

## Pet Sterilization in Eugene/Springfield: A Survey and Analysis

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### I. Sterilization Survey

The following report contains information about the estimated total spay and neuter activity in the Eugene/ Springfield area. The area includes outlying communities of Cottage Grove, Junction City, Creswell, Veneta and Pleasant Hill. The data is for dogs and cats only. The data was collected by Robert A. Olsen, representing the Willamette Animal Guild. The telephone survey data includes responses from 20 veterinary hospitals. The hospital contact person was the hospital office manager. Managers were asked to provide estimates of the total sterilizations in busy, slow and average weeks. There are an estimated 26 private veterinary hospitals in the area and so the survey covers 76% of the local private veterinary hospitals. The remaining 6 private hospitals declined to offer estimates but there is no reason to believe that they have sterilization rates that differ significantly from the surveyed group. Separate data is given for the WAG, City/County and Greenhill clinics. The survey was conducted during the period January 13 thru January 19, 2009. The summary data is as follows:

#### Estimated Weekly Sterilizations per Hospital

Mean	10 (standard deviation =7; positive skew)
Median	8
Mode	7
High	30
Low	2

Estimated total sterilizations per week;  $26 * 10 = 260$

Estimated total private hospital sterilizations per year:  $260 * 52 = 13,520$  ( 3,250 low cost)

Estimated total sterilizations by WAG per year = 5,000 (All of these groups do  
 Estimated total sterilizations by Eugene Clinic per year = 3,750 low cost spay/neuter)  
 Estimated total sterilizations by Greenhill Humane( includes C.G.) = 3,500  
 Estimated total sterilizations by Lane/City/Greenhill weekly Clinic = 600

Grand total, yearly sterilizations = 26,370 (low cost 16,100 or 61% of total)

## II. Sterilization Need Estimate

The majority of the information in this section was obtained from the research records of the American Veterinary Medical Association (AVMA).

### A. Pets:

The Eugene/Springfield area has an estimated population of approximately 220,000 people or 88,000 households, using the U.S Census Bureau average of 2.5 persons per household.

The AVMA estimates .632 Dogs per household and .713 cats per household in the U.S.

Thus, in the Eugene/Springfield area there are an estimated :

$$.632 * 88,000 = 55,616 \text{ Dogs}$$

$$.713 * 88,000 = 62,744 \text{ Cats}$$

$$\text{Total (D+C)} = 118,360$$

### Analysis:

If the average pet lives 10 years (Conservative) and all pets were sterilized before reproduction then the yearly sterilization need is approximately 11,836 per year.

If the average local household has 100% more pets than the U.S. average and all are sterilized and live 10 years, the yearly need would be 23,672 sterilizations.

It is obvious that the current number of sterilizations (26,370) substantially exceeds the number that would be predicted (11,830) if all pet owners had their pets sterilized immediately and pet ownership in Eugene/Springfield was similar to the national average. In particular the estimated number of sterilizations exceeds the theoretical required rate by about 14,540 per year or 123%. There are a number of possible explanations for the extreme divergence between the current sterilization rate and the theoretical need based on national pet ownership figures. Each is discussed below.

Alternative 1. Local people have more pets than the national average, all sterilized.

Given the generally suburban /rural nature of the local community it is likely that local pet ownership is greater than national figures might suggest, (an average of 1.3 pets).

However it is not likely that the average household has more than two pets. If the average household did have two sterilized pets then about 2,698 excess sterilized animals would be showing up in shelters or as ferals (26,370-23,672). Historical euthanasia figures from LCAS and Greenhill run about 3,000 per year. However it seems unlikely that local residents would have all animals sterilized and then dispose of some. This would imply a local sterilization rate of 100% where nationally the sterilization rate is somewhere between 20% and 50%.

#### Alternative 2. Recent local sterilization activity has accelerated

If recent sterilization activity has accelerated, current rates might be exhibiting an “accelerator effect” because pet owners are sterilizing older previously unsterilized animals and existing pet owners are finding it more desirable to sterilize new pets. There is evidence to support this “accelerator” hypothesis.

- A. The number of low cost sterilization alternatives have increased significantly within the last three years and it is well known that sterilization rates increase as sterilization costs decline. In particular lower income pet owners are very responsive to reductions in sterilization costs. Also a number of local “Full Charge” Veterinarians now refer low income pet owners to low cost clinics. In addition the local community has been sensitized to the issue of adopting a “no kill” shelter policy and the consequent need for pet sterilization if such a policy is to succeed.
- B. A small survey of local veterinarians suggests that they have seen some increase in the number of older female cats brought in for spay. However this effect is small relative to the previous “low cost” factor.
- C. There appears to be a growing recognition of the need to sterilize feral cats in order to reduce the feral cat population. While that data is sketchy it appears that about 6% of sterilized cats are now ferals. Once again this effect is likely to be small relative to the overall “low cost” factor.

#### Alternative 3. Local pet reproduction exceeds the estimated high end national sterilization rate of 50%.

If local sterilization rates are less than 100% but are still high by national standards, it is possible that the large number of local sterilizations are due to pet owners sterilizing pets only after an initial reproduction. Suppose we conservatively assume the following.

1. The local sterilization rate equals the high end of the estimated national rate, 50%.
2. The local pet population consists of 118,360 animals (50% female).
3. Pets live an average of 10 years.
4. Reproduction is at an average of 3 offspring per litter.
5. Each unsterilized female pet has one lifetime litter.

These conservative assumptions lead to a net annual increase of about 8,877 new offspring. If 3,000 are euthanized and 1,600 are absorbed by increased residential growth(

2% year) then about 4,277 become feral. Given that upper end estimates for feral animals are 20 per square mile nationally, and that Eugene/Springfield is about 200 square miles, the local area should be overrun with animals by now. Thus these conservative reproduction rates assumptions lead to implausibly high results. Higher reproduction rates or lower sterilization rates would lead to even more implausible results.

### Discussion

Based on the aforementioned analysis it appears most likely that;

1. The local sterilization rate must be higher than 50% but below 100%. Rates as high as 50% lead to excessive population estimates, even while assuming lower than likely total pet populations based on national averages. A 100% sterilization rate is a practical impossibility.
2. The local sterilization rate has probably increased recently because of the increased availability of low cost sterilization and concern about shelter “kill policy”.
3. The pet population in Eugene/Springfield most likely exceeds the national average of 1.3 animals per household but is below 2 animals per household.

#### B. Feral Cats and Dogs:

Numerical estimates of feral cats and dogs vary widely. The range usually cited is from 10 to 20 animals per square mile in the U.S. That is, from 35 to 70 million animals. Feral densities are usually greater near population centers. Urban residents are twice as likely (15%) to feed strays as rural residents (8%).

The densely populated Eugene/Springfield area covers approximately 200 square miles. Thus using U.S. averages there may be as many as 4,000 feral animals in total within a 7 mile radius of the city centers. County wide the number may be somewhere near 45,000 (4500 sq. miles \* 10 per square mile). More accurate estimates might be obtained through stratified random sampling or by surveying people known to be supporting feral colonies under a Trap, Neuter and Release (TNR) program.

Where do the Ferals come from?

Most feral animals are cats and roughly 40% of non sterilized pet cats become feral within 3 years, according to AVMA statistics. This is one reason why it is vitally necessary to have pet animals sterilized as soon as possible. Not all intact female feral cats reproduce each year. However it is estimated that the reproduction average is 1.4 litters of 3.5 kittens per female per year. The death rate among kittens tends to be high. 50 to 75% die within the first 6 months. Thus the net reproduction rate for feral females is about 200% per year. Surviving kittens usually live about 5 years and most adults die from trauma and disease.

Estimates provided by the Willamette Animal Guild indicate that the sterilization rate for feral cats and dogs is currently low. Thus most of the 26,370 Eugene/Springfield sterilizations are being carried out on pet animals and their offspring.

How many “born domestic” animals become feral in Eugene/Springfield each year?

There is no definitive answer to this question. However a reasonable conservative estimate can be constructed by assuming the following.

1. A pet lives 10 years.
2. Each female is allowed one litter of 3 and then sterilized.
  1. There are 118,360 pets in the local area and half are female.
  2. Unsterilized pets become feral within 3 years.

Based on these conservative assumptions 5,918 females would bear 17,754 young in a year. 14,540 of these excess offspring would have been sterilized, given current sterilization rates, and thus about 3,214 would have been left ‘intact’ and probably gone feral within 3 years. 11,836 of the sterilized excess offspring would replace the 11,836 pets that died after year 10. Thus 2,704 sterilized pets would need new homes. The local area adds at most 1600 new households a year and so 1,104 sterilized pets would also go feral or end up in shelters. The past LCAS and Greenhill euthanasia statistics suggest that approximately 3,000 animals were being killed each year before a recent change in policy. The closeness of the 3000 kill estimates and the roughly estimated 4318 animals left homeless suggests that net feral increase due to pet addition may have been as much as 1000 a year. However, it is well known that pet owners often kill unwanted animals. Nevertheless, these numbers indicate that the current feral population is likely to be significantly augmented with “homeless pets” unless sterilization increases. Also a no kill shelter policy is unlikely to succeed without additional sterilization.

### III. Summary

1. The total number of dog and cat sterilizations is large (26,370) and exceeds estimates of the minimum need by 123% (14,540). The excess rate of sterilization appears to be caused by pet owners delaying sterilization until offspring have been born and the fact that local residents have more pets than the national average. Nevertheless the Eugene/Springfield pet sterilization rate appears to be above the national average and somewhere above 50%.
2. Most Sterilizations (61%) are done through low cost non profit public clinics and a few Veterinary hospitals. However, non profit public clinics carry most (80%) of the low cost sterilization burden. Low cost fees vary but are typically less than 50% of the full cost fee.
3. Most sterilized animals are pets with ferals representing a very small part of the sterilization activity. This is to be expected because of cost and the unavailability of any large organized trapping program.
4. The feral population in the Eugene/Springfield metropolitan area is significant (estimated at 4000) and growing .

5. Feral cats are an ecological problem because of bird predation. They are also a potential health problem as vectors of disease and a humanitarian issue because they suffer the consequences of being a non native species in an inhospitable environment.
6. A large body of evidence strongly indicates that external feral kill programs are ineffective due to high cost, negative public reaction and high reproduction rates in areas initially cleared but repopulated by new ferals. Trap/Neuter and Release programs are effective at reducing feral populations over longer periods of time but require a sterilization rate of between 50% to 75% to be effective. In addition they usually require a “colony advocate” to provide some supervision.
7. Cost is reported to be the primary reason reported by pet owners for lack of pet sterilization. This is corroborated by evidence suggesting that low income pet owners are less likely to have pets sterilized. In addition where public low cost sterilization programs have been vigorously implemented, such as the State of New Hampshire, and locally in Prineville Oregon, sterilization rates have risen dramatically and feral numbers have been greatly reduced. Evidence also suggests that public education is needed to inform pet owners about pet reproduction.

#### IV. Recommendations

The old adage that “an ounce of prevention is worth a pound of cure” is wise advice regarding the pet over population issue. A well funded, advertised and convenient low cost publicly subsidized sterilization program is the investment needed to avoid the high tail end costs associated with a geometrically expanding unwanted animal population. Animal populations will expand to the carrying capacity of the environment and this means incurring the high monetary and humanitarian costs associated with warehousing and euthanizing thousands of animals per year. A good management program would encourage the sterilization of all pets before sale and the sterilization of any offspring well before sexual maturity. Given that the animal population will naturally expand faster than the human population enhanced adoption programs are but a temporary fix. Nevertheless, it is still wise and prudent to investigate the potential for placing companion animals with owners who might not otherwise consider a pet because of convenience and whom might benefit from the experience, i.e. “empty nesters”.

The cure for the existing feral problem should involve an organized Trap/Neuter and Release program. Specific geographic areas should be sequentially targeted to insure meeting minimum sterilization requirements. Because coordination, timing and public access issues are involved it seems desirable that this activity be at least partially funded and overseen by a duly appointed trapper/manager.