

The issue of unwanted animals: Adopting a strategic and practical approach

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Abstract

There is rising focus on the issue of companion animals being euthanased in pounds and shelters. There are strategies to limit these numbers by seeking to reduce the number of dogs and cats entering the system and increase adoption and reclaiming rates. It is critical that a holistic view is taken to the problem and holistic strategies considered with the engagement of multiple stakeholders: - animal management (at local, state and even federal levels), veterinarians and animal welfare agencies. There is also an increased focus on feral animal management that has ramifications for companion animal management.

A number of initiatives have been implemented in the Bathurst region and elsewhere in NSW over the last 3 years. The Community Animal Welfare Schemes (CAWS) programs, which evolved from an original project developed in Bathurst by an animal management officer, have been well received in country towns in NSW. They acknowledge that some aspects of companion animal management are more difficult in more rural and remote areas. Consideration will also be given to dog programs on indigenous communities and other programs and strategies.

Introduction

The term, "Pet Overpopulation" has been applied to the euthanasia of dogs and cats in shelters and pounds. "Unwanted companion animals" (UCA) more aptly describes the issue. A cause of animal suffering and loss, it is a very complex problem. While considering how other countries have dealt with the issue is important, we must examine the unique, Australian context and build on the successes we have achieved.

Consideration should be given to the concept of zero population growth; a hypothesised rate of desexing of female dogs or cats that will lead to a static population (Nassar and Mosier, 1980). A thorough understanding of pet population's dynamics is essential to comprehend UCA. (Nassar et al, 1984; Nassar and Fluke, 1991; Patronek et al, 1995; Patronek and Rowan, 1995; Patronek et al, 1997; Scarlett, 2004)

Assessing the problem

Background on the situation in the USA

Worldwide there have been deficiencies in how shelter population management is assessed. Since the 1940s, perceived UCA in the United States has been an important issue to the animal welfare community (Moulton et al, 1999). The portion of these animals that are adopted or euthanized, why they are relinquished, and their source of acquisition, are all questions for which there have been little data (Salman et al, 1998). Rowan (1991) notes that as early as 1984, the Tufts Center for Animals and Public Policy organised a workshop on the UCA issue in an attempt to identify data that could be used to assess the effectiveness of attempts to control pet overpopulation. He states that "despite the assembled wisdom and data, it was not possible to track the effects of the considerable effort to promote pet population control over the preceding 10 years, nor was it possible to identify the effectiveness of legislation, enforcement, education, or sterilization in reducing the number of unwanted animals."

The lack of reliable data has continued to be identified as a problem in dealing with UCA in the USA (Patronek and Zawistowski, 2002; Clancy and Rowan, 2003).

It is not surprising that the fragmentation of animal sheltering, with a myriad of smaller groups and shelters having been set up over the last 10 years, is thought to have made data collection and situational analysis even more difficult (Patronek, 2006). It is hard to draw proper conclusions about what has led to the reduction in dogs and cats coming into and being euthanased in pounds and shelters when there is unreliable data. The need for empirical work had previously been highlighted. (Fennel, 1999)

In the early 1990s Phil Arkow (1994) compiled the results of 10 state-wide shelter surveys representing nearly 40% of the US population. He concluded that the number of animals euthanased at that time was closer to 4 million cats and 2 million dogs. Prior to that time it was generally believed that figures were 5 times these figures. He concluded that they were no closer to answering the fundamental question of how and why many animals were destroyed each year in shelters.

The National Council for Pet Population Study and Policy (NCPSP) (1998) embarked on an ambitious plan to establish a national baseline in 1994. Figures from this survey are reported on the NCPSP website¹. It was sent to all shelters that took in greater than 100 dog and/or cats per year and ran for 4 years from 1994 to 1997 but was halted because of the poor response of the animal shelters with around only around 20% responding.

Clifton (1994) argued that a survey conducted by his publication "Animal People" showed the efficacy of the strategy of low cost sterilization schemes was beyond doubt. Nevertheless, the information that was used to come to this conclusion was generated from questionnaires and not from actual statistical data from animals entering pounds and shelters and their kill rates. It is generally accepted that there has been significant decline in the USA and questionnaire-based information does give an overview. Such data, nevertheless, is not accurate enough to measure the impact of individual strategies.

It is possible to consider trends within individual jurisdictions, well measured, to extrapolate to national trends, albeit this is fraught with inaccuracy. It nevertheless provides some measure. Consideration can be given to whether the environmental factors that affect one state, county or territory might apply to another. For example it is quite clear that cat numbers will multiply more quickly in warmer climates than in colder ones and where the day length does not undergo as much variation. This is due to the lower death rate of semi-owned or unowned cats in warmer climates, on one hand, and more prolific breeding with more litters being born per cat the closer one gets to the equator, on the other. (Patronek and Zawistowski, 2002)

Patronek (1998) provides commentary on data from the New Jersey Department of Health. He comments that it is one of the few states that has collected and reported data on animal intakes and disposition in a consistent manner over many years. These figures show static levels until the 1980s and then a steady decline, albeit the decline has been greatest in dogs and modest in cats. It is interesting that low cost canine and feline sterilizations commenced in 1990 and are tracked in these statistics.

(Endnotes)

¹ National Council for Pet Population Study and Policy. The shelter statistics survey 1994-1997 <http://www.petpopulation.org/statsurvey.html>

They did not appear to have had a major influence on the overall trend of steady or modest declines in euthanasia percentages as had been occurring prior to their inception. New Jersey implemented a state-wide subsidized spay and neuter program in 1984. Over a 16 year period, from 1984-1999, New Jersey experienced a 29% decline in animal impoundments, and a 10% drop in the euthanasia rate. Australia may have experienced a similar or better decline in euthanasia rates and comparable decline in intake rate from 1997-2005 without the level of low cost sterilization programs (RSPCA, 2006).

In summary, the picture that we have that comes from the USA is a confusing one. Decades of significant attention to the problem of UCA has no doubt seen a reduction in the problem but it is very unclear as to why this has occurred. So many of the strategies that have been championed have not been measured or analysed in scientific ways. Vast sums of public and especially benevolent money have been thrown at the problem, countless hours of dedicated staff and volunteer time has been spent, indeed many individuals have dedicated their lives to this issue. UCA is still an enormous problem in many parts of the USA. One cannot help but wonder if the problem would be less today if more wisdom had been added to the wealth of work that has been done.

The issue of the euthanasia of shelter animals is a highly emotive topic with significant buy in from the public, the media, government, animal rights and animal welfare lobbies, the veterinary community and various other stakeholders. The author believes it is critical that assumptions are not made which will see effort and funding expended on solutions that are ineffective and unsustainable. The ultimate goal should be to reduce companion animal suffering in the long term and of course the horrible waste of canine and feline life through euthanasia.

Background on the situation in Australia

As with the USA there is no reliable data on the total numbers of animals euthanased in Australia, although the various states and territories are making efforts to increase the gathering of data and subsequent analysis so that trends can be identified (McMurray, 2006). There is some data in Australia, however, that allows us to gain oversight of the trends that are occurring. There is a perception no impact has been made in Australia on the numbers of animals that are being euthanased in pounds and shelters over the last 20 years. This was the strong opinion expressed by many that attended a recent symposium on the Gold Coast at which the previous paper cited was presented.

It is important that the problem is critically analysed. A broad reading of information is recommended. Dr Dick Murray (1992), a pioneer in the management of urban animals, has given an Australian perspective. Strategies chosen must work in this country and be based on the Australian experience. It may be that we have dealt with the issue better than the US.

One of the great difficulties is that statistics here have been haphazard just as has been the case in the USA. There is no reliable data on the total of the numbers of animals euthanased in Australia. The various states and territories are making efforts to increase the gathering of data and subsequent analysis that trends can be identified. There is some data in Australia that allows us to gain oversight of the trends that are occurring.

The intake of dogs by RSPCA NSW reduced state-wide over a seven year period by approximately 4,000 from a peak in 1998. Euthanasia dropped by around 5,000. Cats have declined from a peak in 1997 of 20,000 to a trough in 2003 of 10,000 with a worrying rise in the last 2 years up to 14,000. Euthanasia has nevertheless halved.

There are concerns that cats are not being managed adequately at a local government level in NSW. Research from Victoria indicates "semi-owned" cats and "cat colonies" may be fuelling a similar rise of cats. (Marston et al, 2005)

National figures on intake of dogs and cats and euthanasia figures for RSPCA are available on the national website (and represented in Fig 1,2). What is clear from these figures is that there has been significant decline in intake and euthanasia. The number of dogs coming into Australian RSPCA shelters peaked at 80,776 in 1997-1998 and has declined to 60,030 in 2004-2005; this represents a reduction of 25.9%. At the same time the euthanasia rate declined by 42.7%. Cats reached a peak of 62,163 in 1996-1997 and declined to 49,754 in 2001-2002 (almost 20%) before a worrying rise back to 55,291 (still an 11% decline). Euthanasia was nevertheless reduced by 31.5%.

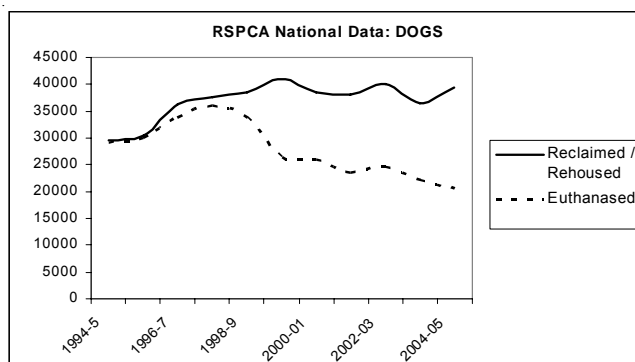


Fig 2. The fate of dogs received nationally through RSPCA shelters (source: www.rspca.org.au)

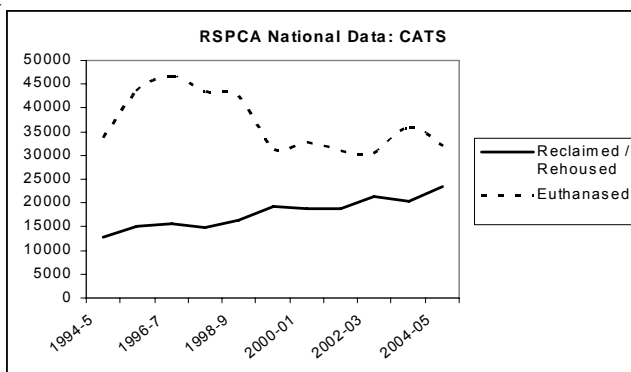
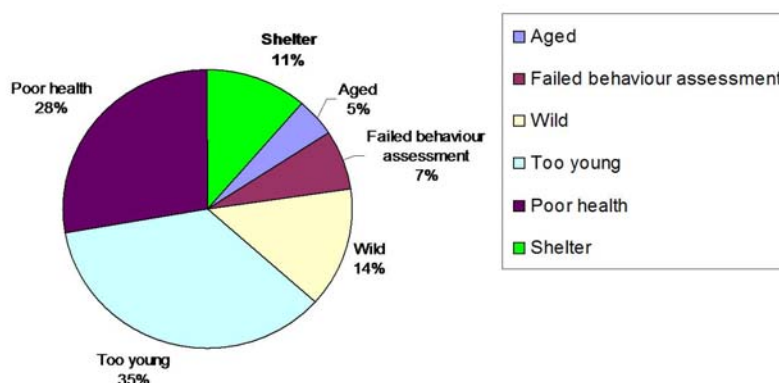


Fig 2. The fate of cats received nationally through RSPCA shelters (source: www.rspca.org.au)

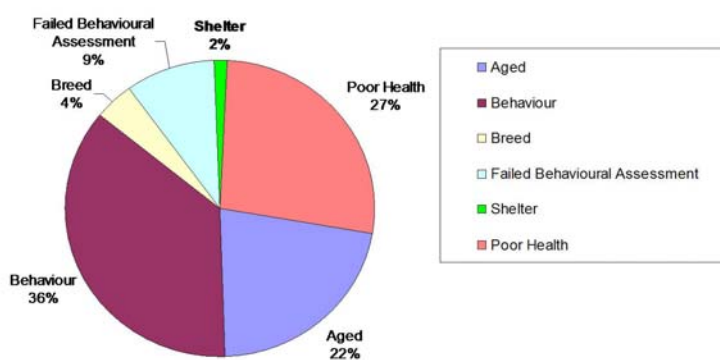
RSPCA NSW now brings dogs and cats from country shelters to city ones, reflecting a decline in animals being euthanased in the city, while "overpopulation" is still a major problem in the rural areas. Most dogs and cats euthanased are not in fact suitable for adoption. RSPCA recently divided euthanasia figures at Yagoona into reasons. We were stunned by the low percentages of dogs and cats that were adoptable and had to be euthanased.

While mirroring the downward trend seen in the US over the last 10-20 years, euthanasia figures per capita of human population may be lower in Australia than the USA, albeit proper detailed analysis needs to be done (on the background of poor statistical data in both countries). This is despite the fact that comparatively little has been invested in subsidised desexing schemes in Australia.

CATS: reasons for euthanasia



DOGS: reasons for euthanasia



It is clear that there will be different circumstances in different jurisdictions. In the USA there is a clear north to south trend in increasing euthanasia levels. It is likely that the reverse occurs in Australia. As previously indicated the accuracy of statistics is poor. The jurisdiction where statistics are most accurate is the Australian Capital Territory (ACT). There are only 2 holding facilities for unwanted animals in ACT; the RSPCA shelter at Weston Creek and the ACT municipal pound. The RSPCA figures are published along with the national statistics. The municipal pound figures have been kindly provided from unpublished statistics on the dog and cat impound and euthanasia rates. (Maclean, 2006) These two sets of statistics cover the territory completely, for dogs (the ACT government does limited cat control work).

It could be argued that the ACT is one of the wealthiest jurisdictions in Australia and there is likely to be a bias toward responsible companion animal ownership which would lead to less unwanted companion animals. 2060 dogs were dealt with by ACT Domestic Animal Services in 97-98 and 2135 by the RSPCA with around 700 and 554 respectively being euthanased. By 2004-2005 this had dropped to 1943 and 1597 with 191 and 247 respectively euthanased. This represents a reduction of 21.3% in intake and a staggering 65.1% in euthanasia of dogs. This is on the back of reliable reports that dogs are being brought into the ACT from NSW country towns where it is difficult to adopt unwanted strays. The only cat impounding and sheltering is done by the RSPCA. There is a perception that cat numbers are on the increase, however in the 8 year period surveyed cat intake numbers declined by 10% and euthanasia by 18.2%.

Subsidised desexing schemes have only recently begun in ACT and are unlikely to have affected the figures, albeit there is a good baseline for assessment of their impact.

Strategies to deal with UCA

1. RSPCA NSW-AVA NSW Community Animal Welfare Schemes (CAWS)

History of CAWS Program-the Kelso Program

On Sunday May 11, 2003 RSPCA NSW ran a one day desexing program in the NSW country town of Bathurst, in conjunction with Bathurst City Council (BCC) and the NSW Department of Local Government. 126 dogs and cats, female and male were desexed, vaccinated, heartworm tested, dewormed and treated for any other problems that emerged, all in one day. The program was the brainchild of Margi Gaal, the president of the local RSPCA Branch who was also the animal control officer (council ranger) for BCC (now Bathurst Regional Council (BRC)). The author worked with Ms Gaal in planning the program along with a number of BCC managers and staff and a multitude of RSPCA personnel. BCC was generous with funding, there was support from the Department of Local Government (DLG), the local RSPCA branch assisted and a large number of RSPCA staff generously donated the best part of their weekend (Mother's Day) to the program.

A team of vets, nurses, shelter staff, inspectors and other RSPCA staff drove from Newcastle, Sydney, and Orange. The Stewart Street Veterinary Hospital was kindly donated for the day by Dr Angus McKibbin. Some equipment was loaned by the vet hospital whilst some was brought by the RSPCA. There were also donations of drugs and vaccines, lab tests and surgical materials by several pharmaceutical and laboratory companies. Representatives from DLG and Department of Primary Industry also assisted.

The Kelso estate is a housing commission area with a range of social and economic problems. It has a number of indigenous residents.

It has traditionally been the source of a high percentage of dogs (and to a lesser degree) cats admitted to Bathurst pound. Most of the dogs from Kelso prior to the program were unidentified and unregistered and most were not reclaimed. The majority were not suitable for adoption and were euthanased.

An open day was held in a park near the Kelso estate to educate the community and raise awareness about the issue of responsible ownership. Much work was done in the lead up time by Ms Gaal and others in liaising with community members and elders, as well as publicising through the local media, Council resources and schools. Council officers door knocked every house in Kelso (at 650) at least once.

The results of Kelso and its evolution into CAWS

The positive outcomes were an 80% reduction in animals impounded from the Kelso estate. The working relationship with the community there has been able to be maintained over a number of years that has sustained better animal management.

It was clear in the post program analysis of the Kelso program that intense 1 day programs would not be sustainable. A large number of RSPCA staff donated their time. Although keen to volunteer again and perhaps 6 monthly, this would not be possible on an ongoing basis across a number of sites (which is what would be required to have a significant impact on euthanasia numbers across NSW). It was difficult to get a lot of media coverage for a 1 day event. Further evolution of the model was required. There needed to be more stakeholders and more formal educational delivery to the public and children. A 2 week program was felt to be best to maximise media attention. Consideration was given to using local human resources for capacity building, along with funding models that would be sustainable.

At the time of analysis of the Kelso program there was a lot of interest in the RSPCA at branch and Auxiliary (Sydney branch) level to run desexing programs. Some branches had done this. The author was supportive of the establishment of programs but very aware that there were many pitfalls to desexing programs and it is very uncertain how effective and sustainable they are at lowering UCA. There has been a significant degree of scepticism in the veterinary community in Australia (Murray, 1992). It was clear to the author at that time that desexing programs must be highly targeted to be effective. This is a strong theme that has been promoted in the USA in recent years (Marsh, 2004). It is likely that the numbers required to actually have impact on population numbers are so high they become cost ineffective. The author has long held the view that there is more benefit in the awareness (education) of desexing programs than the actually surgeries performed *per se*. It is likely they add to the cultural acceptance of desexing and lead the public to seeking it out whether subsidised or not.

Senior management at RSPCA NSW decided to set up a new series of programs based on an evolving analysis of UCA with a view to further reducing intake and euthanasia rates. One of these was the CAWS (Community Animal Welfare Scheme) program; a collaboration with the NSW Division of the Australian Veterinary Association (AVA). This joint community program is delivered in country towns. It combines education (through AVAPetPep or RSPCA educational staff), public awareness through joint media releases and other work, and desexing programs targeted to the poorer members of the local community as assessed by means testing.

Results of CAWS programs

In 2004 programs were carried out in Bourke, Coonamble, Gilgandra and Bathurst. In 2005, with assistance from funding from the M Carroll Animal Welfare Fund and JS Love Trust via Perpetual Trustees, Inverell and Griffith were added to the programs.

In 2006 Coonamble and Gilgandra will be replaced by Dubbo. If further funding was available many more programs could be run.

These programs have been thought to have reduced parvovirus cases in pups as well as unwanted litters. They improve responsible ownership as many involved in the programs had previously never sought veterinary care for their animals, and subsequently did. This was in the order of 25% in one town (King, 2006). It is intended that more comprehensive data and analysis will be presented in the future. Apart from coverage in rural media, it has been the subject of a short communication in the veterinary literature (Lawrie and Constable, 2006). One of the strengths of the CAWS programs is their ability to build veterinary capacity in areas where it struggles to be maintained. The use of current veterinary hospital infrastructure in sterilization schemes has been identified as a strength in some US programs (Marsh, 2003).

Discussion of subsidised sterilization (desexing, low cost/no cost spay/neuter)

Peter Marsh (2004) reviews future strategies in solving UCA in the USA and says, "The answer lies in working smarter, not harder". He emphasises that with the higher sterilization rates of owned animals, 75% of money spent on low cost sterilization schemes is being wasted as many of those participating would have had their animals desexed regardless. "To be effective, neutering programs must reach pets in the breeding population and result in sterilizations that wouldn't have occurred otherwise. Because they are not cost effective, untargeted programs are prohibitively expensive." He also points out how vets are disaffected when programs are not targeted. It is interesting that these comments are based on the US experience where there has been significant benevolent and government funding for sterilization programs.

He stresses the need for further development and implementation of behavioural interventions in the veterinary and shelter communities (as a means to developing a population of better behaved dogs and cats who will be retained by owners rather than "recycled" through facilities) as well as more advanced education of the public in aspects of responsible pet ownership.

Bob Christiansen (2000) has advocated making spay neuter the domain of government rather than veterinarians. It should be funded and managed by governments employing vets to do this. It is hard to see this being acceptable in economically rational Australia today and there are signs that the ability to publicly fund sterilization in USA is faltering. He also highlights that kittens are coming from the semi-owned or wild populations.

Dick Murray (1992) gives an Australian perspective arguing that "subsidised pet neuter schemes appear to be no more than a "Band-Aid" treatment for a complex sociological problem that has to date been poorly researched and poorly understood." Granted this was written in 1992, but much of the analysis he puts forward is pertinent for consideration today.

Murray points out that one of the complaints that veterinarians have is that desexing is already seen by them as a highly subsidised procedure.

My belief is that Australia has less need for subsidised desexing programs. Australians are more likely to seek unsubsidised desexing than Americans for 2 main reasons. Firstly, Australians are more responsive to "social marketing" than Americans. High success in implementing public programs like seat belt wearing and skin cancer prevention (Slip, Slop, Slap) support this. Secondly, there is more even distribution of wealth in Australia than in the USA. A greater percentage of Australians can afford unsubsidised sterilization. This has led to higher sterilization rates of owned dogs and cats in Australia (Lawrie, 2006).

There is nevertheless scope for highly targeted desexing programs to be run in areas that are contributing more significantly to the problem of UCA. In NSW these are country towns (especially those west of the divide and in the Riverina as indicated by figures previously published on the Department of Local Government (DLG) website (2001)), indigenous communities and housing commission areas. The RSPCA AVA CAWS programs are dealing with the first area and AMRRIC (Animal Management in Rural and Remote Indigenous Communities) programs run predominantly by RSPCA NSW and the Greater Western Area Health Service are addressing the second area. A pilot program established by the Department of Local Government and involving the Department of Housing, RSPCA and 4 local councils in NSW had limited success in addressing the third area. This is a very difficult sub sector to deal with and research needs to be undertaken to work out effective strategies for this area.

2. Education

There is not sufficient space in this paper to discuss the key role that education plays. It is very important to restate the author's opinion that education and public awareness are more important than the actual sterilization of the dogs and cats *per se*. If the public is aware and responsible it will solve the problem more effectively than governments or charity volunteers. There are excellent programs available that focus on responsible ownership and discuss the issues leading to UCA. AVA (with AVA PetPEP), RSPCA, the Animal Welfare League and others all run excellent programs, as does the Bureau of Animal Welfare in Victoria. A new collaborative program is being developed in NSW and this may be a model for national consideration if successful.

It is beyond the scope of this paper, but on-going improvements in the behavioural management of dogs in particular, and cats, has contributed, in my opinion, to the decline in euthanasia rate over and beyond the decline in intake rate. A better behaved dog is more adoptable and also more sustainably adoptable reducing the likelihood of relinquishment.

3. Mobile veterinary clinics

At the time of the Kelso program there was interest at RSPCA NSW in mobile veterinary clinics (MVC). Many were operating in the USA and a MVC was in the planning stages at RSPCA Queensland. A feasibility study on the establishment of a MVC in the Northern Territory had been undertaken by the International Fund for Animal Welfare (IFAW). Although there was a lot of positive press supporting MVCs from North America, they have the potential to be very costly per animal desexed in Australia, given the travel distances, the terrain and extreme climate (eg a wet season of up to 4 months a year in the Top End). The setting up of field hospitals is a much more cost effective strategy. A danger of MVCs is that they can undermine the public perception and income of local vets. This is a serious problem in remote areas of Australia where country towns and areas struggle to sustain resident veterinary coverage.

4. Indigenous dog programs

Significant work has been done in this area by veterinarians and others through various projects. Animal Management in Rural and Remote Indigenous Communities (AMRRIC) (formerly "Big Lick") has emerged as an umbrella group overseeing the further development of dog programs on indigenous communities. It has been generously supported by the federal government with an original commitment of funding through Senator Amanda Vanstone (2004). Details of its operations are available on its website (AMRRIC, 2006). It is important to note that AMRRIC held an international conference, "Dog People", in Darwin in July, 2006.

Although there are no statistics, many dogs are entering the shelter/pound network when litters are brought from the bush to cities and towns. This is particularly a problem in poorer socioeconomic areas. There is a likelihood that dogs from indigenous communities may also be entering the feral dog population. Unwanted hunting dogs from indigenous and other rural communities may also be contributing to UCA and to feral dogs. In the USA and Australia the relocation of dogs and cats from areas of excess to shortage of supply is an emerging strategy. In the USA there is significant south to north eastern state transfer of puppies (Patronek, 2006). In NSW RSPCA is increasingly bringing dogs and cats from country areas to the city.

5. No-kill shelters

Arluke (2003) gives a definitive and balanced understanding of this debate in the USA. The conflict has moderated due to a "truce" between the two sides, the so-called, Asilomar Accord (2004), which was signed on August 1, 2004. It has not been as divisive an issue in Australia. It is unlikely it led to the reduction in shelter and pound euthanasia figures in the USA. Clifton (2005), who appears to be sympathetic to the no-kill philosophy, indicates that kill numbers in shelters were already declining when the philosophy was proposed and then marketed. He also discusses the troubling linkage between animal rescuers, no-kill shelters and animal hoarders as a negative manifestation of the philosophy.

It would be fair to say that a huge amount of money has been spent on "No-Kill" in the USA. It may certainly have benefited UCA by raising media and public awareness. There is a danger that it may have biased some of the research that has been done and the way that it has been interpreted. This may have led to the adoption of some strategies that are not effective or sustainable. Trap-Neuter-Release programs could be a manifestation of this and it is interesting to observe the changing attitude by the scientific community to this strategy.

6. Semi-owned cats

Work done in the US indicates that "semi-owned" or unowned cat populations are far more prolific in adding to the UCA problem than owned cats (Johnson, 1994). Recent research in Australia has confirmed the trend in this country (Marston et al, 2005). RSPCA figures indicate that there may be an increase in the cat numbers coming into shelters in the southern states in the last 2 years. I believe this is a far greater challenge to us than the dog situation and requires a significant investment to research and deal with the problem.

7. Animal hoarders

The contribution of animal hoarders to UCA has been postulated in the USA (Patronek, 1999) and Australia (Lawrie, 2005). RSPCA NSW and other State RSPCAs and other groups have been working strategically to better deal with this situation, sometimes in their own backyards. Better management of hoarders has the potential to significantly reduce the total unwanted population of dogs and cats. The issue of animal hoarders including their contribution to unwanted companion animal numbers is comprehensively dealt with in a recent publication (Patronek et al, 2006).

8. Identification, registration, compulsory desexing, differential fees and juvenile desexing

Although compulsory desexing has the potential to lower UCA it is likely to be difficult to enforce. It could be argued that as the greatest problem is the unowned cat population it is not likely to be effective. It could also be argued that putting more resources into the compliance of microchip identification and registration (which is already compulsory in some states) would be more effective.

The establishment of differential registration costs for desexed-to-entire animals is likely to be an effective strategy to increase desexing rates. Focus should also be targeted on strategies to ensure that as many reclaimed animals are desexed before release as possible and that all animals adopted from shelters and pounds are desexed pre-adoption. Juvenile or paediatric desexing is highly recommended for use in this environment. Indeed it is recommended in this way by national AVA policy.

Paediatric sterilization has been the subject of several analyses. (Spain et al, 2004a; Spain et al, 2004b; Howe et al, 2000; Howe et al, 2001) There has been some ambiguity in these studies about its impact in dogs less than 16 weeks of age, albeit it is fairly well accepted that there are no problems in doing the procedure in cats as young as 6 weeks. It is worthy of note that these analyses are based on surveys of owners' opinions rather than proper studies. A publication of proceedings of seminars in Victoria in 2003 are also worthy of consideration (DPI Victoria, 2004). 3 papers are presented and a foreword by the then president of the Victorian Division of the AVA and 2005 national president Dr Matt Makin. This publication is supportive of early aged desexing.

Conclusion

It is my belief that the many efforts of a multitude of stakeholders has led to a gradual improvement in the problem of UCA in Australia over the last decade. This is more pronounced in dogs with a possible "J-curving up" occurring in the situation with cats. I question whether the feeding of semi-owned or unowned cats and a reduction in cat management by some councils in NSW is contributing to this.

It is my belief that the most important strategy that we can implement is to gather comprehensive national statistics and conduct proper analysis and research using those statistics to measure the effect of work that is currently being done. It is clear that any program to deal with UCA must have a substantive educational component. It is my opinion that education is more cost effective than subsidised desexing. Targeted desexing programs, which have a means testing component, should be delivered to key problem areas (country towns, indigenous communities and housing commission areas). The ongoing rise in the standards of behavioural management of all dogs and especially of pound and shelter dogs for adoption is likely to have reduced euthanasia rates and will play a role in the continued reduction. More creative ways must be applied to the adoption of pound and shelter dogs and cats including the transportation of animals from areas of excess to those of increasing shortage. Continuing work in managing animal hoarders has the potential to reduce the numbers of unwanted (and often unadoptable) dogs and cats across NSW by the thousands.

Clearly no one strategy will solve the problem but it is critical that we measure which ones are most effective and use these.

Bibliography

AMRRIC (2006) Animal Management in Rural and Remote Indigenous Communities (AMRRIC) website www.amrric.org

Arkow P A new look at pet "overpopulation." *Anthrozoos* 1994; 7(3):202-205

Arлуke A.(2003) The No-Kill Controversy: Manifest and Latent Functions," *State of the Animals, 2003*, edited by Deborah Salem and Andrew Rowan, Washington, D.C.: Humane Society Press, pp. 67-84

Asilomar Accord (2004). Asilomar Accord website. <http://www.asilomaraccords.org/>

Christiansen R. (2000) In *Save Our Strays: How We Can End Pet Overpopulation and Stop Killing Healthy Cats and Dogs*, CLC Publishing, Napa, California.

Clancy EA and Rowan AN. (2003) Companion animal demographics in the United States: A Historical Perspective. *State of the Animals, 2003*, edited by Deborah Salem and Andrew Rowan, Washington, D.C.: Humane Society Press, pp. 129-143

Clifton M. (2005) What has no kill accomplished? *Animal People* Sept 2005

Clifton M. (1994) Who needs low cost neutering? *Animal People* July 1994

DLG NSW (2001) Department of Local Government. Pound Statistics 1999-2000, 2000-2001.

DPI Victoria (2004) Department of Primary Industry, Victoria. Early age desexing of puppies and kittens. *Proceedings of seminars held by the Australian Veterinary Association and the Minister for Agriculture's Animal Welfare Advisory Committee between October and December 2003*.

Fennel LA. (1999) Beyond overpopulation: A comment on Zawistowski et al. and Salman et al. *Journal of Applied Animal Welfare Science* 1999; 2(3): 217-228

Howe LM, Slater MR, Boothe, HW, Hobson HP, Fossum TW, Spann AC and Wilkie WS. (2000) Long-term outcome of gonadectomy performed at an early age or traditional age in cats. *J Am Vet Med Assoc* 2000; 217:1661-1665

Howe LM, Slater MR, Boothe, HW, Hobson HP, Fossum TW and Spann AC. (2001) Long-term outcome of gonadectomy performed at an early age or traditional age in dogs. *J Am Vet Med Assoc* 2001; 218: 217-221.

Johnson K. Are owned cats causing an overpopulation crisis? *National Pet Alliance Report. Adapted from the Cat Fanciers' Almanac*, October 1994

King K. (2006) Data from Gilgandra Veterinary Clinic. Personal communication May 2006.

Lawrie M (2006). Populate and Perish: Control and Cherish-Community Animal Welfare Schemes in Country NSW. In *Proceedings: National Summit to End Pet Overpopulation*, June 2006 pp 118-127

Lawrie M and Constable S. (2006) Community Animal Welfare Scheme a Success. *Aust Vet J* 2006; 83: 708

Lawrie M. (2005) Animal hoarders in Australia: Shining light through dark shades. In: *Proceedings of 15th National Urban Animal Management Conference 2005*. Published by the Australian Veterinary Association, Sydney.

McMurray R. (2006) Victorian Domestic Animal Management Legislation and Population Control. In *Proceedings: National Summit to End Pet Overpopulation*, June 2006 pp 19-26

Marsh P. (2004) The strategy for tomorrow: solving pet overpopulation. *Animals in Print: The On-Line Newsletter* May 14, 2004 <http://www.all-creatures.org/aip/nl-20040518-the.html>

Marsh P. (2003) What worked and what didn't work. *Solutions to Overpopulation of Pets* http://www.petsavers.org/articles/Spay_Neuter/State_Programs/NH_Spay_Neuter.html

Marston L, Toukhsati S, Bennett PB. (2005) Cat stats: tracking cat admissions to shelters in Melbourne. In: *Proceedings of 15th National Urban Animal Management Conference 2005*. Published by the Australian Veterinary Association, Sydney.

McLean D. (2006) Acting Registrar Domestic Animal Services, ACT, personal communication

- Moulton C, Wright P and Rindy K. (1991). The role of animal shelters in controlling pet overpopulation. *J Am Vet Med Assoc* 1991; 198:1172-1176.
- Murray RW. (1992) Unwanted pets and subsidised pet neuter schemes. *Aus. Vet Practit* 1992; 22: 12-18.
- Nassar R and Mosier JE (1980) Canine population dynamics: A study of the Manhattan, Kansas, canine population. *American Journal of Veterinary Research* 1980; 41:1798-1803
- Nassar R, Mosier JE and Williams LW. (1984) Study of the feline and canine populations in the greater Las Vegas area. *American Journal of Veterinary Research* 1984; 45:282-287.
- Nassar R and Fluke J. (1991) Pet population dynamics and community planning for animal welfare and animal control. *J Am Vet Med Assoc* 1991; 198:1160-1163.
- National Council for Pet Population Study and Policy (NCPSP) (1998). The shelter statistics survey 1994-1997 <http://www.petpopulation.org/statsurvey.html>
- Patronek GJ, Loar L and Nathanson JN. (eds.) (2006). *Animal Hoarding: Structuring Interdisciplinary Responses to Help People, Animals and Communities at Risk*. North Grafton, MA: Hoarding of Animals Research Consortium
- Patronek GJ and Rowan AN. (1995) Determining dog and cat numbers and population dynamics: Editorial. *Anthrozoos* 1995; 8: 199-205.
- Patronek GJ, Moyer MR and Glickman LT. (1995) Population dynamics and risk of euthanasia for dogs in an animal shelter. *Anthrozoos* 1995; 8:31-43.
- Patronek GJ, Glickman LT, Beck AM, McCabe GP, Ecker C. (1997) Dynamics of dog and cat populations in a community. *J Am Vet Med Assoc* 1997; 210: 637-642.
- Patronek GJ. (1998) New Jersey shelter data trends over 12 years. *In The Animal Policy Report* 12(1):4-5
- Patronek GJ and Zawistowski S. (2002) The value of data. *Journal of Applied Animal Welfare Science* 2002; 5(3):171-174.
- Patronek GJ. (2006) Personal communication May 2006
- Patronek GJ. (1999) Hoarding of animals: An under-recognized public health problem in a difficult to study population. *Public Health Reports* 114:82-87
- Rowan AN What we need to learn from epidemiologic surveys pertaining to pet overpopulation. *J Am Vet Med Assoc* 1991; 198: 1233-1236
- RSPCA National (2006) Annual Statistics 1996-2005 National website www.rspca.org.au
- Salman MD, New JG, Scarlett JM, Kass PH, Ruch-Gallie R and Hetts S. Human and Animal Factors Related to Relinquishment of Dogs and Cats in 12 Selected Animal Shelters in the United States *Journal of Applied Animal Welfare Science* 1998; 1(3):207-226.
- Scarlett JM. (2004) Pet population dynamics and animal shelter issues. In: Miller L, Zawistowski S, editors. *Shelter Medicine for Veterinarians and Staff*. Blackwell Publishing, Iowa.
- Spain CV, Scarlett JM and Houpt KA. (2004) Long-term risks and benefits of early-age gonadectomy in cats. *J Am Vet Med Assoc* 2004; 224:372-379.
- Spain CV, Scarlett JM and Houpt KA. (2004) Long-term risks and benefits of early-age gonadectomy in dogs. *J Am Vet Med Assoc* 2004; 224:380-387.
- Vanstone A.. Healthy dogs for healthy communities. *Press release May 19, 2004* http://www.atsia.gov.au/media/former_minister/media04/v04019.aspx

Margaret Gaal

Margaret Gaal is an AMO at Bathurst Regional Council. She was the progenitor of the "Kelso Project" which saw a coordinated program of animal management in a socio-economically challenged area in Bathurst in May 2003. On one day 126 dogs and cats were desexed and community awareness and educational material was delivered on the day and in the lead up to the event. Margaret is also the President of the RSPCA in Bathurst. She won an award from the International Fund for Animal Welfare (IFAW) for the work that she did in the development and implementation of the Kelso Project. She also worked on a desexing project run by the Esther Honey Foundation (EHF) in French Polynesia in February 2004.

Dr Mark Lawrie

Dr Mark Lawrie is the Chief Veterinarian with RSPCA NSW. He is responsible for 4 veterinary hospitals and the 90 staff that work in them. He was the President of the Australian Veterinary Association (NSW Division) in 2005. He is the Secretary of Animal Management in Rural and Remote Indigenous Communities (AMRRIC), an umbrella group that seeks to improve the animal welfare and companion animal control on indigenous communities. He worked with Margaret Gaal in the planning and implementation of the Kelso Project and subsequently helped to develop the CAWS programs. He worked as a consultant for IFAW for 6 months in 2003-4 and examined animal welfare and CA control issues in the South Pacific and Korea.

Isabel Widdison

Isabel Widdison is an AMO at Port Stephens Shire Council. She was previously employed by the Bourke Shire Council and helped to plan and implement the first "CAWS" branded program in April 2004. She has also been involved in a number of similar projects in indigenous communities.

Dr Magdoline Awad

Dr Magdoline Awad is the Deputy Chief Veterinarian with RSPCA NSW. She worked on the original Kelso Project assisting in its planning. She also has been involved from the outset in the planning of CAWS programs, their ongoing implementation and delivery. She has also planned and been responsible for the implementation of a number of programs on indigenous communities in conjunction with the Far West Area Health service and now Greater West Area Health service.

Dr Ann-Margret Withers

Dr Ann-Margret Withers is an RSPCA NSW veterinarian. She worked on the original Kelso Project and the first CAWS program, as well as seven of the other ten CAWS programs completed to the end of 2005. She has been involved in a number of similar programs held on indigenous communities and on the EHF program in French Polynesia in 2004