with DAR to abide by the DAR protocols. DAR monitors and enforces the protocols via regular auditing of all operations.

The DAR protocols have become the industry standard for RFID registry operation and management in Australasia. They form the basis for the Informative Annex ZB, Companion Animal Registry Considerations, of the Australian Standard AS 5019: Electronic Animal Identification – Radiofrequency Methods; the

Quality Assurance Programme for Companion Animal Microchipping associated with the New Zealand standard; the Urban Animal Management group's position paper on microchips; and the proposed state government RFID schemes in Victoria and South Australia.

The specific objectives of DAR are:

- to ensure registry performance so that RFID technology can be used to enable the prompt reunion of lost pets with their owners and as a tool for urban animal management
- to help guarantee uniqueness of transponder numbers in conjunction with management of transponder skeleton records and audit trails
- to protect owners' rights regarding recorded data where no specific legislation has been enacted
- to guarantee RSP performance and ensure continuity of registry activity if an RSP defaults
- to address confidentiality and privacy issues and prevent commercial exploitation of the data
- to ensure an RSP does not favour one technology or commercial entity over another.

Guidelines

The following requirements apply to information recorded in microchip registers.

General considerations

- The registry is to accept and record information regarding owners and animals identified by implanted RFID.
- Information is only accepted on the basis of recording this data for the life of the animal.
- The registry must accept data from any approved implanter using appropriate microchips, provided that the relevant fee is paid.
- In the case of ISO-compliant FDX-B microchips, the registry must only accept registration of microchips where the numbering sequence complies with AS 5018: Electronic Animal Identification – National Coding Scheme and commences with a manufacturer code.
- The registry must only accept linking data about microchips where relevant distributors maintain skeleton records of their products in Australia and provide details to the RSP of audit trails through sales outlets and implanting centres to registries.
- The cost of recovery of data is at the expense of the RSP and should be built into registry fees for data recording.
- The registry must interface with, accept information from and provide information to all other DAR-approved registries.

Ownership of information

Unless there is relevant legislation to the contrary, information in the database registry is owned by the animal owner and is held only in trusteeship by the RSP.

No information is to be sold or passed on to other parties other than for individual animal retrievals.

Security of information

Only authorised persons with security codes (personal identification numbers) can be given information, and only for individual pet retrieval.

All data security and control (data entry, amendment) are the responsibility of the RSP.

Effective and approved multilevel security systems must be in use at all times.

Retrieval of information for other purposes is permissible only after special written instructions from DAR.

Apart from the situations detailed above, no person or organisation is to be permitted access to the data without specific written consent from DAR.

Updating of recorded information

All details submitted must be on the approved forms and signed by the animal owner and the implanter.

Data must be recorded onto the database within two working days of receipt.

Minimum data fields on the animal, the owner and the implanter are specified in the protocols and must be completed.

Crosslink provisions of owners and animals must be maintained.

There must be provision for changes to recorded information.

Changes in ownership of the animal must only be effected on receipt of a signed form.

Confirmation of recorded information or changes must be provided to owners.

Access to information

The registry must be staffed 24 hours per day, 365 days per year for retrieval of information on individual animals by authorised persons (local government authorities, animal welfare organisations, scanning and implanting centres – including veterinarians, and police).

Accuracy of information

The accuracy of recorded information is critical.

All efforts must be employed to minimise errors of any kind.

A multilevel validation process on microchip numbers, telephone numbers, addresses, etc must be in use to ensure accuracy.

Backup

The RSP must maintain an approved electronic and hardcopy backup of the entire system.

The RSP must maintain backup communication systems when normal channels fail.

The RSP must deposit a monthly electronic backup of the total database in a bank deposit box and make it available for DAR audit as required.

DAR does not have access to registry records except to ensure continuity of registry activity in the event of termination of contract with the RSP as detailed in the contract/agreement.

Integration with other systems

The registry must communicate and interface with other registries approved/endorsed by DAR.

The registry must use DAR-approved communication technologies via computer, by telephone or the internet.

Difficulties and complaints relating to service providers

The RSP must have a reporting mechanism listing failures to link to owner details from microchip number, and identifying implanters and/or distributors with problems.

The RSP must have a system for recording and addressing complaints about registry activities both from the general public and from users, such as implanters and those accessing the registry for data retrieval.

DAR must be kept fully appraised by the RSP of complaints and difficulties arising from the two points above and will act in conjunction with the RSP to attempt to resolve them.

Directors of the RSP must be of proven integrity, with no criminal record or breach of Australian Stock Exchange guidelines.

The RSP must have proven technical competence in the areas of information storage and distribution and RFID technology.

The RSP must have computer hardware and software and procedures adequate to the task.

The RSP must comply with all protocols, performance criteria and guidelines prescribed by DAR

Mandatory Desexing in the ACT – has it worked?

AVA Centre for Companion Animals in the Community

Introduction

The Australian Capital Territory (ACT) is unique in that its residents live under only two tiers of Government – Federal, and Territory. The Territory Government fulfils the functions of both State and Local Government in all other parts of Australia. This simpler form of administration also enables legislators to introduce legislative change for which there might be more resistance in other jurisdictions. An obvious example is that the ACT became in 2000, the first jurisdiction in Australia to ban the tail docking of dogs. This has subsequently been adopted in every other State and Territory.

In 2001, ACT became the first jurisdiction to make the desexing of dogs and cats compulsory by six months of age. Part 74 of the *Domestic Animals Act 2000* had an implementation date of 1 June 2001, i.e. all dogs and cats born after that date are required to be desexed by 6 months of age, unless a permit is obtained to keep them intact. The permit is deliberately priced higher than the likely costs of desexing.

74 Dogs and cats to be de-sexed

(1) A person must not, without reasonable excuse, keep a cat that has not been de-sexed unless the person is the holder of a permit for the cat.

Maximum penalty: 50 penalty units.

(2) A person must not, without reasonable excuse, keep a dog that has not been de-sexed unless the person is the holder of a permit for the dog.

Maximum penalty: 50 penalty units.

(3) Subsections (1) and (2) do not apply to a dog or cat –

(a) under 6 months old; or

(b) bought by, or in the possession of, its owner for less than 28 days; or

(c) born before the commencement of this section.

75 Permits for dogs and cats not de-sexed

An individual may apply to the registrar for a permit to keep a dog or cat that is not de-sexed.

76 Approval or refusal of applications

(1) If an application for a permit has been made under section 75, the registrar must, by written notice to the applicant –

(a) issue a permit; or

(b) refuse to issue a permit.

(2) The registrar must issue a permit for an animal if satisfied that –

(a) it is kept for breeding or used, bred or bought for show; or

(b) it would be detrimental to the health of the animal if it were to be de-sexed; or

(c) it is a racing greyhound.

(Domestic Animals Act 2000)

The ACT has a population of about 334,000 living in an area of 2,358 km² landlocked within South-Eastern NSW; the majority live in the city of Canberra. Residents of the ACT have a higher level of

tertiary education and a higher per capita income than other Australians (Anon 2007a)(ABS 2007), and enjoy a similar level of pet ownership to the rest of Australia.

There are just two shelters for stray and unwanted dogs and cats in the ACT – the ACT Government dog pound (run by Domestic Animal Services) (dogs only) and the RSPCA (dogs, cats, wildlife and other species). Small numbers of animals may be rehomed through veterinarians, pet shops and other rescue organisations, but the vast majority of dogs and cats which are stray or unwanted pass through these two institutions. It is, therefore, relatively easy to assess the impact of change in circumstances for animals and animal owners by collecting data from these two institutions.

The RSPCA and ACT Pound were asked to provide data for the five years preceding the introduction of mandatory desexing (1996-2001), and the 6 years since its introduction (2001 -2007). At the time of writing, comprehensive data was available from the RSPCA, but data from the Pound, while promised, was not yet available.

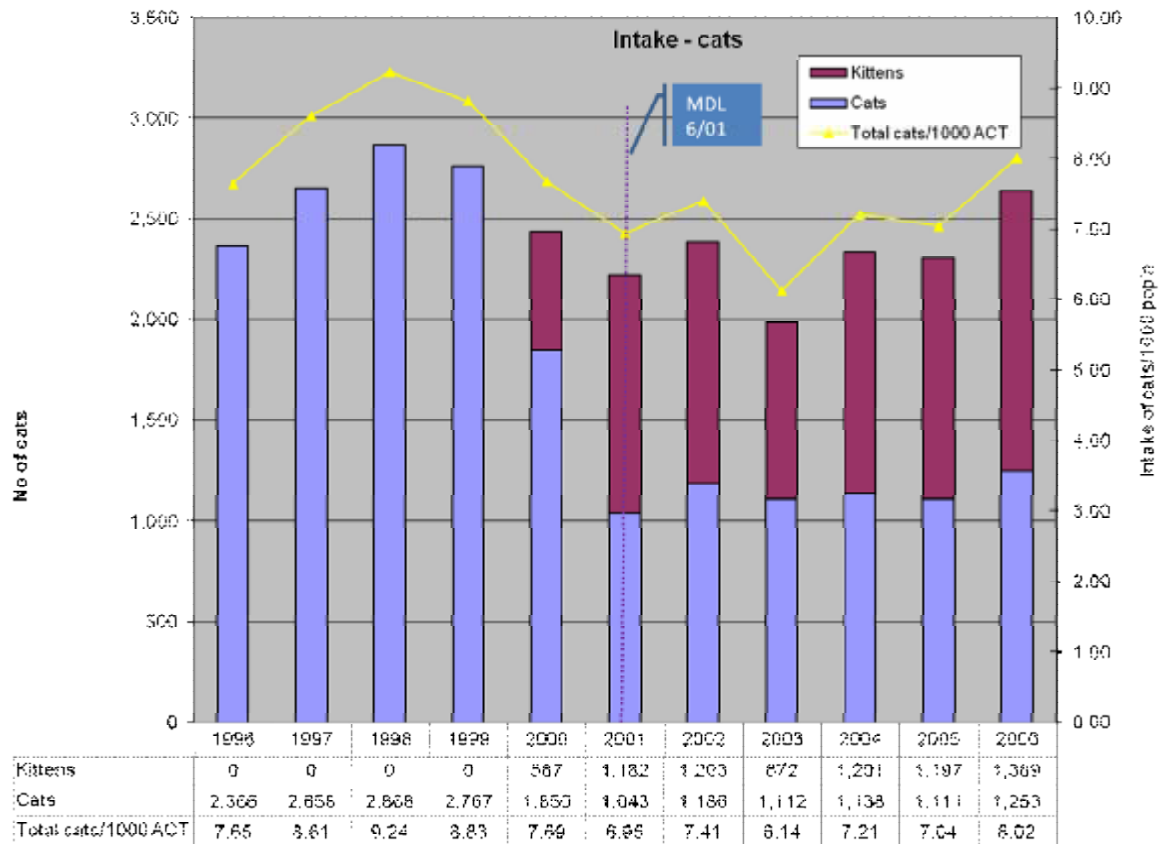
The RSPCA collects data, using an electronic database (Shelter Buddy), for all animals entering its shelter in Weston, ACT. The disposition of the animal (returned to original owners, rehomed to new owners, euthanased) is then recorded. Breakdown of puppies and kittens vs. adult dogs and cats, and reason for euthanasia, have only been available in more recent years. However, a sufficient data set is available to compare major parameters before and after the introduction of mandatory desexing.

Further data was collected from the website of RSPCA Australia, which publishes annual statistics including shelter admission and euthanasia data for each State. Data is available from 1997-1998. (RSPCA 2007)

The hypothesis is that if mandatory desexing is a useful strategy to reduce pet overpopulation, then the number of animals entering pounds and shelters, and the number of animals being euthanased (other than for health or behaviour) should have significantly reduced in the years since the introduction of mandatory desexing.

This paper will examine the situation for cats only, and a complementary paper will examine dogs.

Cats – ACT Data



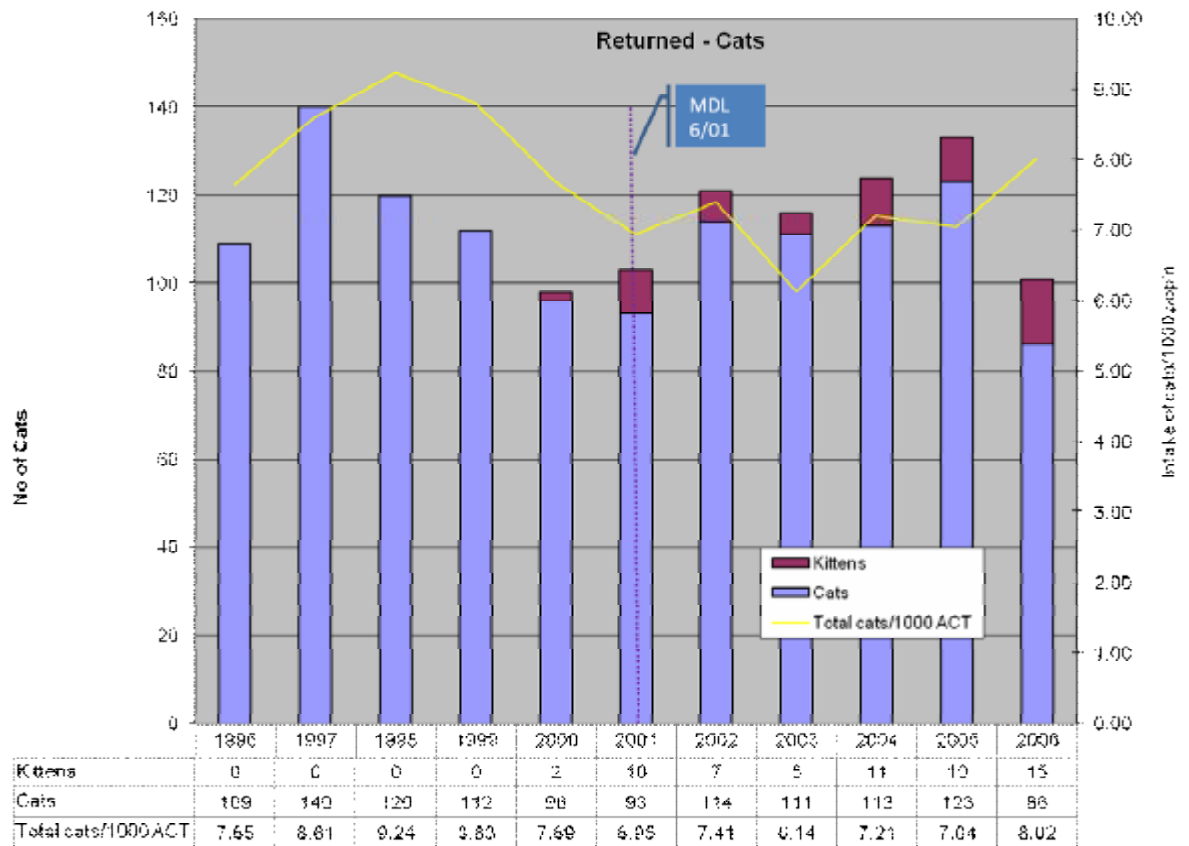
(Linke M et al 2007)

Chart 1 – Intake of cats 1996 – 2006 – RSPCA ACT

The box and dotted purple line on this and subsequent charts indicate the introduction of Mandatory Desexing Legislation in the ACT in June 2001. The yellow line indicates the total intake of cats by RSPCA ACT divided by the population of the ACT in that year, x 103.

This chart shows that the intake of cats fell from 1998 to 2003, and is now rising again. The six year average intake preceding the introduction of Mandatory Desexing was 2553.5 per annum (1996-2001), and this fell to a five year average of 2332.4 (2002-2006) – a difference of 221.1 or 8.6%. The graph clearly shows that the intake is rising from a low of 1984 in 2003 to 2642 in 2006.

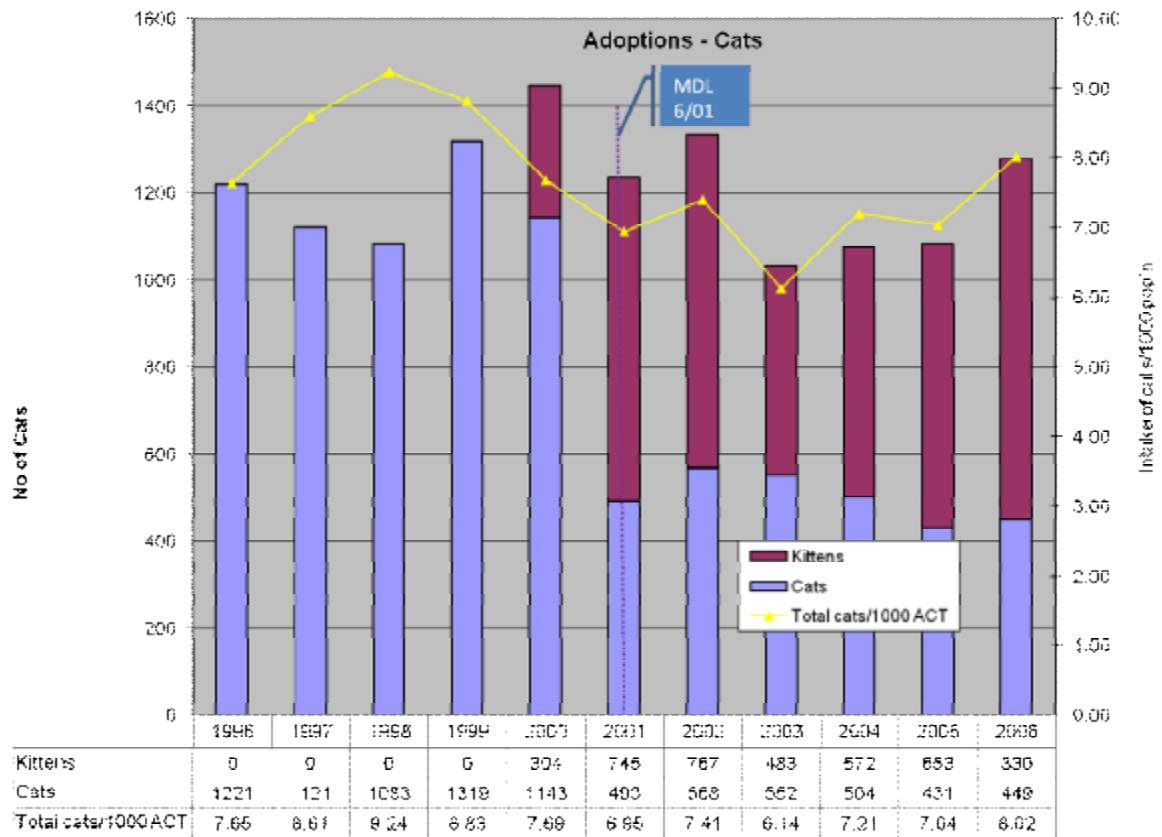
The beginning of the fall in intake of cats preceded (by two years) the introduction of mandatory desexing legislation, and the intake of cats now exceeds the level of the years immediately following its introduction. It can be concluded that mandatory desexing legislation has not reduced the intake of cats into RSPCA ACT.



ref vi

Chart 2 – Cats returned to owners 1996 – 2006 – RSPCA ACT

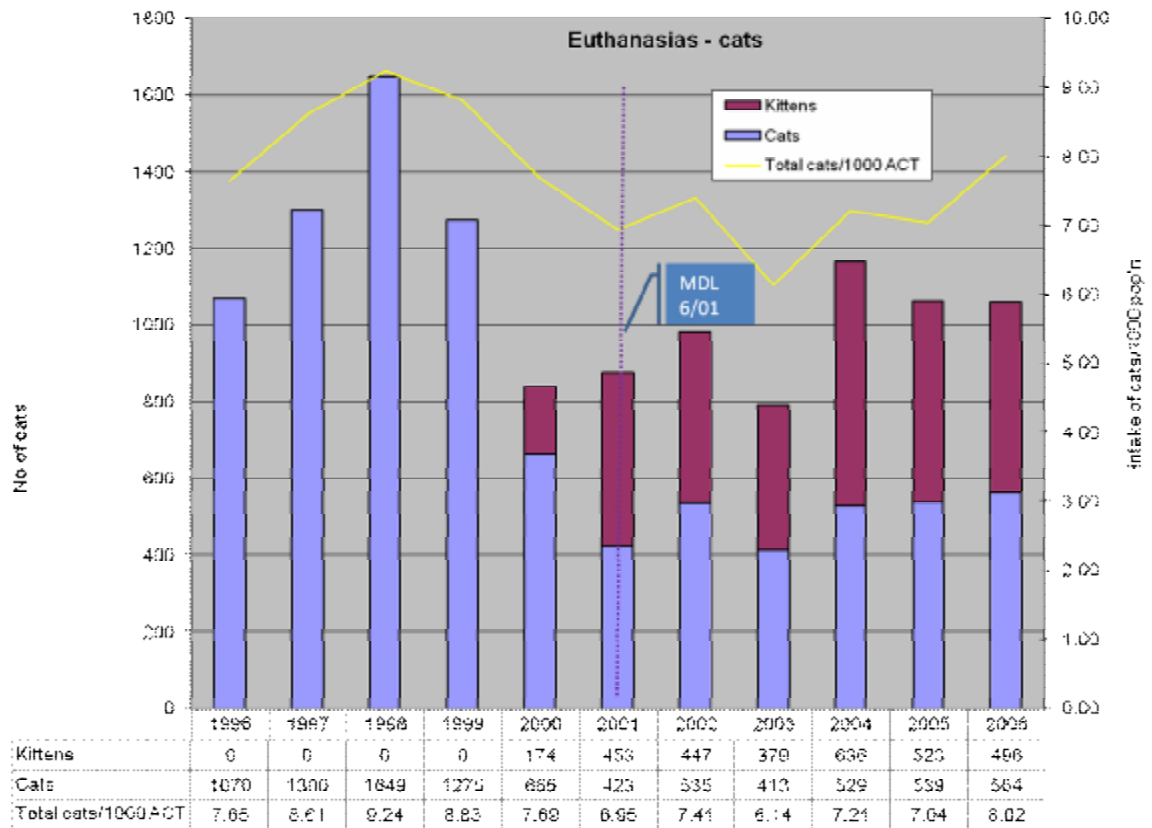
This chart shows that the number and proportion of cats returned to their original owners has risen since 2000, (except in 2006), and this is likely due to improvements in cat identification and owner attitude.



ref vi

Chart 3 - Adoptions of cats 1996 - 2006 - RSPCA ACT

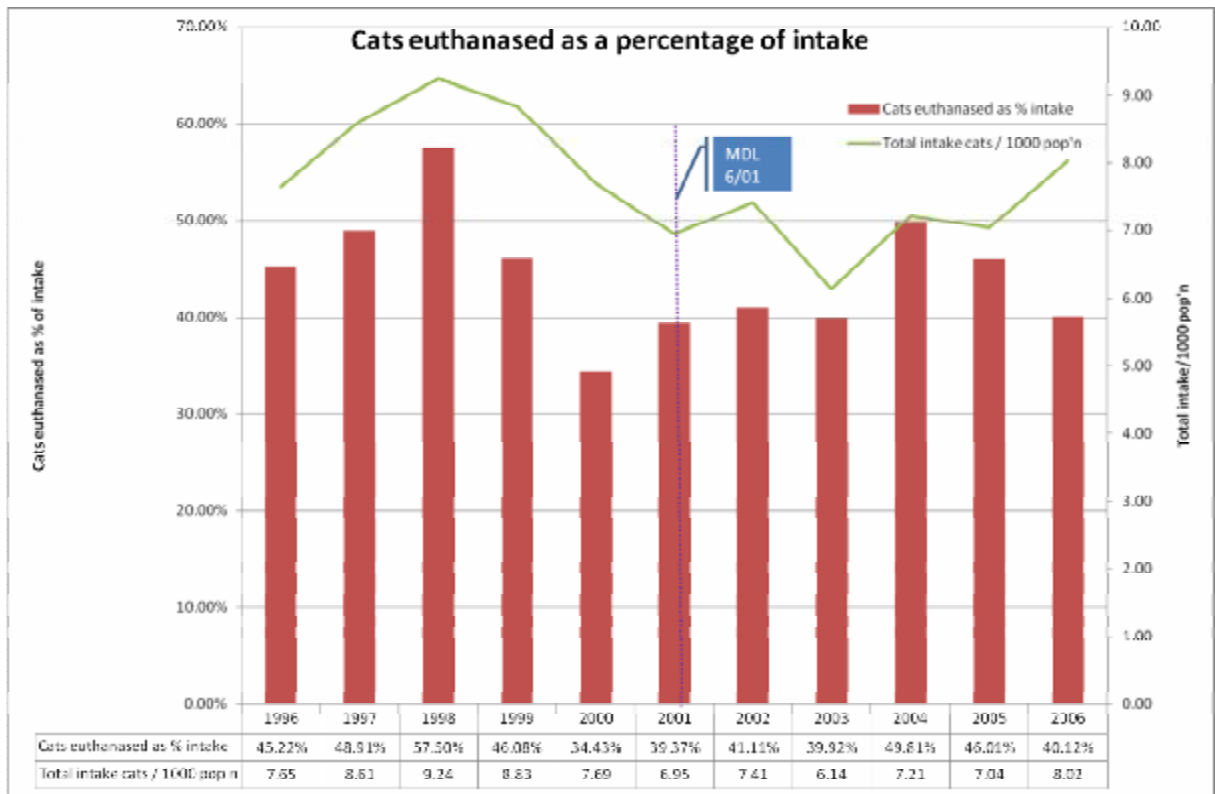
This chart shows that the number and proportion of cats finding new homes peaked in the years 2000-2002, fell in 2003-2005, and rose again in 2006. This does not appear to be associated with the introduction of mandatory desexing legislation.



ref vi

Chart 4 - Euthanasia of cats 1996-2006 - RSPCA ACT

This chart shows that the number and proportion of cats being euthanased fell from a four year average (1996-1999) of 1323.5 to a seven year average (2000-2006) of 848.15, a difference of 475.35 or nearly 36%. The greatest fall was from 1998 to 2000, and the number of cats euthanased has been, in general, rising since then. Given that the greatest fall preceded the introduction of mandatory desexing legislation, and that the number of cats euthanased has been rising since 2001, it can be concluded that mandatory desexing has not reduced the number of cats euthanased at RSPCA ACT.



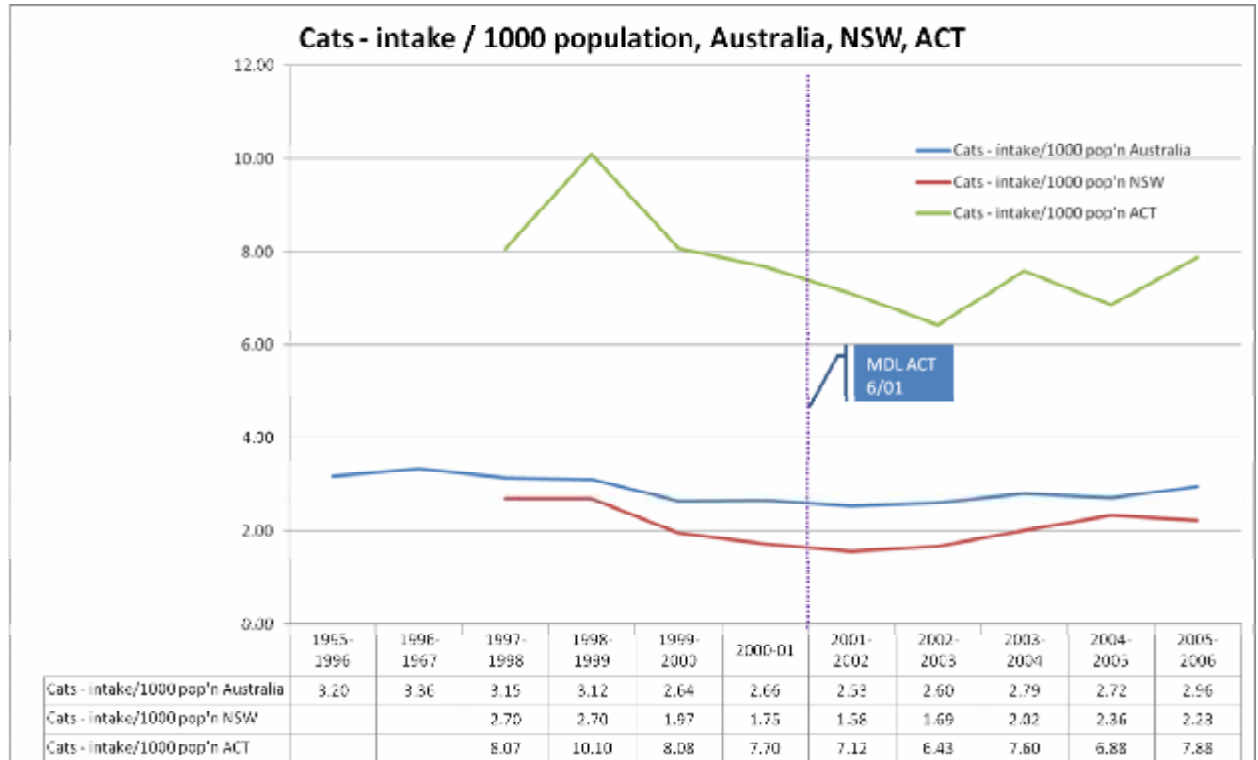
ref vi

Chart 5 - Cats euthanased as a percentage of intake 1996-2006 - RSPCA ACT

This chart shows that the proportion of cats euthanased fell from 1998 to 2000, and has risen since then, including since the introduction of mandatory desexing legislation in 2001. This shows that mandatory desexing legislation has not reduced the proportion of cats euthanased at RSPCA ACT.

ACT vs. NSW and Australia

It is appropriate to compare the changes in the ACT since the introduction of mandatory desexing with the situation in NSW (which surrounds the ACT) and Australia.

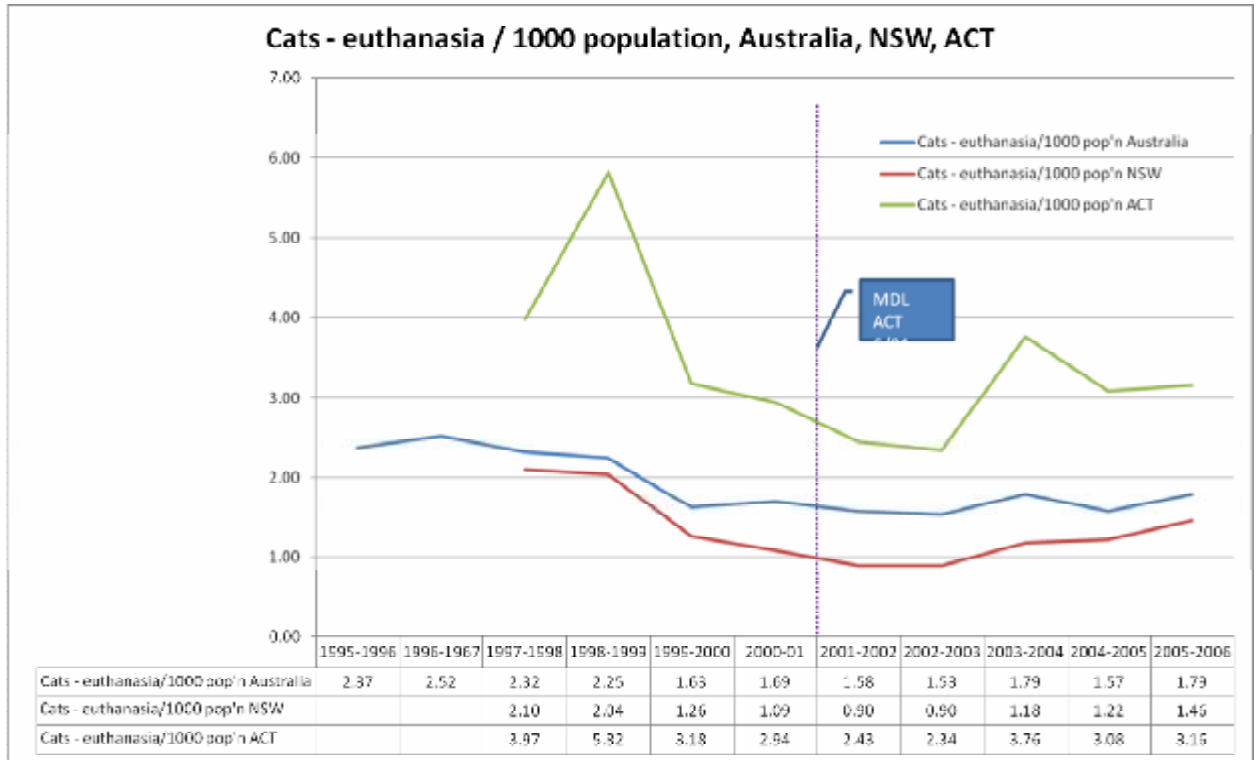


(Linke M et al 2007)

Chart 6: Intake of cats / 1000 population

This chart shows that the intake of cats in the ACT is much higher than in the rest of Australia or NSW. The most likely reason for this is that the ACT has only one refuge for cats, whereas in other jurisdictions other cat charity groups (such as the Cat Protection League) and/or Local Government Pounds accept cats. Thus the burden on RSPCAs in other jurisdictions is likely to be less than that on RSPCA ACT.

The chart also shows that the intake of cats/1000 population has roughly paralleled the situation in NSW and the rest of Australia, with a fall from 1998-99 to 2002-03, and a rise since then. There has been no obvious beneficial impact of compulsory desexing in the ACT.



Ref vii

Chart 7: Euthanasia of cats/1000 population

This chart shows that the euthanasia rate per 1000 population is higher in the ACT than in other States, for reasons mentioned above. The rate of euthanasia of cats / 1000 population in the ACT roughly parallels that in NSW and the rest of Australia, with a fall from 1998-99 to 20002-03, and a rise since then. There has been no obvious beneficial impact of mandatory desexing in the ACT.

It is apparent that Mandatory Desexing Legislation has not reduced the euthanasia rate in the ACT.

Animals euthanased in Pounds and Shelters

If we accept that a proportion of animals entering pounds and shelters will have to be euthanased, the reasons for euthanasia become critical in assessing the nature of the perceived pet overpopulation problem.

In 2006, CEO of RSPCA ACT, Michael Linke, reported:

In 2006 no cat or dog was euthanased as a result of over population in the shelter. The main reasons for cat euthanasia were:

Feral 39%

Health related issues 33%

With regard to dogs, the main reasons were:

Temperament 57%

Health 37%

(Linke M 2007)

In other words, the RSPCA ACT found homes for all the dogs and cats which were suited by health and temperament to live as companion animals. Indeed, Mr Linke makes a point of the RSPCA's service to the community of screening pets for health and temperament (Link M 2007 pers comm.). Rather than having an oversupply of cats, such was the demand for kittens that in 2006 19 kittens were imported from the RSPCA in Townsville and adopted in the ACT (Linke M 2007).

A more detailed analysis of RSPCA data for 2006 is in the table below

RSPCA ACT 2006	Cat	Kitten	Feline
<u>Reason for Euthanasia</u>			
Behaviour	202	19	221
Health	149	260	409
Feral	188	216	404
Total animals euthanased	539	495	1034
<u>Percentage of animals euthanased</u>			
Behaviour	37.48%	3.84%	21.37%
Health	27.64%	52.53%	39.56%
Feral	34.88%	43.64%	39.07%
Behaviour + Feral	72.36%	47.48%	60.44%
Total Intake	1119	1385	2504
<u>Percentage of total intake</u>			
Behaviour	18.05%	1.37%	8.83%
Health	13.32%	18.77%	16.33%
Feral	16.80%	15.60%	16.13%
Behaviour + Feral	34.85%	16.97%	24.96%

Table 1 – Reasons for Euthanasia by Category (from Linke M et al 2007)

Nearly 40% of cats (<30% of adult cats and > 50% of kittens) were euthanased for health reasons. More than 60% of cats were euthanased for behavioural reasons, or because they were deemed to be feral.

It is important to point out that RSPCA ACT employs veterinarians, veterinary nurses and animal behaviourists. Animals euthanased therefore represent those which were unsuitable to be rehabilitated - those whose health or behaviour problems were so significant that return to health or amelioration of behaviour problem was deemed impossible or impractical, despite the intervention of appropriately trained and dedicated health care professionals.

Health problems include genetic problems, lack of preventative health care (vaccination, parasite control, good nutrition, dental care, etc) and misadventure (car accidents, inter and intra species conflicts, human related trauma (accidental and deliberate)). The latter two categories (lack of preventative health care and misadventure) essentially represent a failure of responsible ownership, which cannot be addressed or reduced by mandatory desexing.

Behaviour problems are caused by a combination of genetics and early experience (in combination with the current circumstances). The most critical component of early experience is positive exposure to a variety of circumstances and stimuli (all the components of life as a companion animal) during the sensitive period from 2- 9 weeks of age (Karsh and Turner 1988), together with basic training for temperament and obedience. For cats the sensitive period is significantly earlier than for dogs, and cats should receive regular, gentle and preferably prolonged human physical contact (holding, stroking etc) from 2 - 3 to 6 - 7 (Overall 1997) weeks to be at ease in human company and make reasonable companions.

Behaviour was the most common reason for the euthanasia of adult cats. Inappropriate toileting and aggression are common reasons for abandonment, and are usually due to anxiety associated with genetic make up and early experience. Mandatory desexing will not directly address these causes of euthanasia in pounds and shelters.

Nearly 40% of the total number of cats (nearly 44% of kittens) euthanased were feral cats. Mandatory desexing will not reduce the number of feral cats because these cats will not be presented by owners for desexing. It is true that increased desexing of owned cats may contribute to a minimal reduction in the number of feral cats through reducing recruitment of owned/stray cats to the feral cat pool.

It is likely that many of the cats euthanased for behavioural reasons had not been raised in the company of caring humans, nor received appropriate early socialisation – this could be because they were only loosely associated with their “owners” or because they had been born to semi-owned or stray cats and adopted by humans after the sensitive period for the development of good relationships with humans (3-6 weeks). Mandatory desexing will not reduce these euthanasias because stray and semi-owned cats will not be presented for desexing.

Available ACT data support the contention that a large percentage of cats currently entering ACT RSPCA are of stray or feral origin (see above euthanasia data). Dealing with the feral and stray cat population in the ACT could prevent between 400 and 600 cats and kittens per annum from being euthanased in the RSPCA, without considering the many additional feral and stray cats and kittens euthanased annually by ACT Veterinarians or which die from disease, injury and accident.

While one can only speculate on the reasons for the failure of mandatory desexing to reduce the intake or euthanasia of cats in the ACT, the following should be considered:

1. Existing high desexing rate of owned cats in the ACT. As long ago as 1993, ACT enjoyed a rate of desexing (Paxton 1994) (92%) higher than that determined to result in zero population growth (Nasser and Mosier 1982) (88% of female pet cats). This is an excellent level of compliance, and it seems unlikely that compulsion would dramatically increase this number. In Australia in 2003, the percentage of pet (i.e. owned) cats desexed was 93.6% of females and 91.1% of males. The percentage of desexed pet cats has been steadily rising (anon 2007b). In Victoria, 85% of registered cats are desexed (McMurray pers comm.). The number of registered cats which are desexed in Victoria may be lower than the national average reported by telephone survey because owners of breeding cats (breeders) are more willing to have them registered than those with pet cats.
2. Lack of registration or compulsory microchipping of cats. Except for voluntary surveys, we have no data on the number of owned cats, and no method of monitoring trends in ownership or compliance with legislation.
3. Lack of enforcement. While the Act is available and the information about the need to desex is promoted in brochures and on the home page of the ACT Domestic Animals Services website (ACT 2007), there is little proactive promotion (except by veterinarians and welfare organisations) and, to the author's knowledge, no prosecutions for breaches of the Act in respect of this clause.

4. Unowned cats as the major source of cats entering the RSPCA shelter. The high rate of feral cats and cats with behavioural problems suggests that the majority of these cats have never been owned by someone prepared to take sufficient responsibility for them to comply with legislation and have them desexed. Victorian (McMurray pers comm.) and overseas data (Anon 2007b) also support this contention.

The offspring of semi-owned, stray and feral cats are unlikely to make suitable pets because of health and temperament issues. If a higher proportion of responsible cat owners have their cats desexed, an increasing percentage of cats will have been born of unowned cats and will be less suitable as pets. This is a concern, as Australia's cat population is in decline (Baldock et al 2003). In the case of both cats and dogs, members of the public who have unsatisfactory experiences with unsuitable pets (whether for health of temperament/behaviour reasons) are less likely to be willing to undertake pet ownership again. Of course, a responsible cat breeding industry may arise in response to the demand for suitable pet cats. It is to be hoped that this will include the breeding of "domestic" as well as "pure bred" cats. The loss of well suited domestic cats (and cross bred dogs) from the gene pool is to be regretted.

Discussion

The dynamics of dogs entering pounds and shelters are different from those of cats. Essentially dogs have been, at one time, owned, and the majority are abandoned by their owners (whether directly or by failure of reclaiming) because of temperament and behaviour problems. The majority of cats entering shelters are either feral (more than 16% of intake, nearly 40% of euthanasias) or are free living or stray – in 2006 only 101 cats from an intake of 2504 (4%) were reclaimed by their owners, compared to 429 of 1301 dogs (34%). While there are many proposed reasons for the low reclamation rate amongst cats entering shelters, a common reason is that they are stray or free living cats.

If the source and reasons for admissions to pounds and shelters differs for cats and dogs, then it makes sense that the solutions to reduce the intake and especially the euthanasia of cats and dogs also differs. For dogs, we need to target the owners, and issues such as identification, registration, education about responsible ownership (including reproductive issues) and most especially about dog temperament and behaviour are important. Education of owners about normal dog behaviour (what to expect when you obtain a pet dog), the importance of socialisation, temperament and behaviour training, and providing solutions for behaviour problems is pre-eminent.

While many of these issues are also relevant for cat owners, the high proportion of cats entering and being euthanased in shelters which are feral or free living means that there is no owner to educate, encourage to comply with legislation, or penalise for breaches. Mandatory desexing of cats will be "honoured in the breach" because these cats have no owner, and will be ignored by that percentage of the cat owning population who do not take their animal owning responsibilities seriously at the moment. The introduction of mandatory desexing legislation would be ineffective at significantly reducing the intake and euthanasia of cats in shelters, but will impose legislative compulsion on the large percentage of the population who are already responsible. The key to making a significant impact on intake and euthanasia rates for cats in shelters is to manage the feral and stray/free living cat population.

The increase in the number of cats which, having entered the RSPCA ACT shelter, are returned to their owners, is evidence of the success of identification of cats and of improvements in owner attitude. Identification of an animal is a mark of ownership – "I care enough about this animal to claim it as mine" and is the fundamental tool of animal management at a community level. From an owner's point of view, ownership can be claimed by a tag on a collar, a microchip, or registration.

From an animal management point of view, microchipping is the fundamental tool. Of all available forms of identification, only microchips are permanent and unalterable. The cost of microchipping is a sign that an owner claims ownership. The presence of a microchip identifies the cat as "owned", such that appropriate decisions about its future can be made. The owner of a lost cat can be identified through its microchip and contacted so the cat can be reclaimed. The owner of an injured cat can be identified so that decisions can be made about its treatment. The owner of a straying cat can be identified and educated about their responsibilities, warned or penalised. A cat not bearing a microchip can be assumed to be "unowned" and dealt with according to legislation if it is lost, injured, or straying

onto an area from which it is prohibited. A microchip enables the differentiation of two scared, perhaps aggressive cats so that a feral cat may be swiftly euthanased and its suffering not prolonged.

Registration also establishes ownership, but its principal advantage over and above identification is the revenue gained. The administrative cost of registration is high, and the advantages of good animal management accrue to the whole community, so there is an argument for requiring identification (microchipping) without registration, and sharing the cost of animal management across the whole community from rates or taxes.

Recommendations

A far greater impact on intake and especially euthanasia rates of cats in shelters could be accomplished by

- Mandatory identification of all cats (and dogs) by microchipping, with requirements for rapid and accurate data transfer to accredited databases. Such databases to be willing to share data and analysis with Government
- Adequate funding of animal management services
- Standardised and centralised collection of shelter data (intake breakdown by age, gender and desex status, and reason; in shelter data (health, behavioural assessment); disposition (reclaimed, rehomed, euthanased (and reason))
- Efforts to control the feral cat population, either by destruction or by trap-neuter-release programmes
- Efforts to manage the colony/stray cat population (those resident in inner city areas, educational institutions, hospital grounds, factories etc) by similar measures
- Education of the population about their responsibilities. Reasons for failure to desex are addressed in a paper by Murray (Murray 1993).
- Monitoring of advertisements for sale/give away kittens (and puppies), and either prosecution of the breeders (where legislation exists), or assistance to have their breeding stock desexed.

Currently, there are no well accepted, simply effective, and especially inexpensive management tools for unowned cats. There is considerable debate about the ethics and efficacy of trap-neuter-release (TNR) programmes vs. euthanasia of free living cats, with some areas of the welfare sector arguing strongly against euthanasia and for TNR, while the conservation sector tends to argue for euthanasia programmes. There is well justified concern about the welfare outcome for cats who have been trapped, neutered and released (Webb 2006), and in some jurisdictions (for example the ACT), releasing an animal is an offence against relevant legislation (compare Animal Welfare Act 1992 Section 11 and Nature Conservation Act 1980 Section 39 (1A)). The development of a cat specific toxin in Victoria, which is understood to be nearing approval for use, will increase options for cat control but will likely reignite the debate about the ethics of cat management.

Conclusion

The trends in intake, rehoming, adoption and euthanasia of cats in the ACT cannot be clearly concluded to be due to any particular change, because many factors are in play at any one time. Apart from the changes inherent in the Domestic Animals Act 2000, there have been changes in:

Management of RSPCA shelter, veterinary clinic, adoption program

Levels of identification of animals

Attitudes toward animal ownership

However, the data presented show that there is no improvement in measurable parameters associated with the introduction of mandatory desexing legislation in the ACT. It is unclear whether the lack of enforcement of the legislation is responsible for its failure to reduce shelter intake and euthanasia rates for cats, but overseas experience (Allen 2006) and logic suggests that mandatory desexing is an unsuccessful, wasteful and expensive management tool.

A legislative change is an easy thing to call for and to enact, but does not address the real problems. Mandatory desexing will never prevent feral and stray cats from reproducing, and these cats are the main source of cats and kittens entering shelters. Reclamation rates from shelters can be improved by better animal management (compulsory identification using microchips) and possibly registration. Desexing rates for owned cats is already high, and exceeds the rate calculated for zero population growth in the owned cat population; the consequence of which is a declining owned cat population in Australia.

While there is some cross over from the owned to the stray and feral cat populations, the high rate of desexing in the owned cat population means that the stray and feral cat populations, which have low desexing rates, are largely self supporting. It is the "excess" of stray and feral cats which end up in shelters as unwanted, unrehomable cats, and are euthanased. It is right and appropriate that the numbers of cats entering shelters which can never be rehomed should be reduced, but this will not be achieved by mandatory desexing of owned cats. Instead, authorities must decide and enable measures to manage the stray and feral cat populations - both their absolute numbers and especially their reproductive potential.

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RECOMMENDATION #1:

A government funded *independent and qualified* auditing process be established to identify causes, drivers and consequences of animal populations in shelters. It may be necessary to mandate data collection and reporting.

This process should be a cooperative process and involve universities, government, AVA veterinarians, industry and animal welfare agencies.

RECOMMENDATION #2:

Shelter data collected through the process identified in Recommendation #1 be utilized to identify where the problem areas lie.

Strategic and targeted programs are developed and adequately resourced to remedy the situation(s).

Concept for a government supported working group to develop a process for understanding shelter issues and providing strategic solutions

1. the group

- a. Cross section of representatives from government, university, Australian Veterinary Association, Local Government, etc. Mostly Qld with some national representation, eg:
 - DPI QLD
 - RSPCA QLD scientist / veterinarian
 - AWL QLD scientist / veterinarian
 - University of Queensland veterinary school – Centre for Companion Animal Health (CCH)
 - Australian Veterinary Association Centre for Companion Animals in the Community (AVACCAC)
 - ANZCAWG / AAWS
 - Australian Institute of Animal Management
- b. Aim 1. is to develop a process for identifying the root cause(s) for animals entering a given shelter
- c. Aim 2. is to promote and cultivate a cooperative approach to solving the problem (eg Asilomar Accords – www.asilomaraccords.org)

2. the data

- a. must be able to identify *drivers*, including
 1. ownership status (eg owned / semi-owned / stray / feral / unknown / etc)
 2. origins of animals (eg acquisition / geographic / demographic),
 3. animal factors (eg health, behaviour, etc)
 4. human factors (eg expectations, accommodation, experience, etc)

- b. must enable uniform and accurate reporting of outcomes (eg Asilomar Accords – www.asilomaraccords.org)
- c. must be analysed through an *independent* process

3. the results

- a. should identify root cause(s) for animals entering shelters (which may differ between shelters)
- b. should be available for reporting through appropriate channels – eg government

4. the programs

- a. should address the dominant root cause(s) or 'hot spots' for a given shelter. See table for examples (not exhaustive):

Examples for reasons for animals entering shelters.

Hot spot - examples	Type of response - examples	Existing programs
Small rural towns	<ul style="list-style-type: none"> Local media / education / desexing campaign 	CAWS - RSPCA NSW, AVA NSW
Dog behaviour problems	<ul style="list-style-type: none"> Increased resourcing for wide spread dog training from puppyhood. owner education. 	Puppy parties - private veterinary clinics Government / Council sponsored dog training & owner education
Semi-owned cats	<ul style="list-style-type: none"> Media campaign 	None known
Colony cats	<ul style="list-style-type: none"> Trap & euth / trap, neuter & release Environment management (access to food & shelter) 	Varied. (Carole Webb, Cat Protection Society, Victoria)
Owned cats - lost	<ul style="list-style-type: none"> Identification, education 	NSW, Victoria, South Australia
Owned cats - surrendered / abandoned	<ul style="list-style-type: none"> Identification, education Define by geography / ownership status / other human and animal factors 	NSW, Victoria, South Australia
Landlord restrictions on ownership	<ul style="list-style-type: none"> Work with tenants groups 	Australian Companion Animal Council
Poor adoption rates	<ul style="list-style-type: none"> Work with pet retailers to increase distribution channels in a responsible manner 	PetSmart, USA
Aggression towards people	<ul style="list-style-type: none"> In-shelter remedial work, and/or temperament testing. May necessitate euthanasia 	Many, including RSPCA Qld
Aggression towards animals	<ul style="list-style-type: none"> In-shelter remedial work, and/or temperament testing. May necessitate euthanasia 	Many, including RSPCA Qld
Request for euthanasia by owner	<ul style="list-style-type: none"> Identify chief reasons for request Screen for suitability for adoption May necessitate euthanasia 	most shelters
Animal health	<ul style="list-style-type: none"> Veterinary care Screen for suitability for adoption May necessitate euthanasia 	most shelters
Human preparation / expectation	<ul style="list-style-type: none"> Community education, especially targeted at the pet acquisition stage 	?
Excess animals	<ul style="list-style-type: none"> Define by geography / ownership status / other human and animal factors Desexing campaigns directed at problem area 	CAWS - RSPCA NSW, AVA NSW