Companion Animal Overpopulation: Trends and Results of Major Efforts to Reach a "No-Kill" Nation

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Abstract: Human companion animal overpopulation is a problem of human creation, with significant human costs, and that can only be addressed through human action. Concern and awareness regarding the euthanasia of companion animals has grown dramatically in recent decades. Within the past five years in particular, a new "no-kill" philosophy has penetrated much of the animal welfare movement. Perhaps the largest development in this area has been the creation and actions of "Maddie's Fund", an organization offering unprecedented financial resources to fuel numerous animal welfare programs and with a commitment to move entire communities to "no-kill" status. This paper discusses recent companion animal overpopulation trends, and the results from Maddie's Fund Programs in particular.

Introduction

Human companion animal overpopulation is a problem of human creation, with significant human costs, and that can only be addressed through human action. In many respects, companion animals lie in an unusual gray area between the human world and the natural environment. Legally and economically, these animals are property and a tradable "good" and therefore lie within the realm of industrialized human society. However, at the same time, companion animals are also a connection between human society and the natural environment. This paper will discuss the companion animal overpopulation and the controversy over the "No-Kill" movement. The paper will then

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go on to discuss results of several programs funded by Maddie's Fund, one of the leading organizations in the No-Kill movement.

Regardless of why humans choose to live with companion animals, it is clear that humans value their animal companions very highly. Studies repeatedly have shown that the vast majority of people consider their companion animals to be "family members" (Friedmann et al., 1984, Hirschman, 1994) and are very attached to their animal companions (Ory & Goldberg, 1984). Frank (2001) found that most dog owners stated they would not trade their companion animal even if offered sums of money of a million dollars or more and promised that the animal would be well cared for. Since these animals have a high value to many humans, their welfare is of significant human concern.

In addition, humans have a certain responsibility for the welfare of companion animals. Dogs, and cats to a lesser extent, have been bred for thousands of years to serve our needs. They have therefore ceased being truly "wild" animals and instead have become dependent on humans for survival. As the creators of a species dependent on humans, we have a certain responsibility for that specie's welfare. Humans also have a responsibility for addressing dog overpopulation since they are, in a sense, the perpetuators of the problem. Pet store suppliers, commercial breeders, and private owners (or "backyard breeders") intentionally produce millions of animals every year to meet public demand. Millions of consumers initially decide to purchase or adopt a dog, only to later abandon that animal because it is inconvenient or no longer suits their needs. Millions more choose not to spay or neuter their dog. Therefore, it is human actions and inaction that perpetuate dog overpopulation and creates the need for the human-made "solution" of euthanasia.

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Millions of dogs and cats are euthanized every year in United States shelters. Mackie (1992) estimates 7 to 15 million animals are euthanized, Thornton (1991) estimates 16 million, and Carter (1990) estimates 13 to 17 million. Arkow (1994) extrapolated data from nine states to come up with a national estimate of 5.7 million animals euthanized every year. Of the animals entering shelters, the majority are euthanized rather than adopted or reclaimed by their owners. Arkow also concluded that the rate of animals sheltered is lower than that found in studies from the 1980's which report rates in the high double digits.

A more recent estimate of euthanasia of companion animals is 4.2 million dogs and cats euthanized a year or 14.8 animals per 1,000 Americans (Animal People, 2003). The annual survey uses rolling-three year data from various regions through 2002 and is based on jurisdictions that include about 30% of the U.S. population. The death rate continues a downward trend found in annual surveys by Animal People and is lower than that found by Arkow in 1994 and considerably lower than that found in prior decades.

Rowan (1992) has also reported that the number of animals being euthanized is significantly down from 13.5 million to between 5 and 6 million animals. Looking just at New York City data from the late 1800's on, Zawistowski, et al. (1998) indicate a peak in euthanasia rate per person at around the time of the depression, followed by a steep decline to about a tenth of the peak rate in the 1990's. The authors cite this as evidence of a general decline in euthanasia rates both per person and per animal sheltered. This conclusion is consistent with other studies, though the fact remains that millions of companion animals are still put to death in the U.S. each year.

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These same authors also examined survey data on shelters nationwide. They identified 4,700 shelters in the United States which each take in 100 or more animals a year. For the 22% of shelters responding in the latest survey (1995), about 45% of dogs came from animal control officers, 27% came from guardian relinquishment, and the remainder came from other or unknown sources. Approximately 26% of dogs were adopted, 16% were reclaimed by guardians, 55% were euthanized, and the remainder had unknown or other dispositions.

Focusing specifically on dog overpopulation there are multiple costs to human society. According to Rowan (1992) shelters spend approximately $1 billion every year to deal with unwanted companion animals. Baetz (1992), estimates that $500 million is paid each year for animal control by United States cities and counties. Other costs include dog bites which result in the death of 20 Americans and 585,000 injuries a year (Pediatrics, 1994). According to Beck, Loring, & Lockwood (1975) the reported bite rate in urban areas from all dogs (strays and owned) is 0.45%. However, according to Jones & Beck (1984), a high percentage of animal bites go unreported to authorities. There are other unexpected costs. Carding (1969) found that 6 percent of all automobile accidents and 1.2% of accidents involving death or injury to humans involved dogs.

Beyond these physical costs there are the psychological costs suffered by humans sympathetic to the plight of animals. According to Jasper & Nelkin (1992), 20% of Americans have contributed money to an animal protection organization, and 10-15 million Americans belong to at least one animal welfare group. Congress also receives more letters about animal welfare than any other topic (Fox, 1990).

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But if animals are assumed to have interests independent of any human sympathy, the greatest cost is the impact on the animals themselves. This is a somewhat controversial assumption, but a growing number of philosophers and scientists are positing its validity including Singer (1975) and Regan (1986).

The rise of the "no-kill" movement

Much progress was made in reducing euthanasia rates in the 1970's and 1980's, with increased spay/neuter rates cited as at least one cause for the improvement (Rush, 1985, Arkow 1985). However, although imprecise and incomplete data makes the exact euthanasia trend over time difficult to determine, at some point the euthanasia rate appears to have leveled off.

Recently there has been a growing sentiment that allowing millions of animals to die every year is unacceptable and renewed efforts have been made to reduce euthanasia rates. In the 1990's, this resulted in the "no -kill" movement, which is committed to eliminating the practice of euthanizing healthy and treatable animals altogether. Shelters with a policy of not killing animals have existed for a number of years, mostly as smaller private organizations that do not have municipal contracts and therefore have the option of limiting intake to maintain their policy. However, the "no -kill" movement put a new emphasis on eliminating euthanasia as a goal not just for individual shelters, but for communities as a whole. In the last decade, large, high profile shelters such as the San Francisco SPCA have switched to a no-kill policy. More recently, even some animal

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control agencies such as Maricopa County, Arizona have started adopting no-kill type goals.

The "no-kill" concept has been the subject of much controversy. In part this controversy has been generated by misunderstanding. On the one hand, some no-kill shelter personnel and lay people sympathetic to animals have been too quick to blame animal control agencies and shelters with public contracts for a steady stream of euthanized animals. Limited intake shelters have sometimes also used their no-kill policy as a fundraising tool, implying they are taking the higher moral ground by not killing animals. In reality, many no-kill shelters have the option of limiting intake[1] while animal control departments and shelters with municipal contracts have few options to limit intake[2]. As long as the incoming flow of cats and dogs exceeds the number redeemed or adopted, from the perspective of many traditional shelter managers, their only humane option is to kill the excess. However, this is a matter of perspective rather than reality

Brestrup (1997), makes a strong case that shelters should not be committed to take in all excess animals from their community if it means killing healthy animals. By killing the excess, Brestrup argues, shelters send a strong message that pets are disposable even while they try in vain to convince the public that the opposite is true. By killing unwanted animals, shelters are in effect hiding people from the consequences of their irresponsibility. Quietly and efficiently killing animals enables the continuation of the problem. If shelters refused to kill, on the other hand, Brestrup argues that the public would be confronted with the moral outcomes of its actions and would take other means of preventing overpopulation (such as spay/neuter) more seriously.

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[1] Some no-kill organizations do not have that option, such as the San Francisco SPCA.

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According to Brestrup, traditional animal shelters have been co-opted. While seeking to alleviate the suffering of animals, these organizations with their open door policy and pride in not turning any animal away actually help perpetuate the continued disposability and commodification of pets. It is quite easy to drop off an animal at most traditional shelters, reinforcing the view that animals can be disposed of on a whim. Perversely, adopting an animal is typically more difficult.

Brestrup also brings out some other important points. In other helping fields, such as social work, the primary responsibility is to the existing client. It would be unacceptable in those fields to not give adequate care to existing clients simply because there are so many others in need of help. The same should be true in animal welfare work. Brestrup also argues against the "fates worse than death" implication on which the traditional shelter view relies. In killing healthy animals, traditional shelters assume that the fate of these animals would be worse if it were not brought in to the shelter and "euthanized". Brestrup argues that this is not necessarily the case.

An important distinction needs to be made between shelter policy and community goals. Animal control and traditional shelter personnel have often confused having a no-kill shelter policy with the general no-kill movement and have criticized "no-kill" as simply letting somebody else deal with excess animals. But in reality, the heart of the no-kill movement is not about individual shelter policy nor about blaming traditional shelters for euthanasia. The no-kill movement is about goals for entire communities and an unwillingness to accept killing of homeless animals at any level[3]. While many traditional

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[2] Except by controlling intake indirectly such as through spay/neuter programs, or by changing animal control policy (such as feral cat intake policy) or the amount of effort spent taking in stray animals.

[3] It should be noted that some animals may always have to be euthanized due to aggression or untreatable illness. The leading organizations in the no-kill movement acknowledge and accept this. However, the killing of animals for these

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shelters and animal control agencies have always been committed to reducing euthanasia levels, others have accepted the killing as inevitable and have grown complacent. The no-kill philosophy is committed to continuous improvement in euthanasia rates until it is eliminated altogether for animals that could be adopted.

With these distinctions in mind, there is little that organizations in the no-kill movement and traditional shelters that are committed to reducing euthanasia have to disagree about. Nevertheless, misunderstandings persist and many no-kill organizations have backed away from the "no-kill" terminology while maintaining their commitment to their general goals.

Recently, great progress has been made in some communities towards improving euthanasia rates. Some communities have done this in partnership with Maddie's Fund, a relatively new organization that funds programs and collaborative efforts to reduce dog and cat euthanasia. Maddie's Fund is an organization of unprecedented resources, financially larger than any other organization in the history of animal welfare. Some communities such as Utah and Lodi, California have made important strides in reducing euthanasia in partnership with Maddie's Fund. Other communities are making important progress independent of Maddie's Fund such as New Hampshire, Tompkins County in New York State, Richmond Virginia, and San Francisco[4]. The results presented here will highlight the progress that is being made in general, but will primarily focus on the results of Maddie's Fund programs. These programs have primarily focused on improving adoption and spay/neuter rates.

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reasons is distinguishable from the killing of healthy or treatable animals simply for lack of a home. For example, Maddie's Fund makes a category in their funded projects for tracking "non-rehabilitatable" animals.

[4] It is important to note that the organizations behind these various community efforts do not all necessarily associate themselves with the "no-kill" movement. Maricopa County is another program that made great progress towards

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Results

The results shown here are for Maddie's Fund programs in Lodi, California, the state of Utah, and Dane County, Wisconsin. The first two programs involved both adoption and spay/neuter efforts and include two years of program data in addition to a baseline year. Dane County was a pilot, experimental program that only focused on feral cat spay/neuter and has 18 months of data. Unless otherwise noted, Lodi and Utah data is for cats and dogs while Dane County data is for cats only.

Euthanasia

As shown in Figures 1, 2, and 3, shelter euthanasia declined in all three programs. This occurred despite rapid population growth in the study regions, which probably would have led to a euthanasia increase if no new programs had been in place. Utah in particular has been experiencing extremely fast growth, with the population jumping 31% between the 1990 and 2000 census. Lodi had a particularly strong decline with total euthanasia being cut almost in half over the span of just two years.

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reducing euthanasia before getting a Maddie's Fund grant. The county is currently working in partnership with Maddie's Fund to make further progress.

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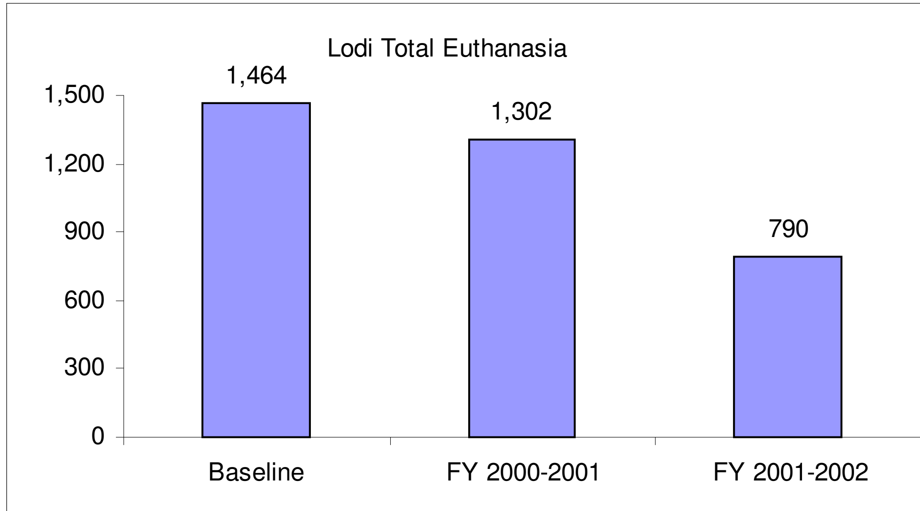

Figure 1

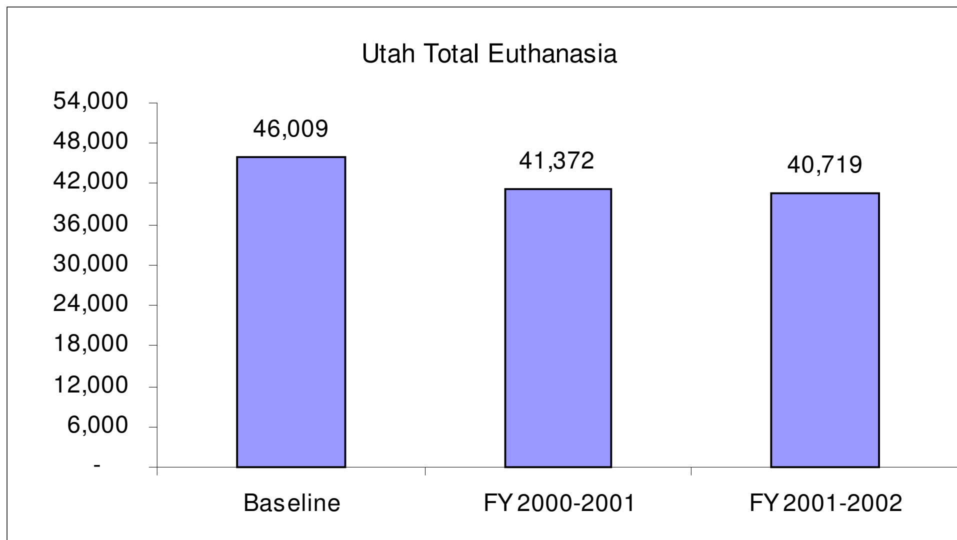

Figure 2

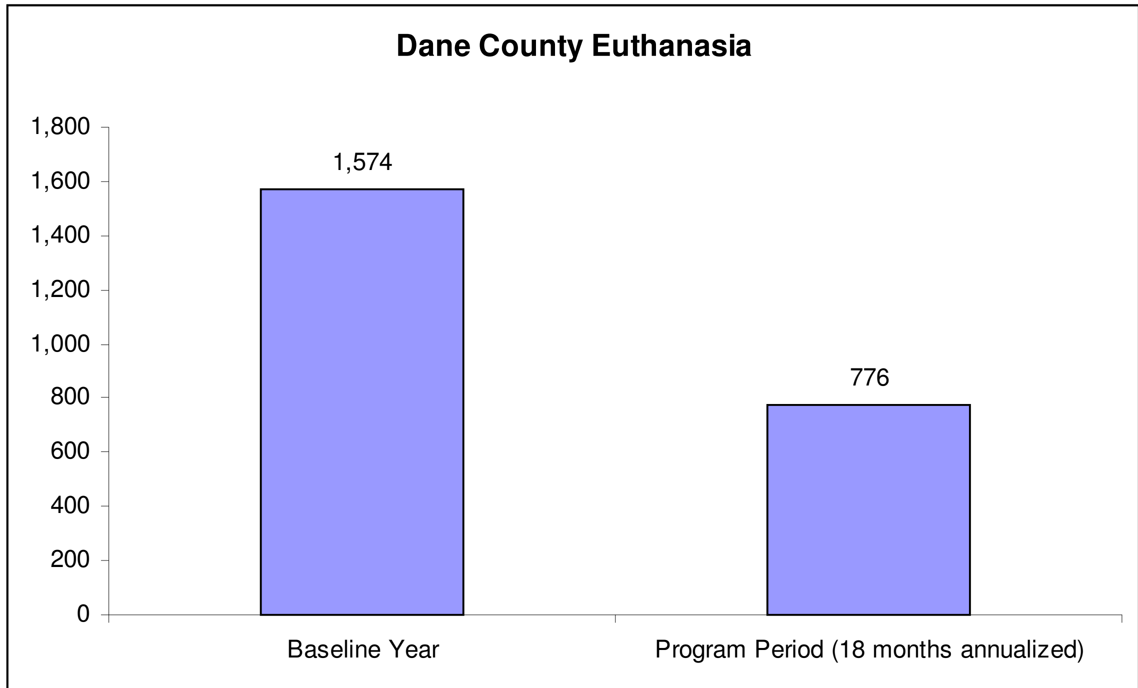

Figure 3

It should be noted that the No-Kill movement acknowledges that there are some animals who we may simply not be able to save. Maddie's Fund in particular splits animals into adoptable, treatable, and non-rehabilitatable categories. Although the ultimate goal is to save every possible animal, in defining program goals most Maddie's Fund programs place particular focus on adoptable animal euthanasia as step one before moving on to treatable animals. Both Lodi and Utah experienced declines in adoptable animal euthanasia as well as total euthanasia (see Figure 4). Similar data for Dane county broken down by subcategory of euthanasia is not available for the baseline period.

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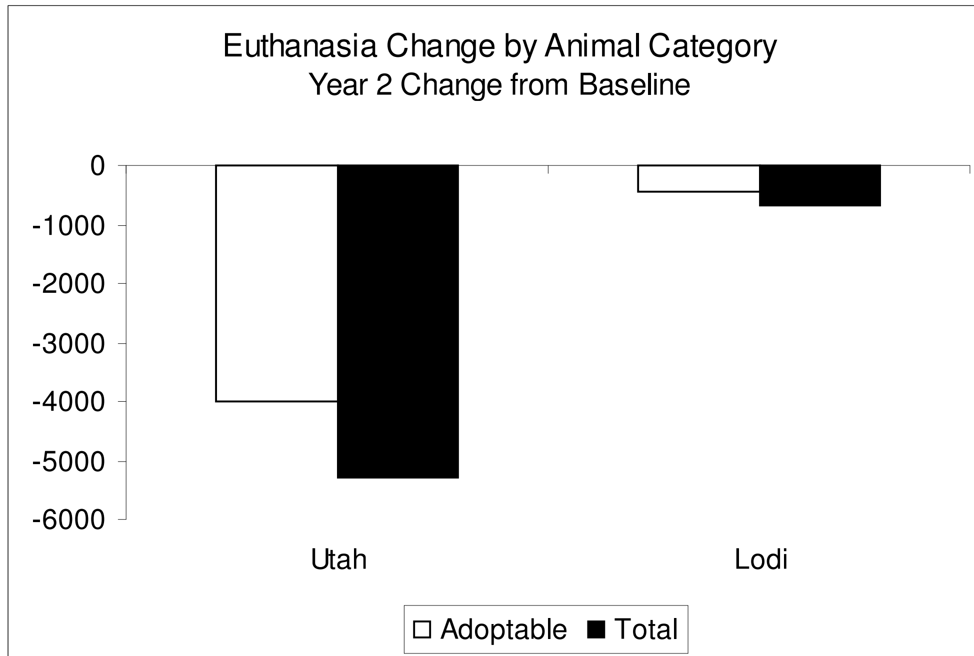

Figure 4

Adoptions

As shown in Figure 5, adoptions increased in all three program areas. The increases in Lodi and Utah were due to focused campaigns with multiple adoption efforts and events. The increase in Dane County, though smaller than in the other two regions, may appear surprising because the program in that region was purely a feral cat spay/neuter effort. However, a change in the nature on the euthanasia policy for feral cats was at least in part responsible for the increase in adoptions and the drop in euthanasia. Specifically, unadoptable feral cats that under the prior policy would have been euthanized were placed in barns after being spayed or neutered. In addition, some studies of feral cat programs have reported that colony size declined early in the program primarily through adoptions of cats and kittens rather than through reduced birth rates (Centonze & Levy,

2002). It is possible that the additional cats and kittens made available to the public through the presence of the feral cat program led to higher adoption rates as well.

It is noteworthy that most of the improvements in both Lodi and Utah can be attributed to adoptions rather than spay/neuter procedures. If it is assumed that the adopted animals would otherwise have to be euthanized[5], over 100% of the euthanasia improvement in Utah and 78% of the improvement in Lodi can be traced to adoption gains.

The results here highlight the importance of adoption programs. In addition, animal control managers have sometimes expressed concern that no-kill adoption programs might come at the expense of some of their own adoptions. However, the results here suggest otherwise. In the Lodi program, animal control experienced adoption gains almost as large as the adoption increase for no-kill organizations. In Utah, most adoption gains were from no-kill organizations, but animal control adoptions went up at the same time (see Figure 6). These gains in adoptions at animal control occurred despite a large rise in the number of animals transferred from animal control to no-kill organizations. Thus, the fear sometimes expressed in animal control circles (outside of these programs) that no-kill organizations take away the most adoptable animals leaving animal control with a harder time adopting their own animals is not supported by these programs.

[5] Logically, this would seem to be the case, but adoption can also have indirect effects such as changing intake in other periods.

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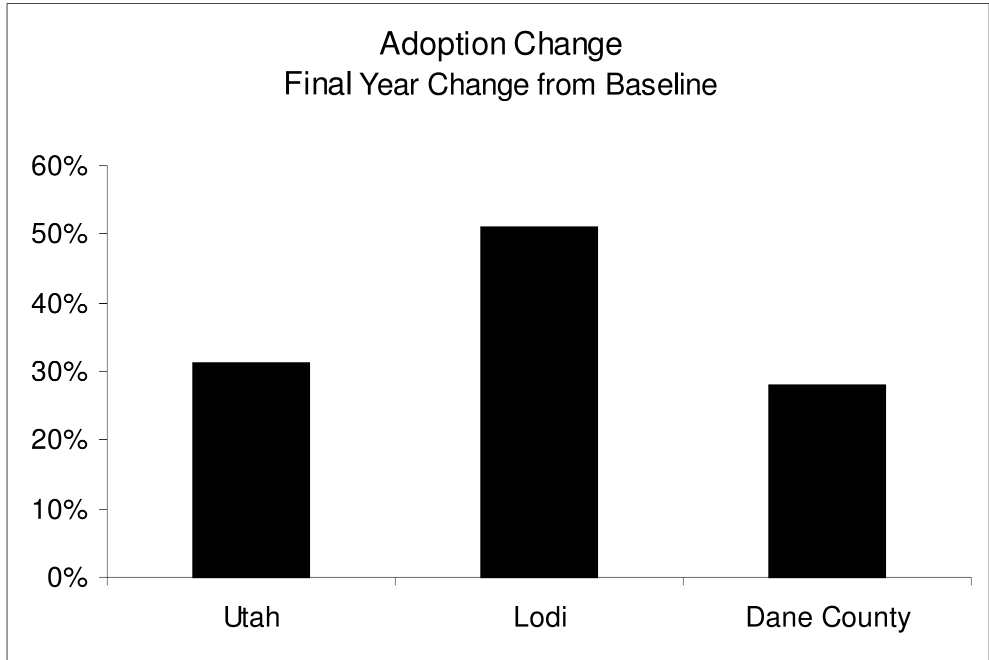

Figure 5

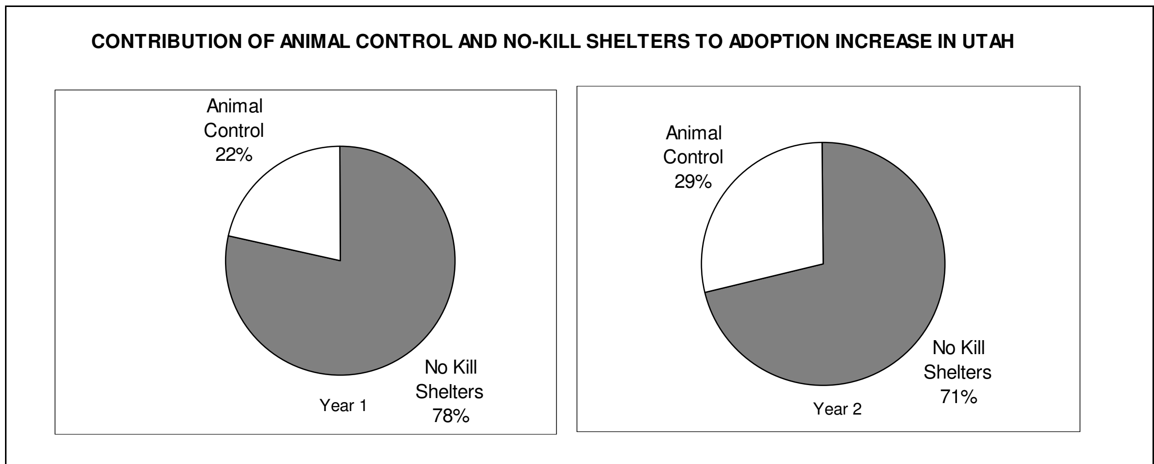

Figure 6

Results of Spay-Neuter Efforts

All three programs were quite successful at increasing the number of spay/neuter procedures performed. Lodi had an increase in both regular and discount procedures in

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the first program year, followed by decreases in both types of procedures in Year 2 compared to Year 1 (see Figure 7). Although non-discount procedures were down slightly in Year 2 compared to the baseline, this decline is not significant given the variance in the monthly data, and when the two years are combined, regular procedures are up on average. Therefore, there is no evidence that the subsidized program caused people who would have spay/neutered their animal anyway ('bargain hunters") to ex ploit the program by taking advantage of the reduced rate.

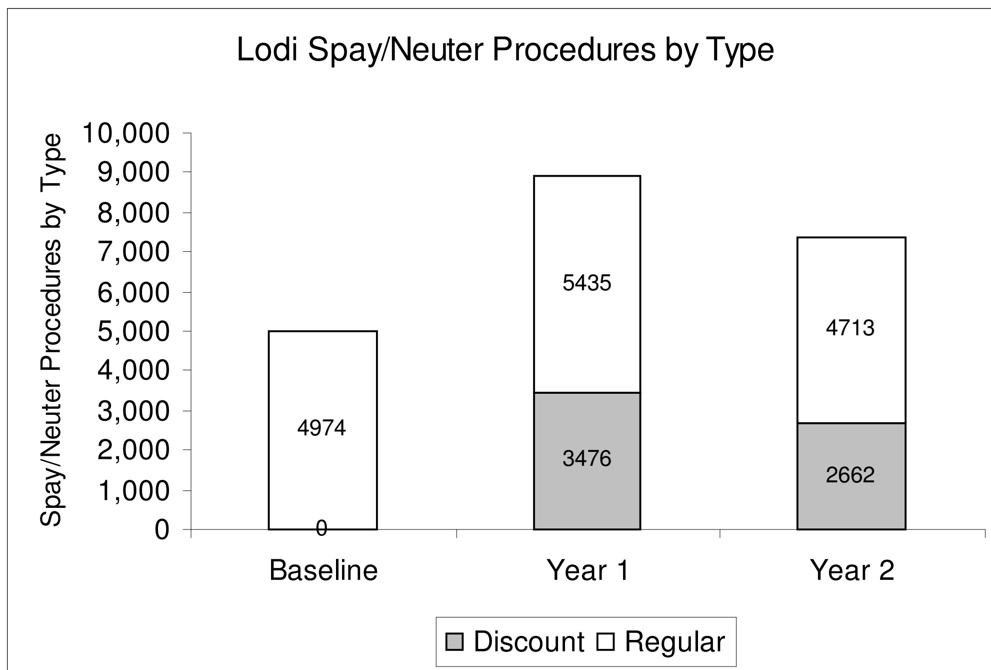

Figure 7

In terms of non-discount procedures Utah shows the reverse trend of Lodi, with regular procedures going down in the first year and then up in the second. In this case, the improvement in the second year is due to a program change that cut down on bargain hunters, so Year 2 is a better gauge of long-term program trends. Once again, the evidence suggests that subsidized spay/neuter programs do not have to reduce the number

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of regular surgeries. As with Lodi, regular and discount procedures combined went up in both program years compared to the baseline period.

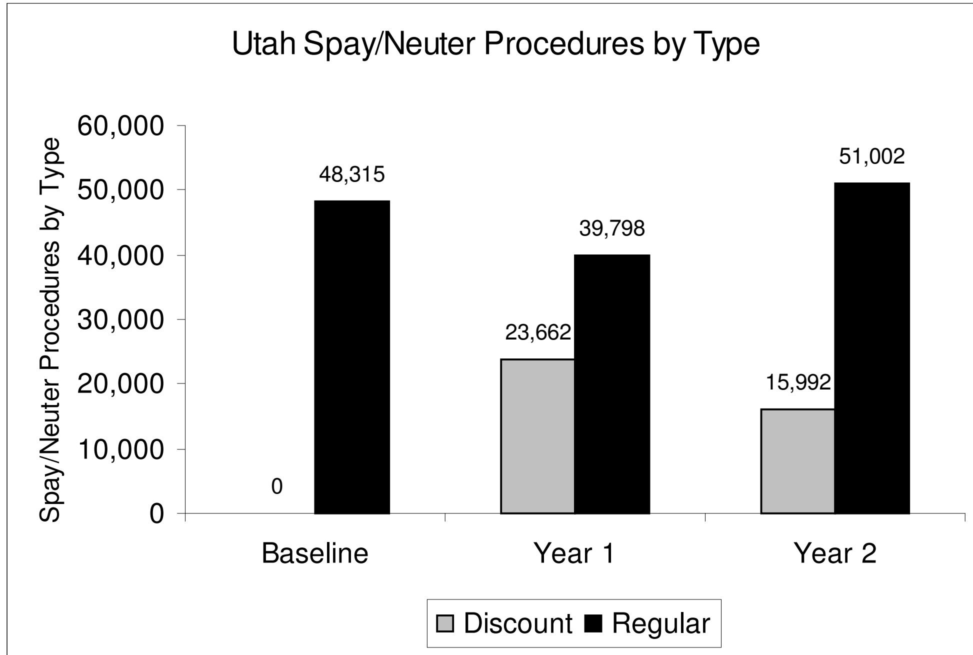

Figure 8

Regular procedure data is not available for Dane County, but the spay/neuter program was a success with over 2,000 feral cat procedures performed in an 18 month period.

Intake

Intake declined in Dane County but went up in Utah and Lodi (see Figure 9). Intake from the public in Utah is only directly available for animal control organizations since no-kill intake includes some animals already counted as intake for animal control. Therefore, intake change here is estimated based on transferred animals.

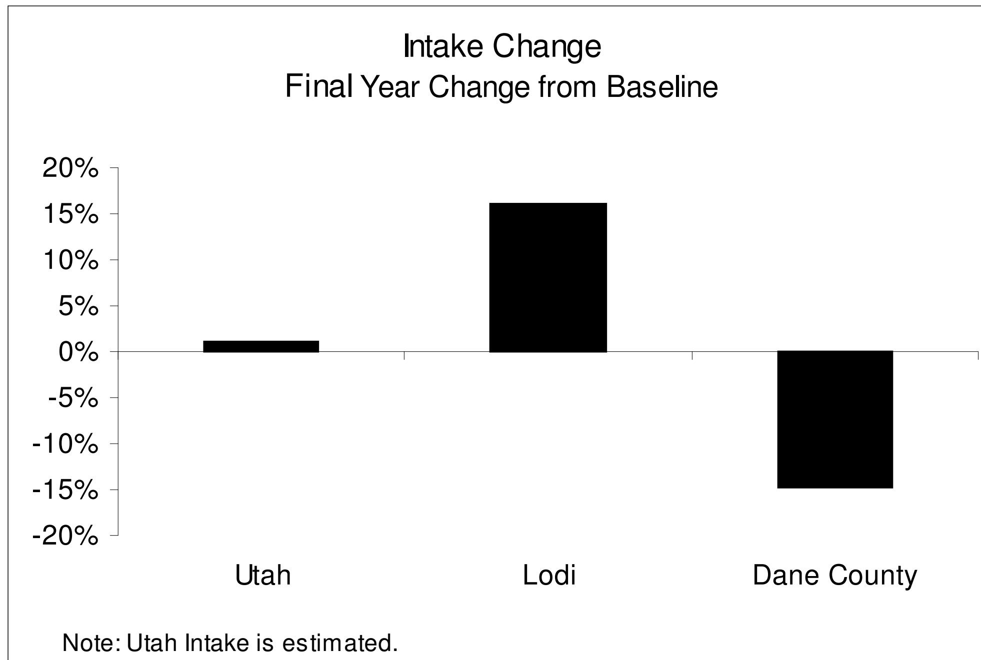

Figure 9

Data from both Utah and Lodi suggest that the entire increase in intake was from animals coming from the "counter" (i.e. individuals turning in animals at the shelter) rather than from the "field" (i.e. animal control officers finding strays or responding to calls).

The intake trend by region (at the county level), year, and animal species was analyzed statistically. A variety of models and variables were used in this analysis. In general, higher growth in adoption rates was associated with slightly higher growth in intake. It is important to note that this does not necessarily imply that increases in adoption caused increases in intake. Interestingly, no consistent trend was found between intake and spay/neuter programs. In other words, regions that had greater increases in spay/neuter rates did not necessarily show a better intake trend. Again, this lack of a statistical relationship should not be interpreted too strongly. It most likely is due to the presence of confounding variables, the length of time it takes spay/neuter programs to reach full effect, or limitations in the data (e.g. lack of full knowledge regarding

where mobile spay/neuter procedures were performed or the activities of veterinarians who did not participate in the program).

Discussion of Results

In general, all three programs analyzed here showed strong success at reducing euthanasia. Success was also seen in raising adoptions and increasing spay/neuter rates.

The one surprise was the lack of a drop in intake for Lodi and Utah despite the success of the spay/neuter program. Although it is possible for higher adoptions to lead to higher intake through "returns", there are a number of other explanations, such as both adoption and intake being associated with a third factor. Given other findings regarding intake trends, it may be more reasonable to conclude that intake and adoption both increased in the same regions for reasons that are linked (e.g. rising numbers of animals in the region, increased shelter awareness, increased comfort with the care received by animals delivered to the shelter, increased animal control activity after adoption rises).

The fact that the rise is from people coming to the counter suggests that the rise in intake may be due to people being more willing to turn their animals in to the shelter due to publicity about the program. In other words, as people become aware of a "no -kill" goal and a lower kill rate at a shelter, they are more comfortable relinquishing their animal and are therefore more likely to bring their animal to the shelter. This is consistent with prior evidence that intake rises after a community becomes no-kill or publicly moves to a reduced killing rate because more people from the public at large are willing to turn their animal in to the no-kill or lower-kill shelter. This has occurred in San Francisco and Las Vegas among other places (Animal People, 1996).

In addition, as no-kill organizations increase adoption rates, they are able to take in more animals from the public. Since there are some people who will only surrender their animal to a no-kill organization, this also leads to increased intake. This hypothesis is also consistent with the positive relationship found between adoption and intake.

The reduction in intake from the field suggests that there may be less stray animals in the region due to spay/neuter programs. However, these gains are partially being masked due to the public's increased willingness to take their animal to a shelter. If some of the increased counter intake would otherwise have gone into the stray population and died before being taken to a shelter, then this leads to a statistically deceptive result. The stray population is an uncounted population. The reduction in the suffering and death of this uncounted population is an important impact, but does not show up in statistics. In fact, this benefit to the stray population actually makes intake look worse. Because of the deceptive effects of this hidden population, the impact of the program on intake and total deaths may have been much stronger than the numbers show.

When considering the intake numbers it is important to note that these were regions with rapid population growth. In addition, other research suggests that spay/neuter programs may take more than a decade to show most of their impact on population size and euthanasia (Frank, 2001, 2003). Therefore, most of the benefits of these spay/neuter programs may come in the future.

Regardless of the intake question, the impact of all three programs were powerful where it ultimately counted: in reducing euthanasia rates. The results of these programs lend credibility to the No-Kill movement and the concept of a moving towards a 'No -Kill nation". Although critics of the movement often label it as a public relations or fundraising strategy that simply shifts the burden of intake to traditional shelters, the

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evidence suggests that the efforts of this movement can make a real difference in improving the welfare of companion animals community-wide.

Aside from individual programs, probably the most important impact of this movement has been to end complacency. By starting from a moral position that it is never acceptable to kill an animal that can be adopted or rehabilitated, the movement pushes society to seek out creative solutions to overpopulation.

The results here suggest the importance of both promoting adoption and spay/neuter for other programs around the country. It is likely that publicity and increased community awareness were as important to the success of these programs as any spay/neuter discounts given or the convenience of specific adoption events.

While much has been made of the conflict between traditional animal welfarists and the no-kill movement, all of the programs discussed here involved coalitions of traditional shelters, no-kill organizations, and veterinarians. The results here emphasize the importance of putting aside differences and building coalitions. As long as all parties are committed to doing all they can to address companion animal overpopulation, cooperation can prevail over conflict.

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