

Title: Maddie's Outdoor Cat Program

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## **Maddie's Fund Outdoor Cat Program**

***Maddie's Fund Request for Proposal:*** "The purpose of the project will be to test the effectiveness of spay/neuter efforts as well as to make progress in controlling the outdoor cat population in the target communities. The program will test the effectiveness of spay/neuter efforts using the shelter data as the point of analysis."

### **INTRODUCTION**

Many shelters, including Alachua County Animal Services, report that a substantial number of the cats euthanized in their facilities are not adoptable because they are feral. Feral cat sterilization projects are frequently promoted as a method for reducing the homeless cat population and the resulting burden on animal control facilities. Despite two decades of growth of trap-neuter-return (TNR) programs, no data exist that document the effect of TNR on shelter admissions.

Alachua County is a mostly suburban/rural community in North Central Florida. In many respects, its demographics are typical of the South, with approximately 26% minority population and county-wide income that is below the national average. The county is also unique in that it houses the University of Florida and Santa Fe Community College, which together enroll approximately 53,000 college students (one quarter of the county's 223,000 population).

For many years, the rate of admission of cats and dogs to the county animal shelter greatly exceeded the national average, and most of these animals were ultimately euthanized. Several community programs were established to address this problem, primarily by increasing adoptions and sterilizations. Maddie's Pet Rescue Project focuses on adoptions, Maddie's Spay/Neuter Program funds free sterilization of pets in Medicaid families, No More Homeless Pets funds free sterilization of pets in other low-income families, and Operation Catnip provides free sterilization of stray and feral cats.

An attempt to standardize the comparison of euthanasia rates between different communities has utilized the concept of the number of euthanasias per 1,000 human residents. Although this is inherently flawed because it fails to take into account differences in animal and human density, it is a figure that can be used to track a single community's performance over time. Over the past 10 years, the total euthanasia rate has fallen from 47/1000 human residents to 22/1,000. However, the life-saving effect has not been equally distributed. In the late 1990s and early 2000s, more dogs were admitted and euthanized than cats each year. Although dogs are still admitted more frequently than cats, the canine save rate is higher, such that fewer dogs are now being euthanized than cats. A total of 2,184 dogs were euthanized in 2004, whereas 2,659 cats were euthanized. The continued imbalance between cat reproduction and availability of homes for cats leads to the euthanasia of 66% of all cats that enter the shelter, compared to only 44% of all dogs. Admissions and euthanasia rates for the past decade are displayed at the end of this proposal.

We have reported that 12% of Alachua County households fed cats that they do not consider they own. This amounts to an estimated 36,000 homeless cats, or 44% of the total feline population. While sterilization of pet cats exceeded 80%, virtually none of the unowned cats

were sterilized. This suggests that unowned free-roaming cats are the most significant source of cat overpopulation in Alachua County. Similar results have been reported from other parts of the country. Although Operation Catnip sterilizes approximately 2,000 homeless cats a year, we suspect that since the effort is diluted over the entire county, the impact on cat overpopulation as reflected by the number of cat admissions to the animal shelter is minimal.

We **hypothesize** that focusing an intensive TNR campaign in an area with historic high admission rates of cats to the animal shelter will result in a decrease of cat admissions from that area over time.

## **MATERIALS AND METHODS**

### **Objective 1: Characterize the human demographics, pet ownership characteristics, and historic pattern of animal shelter admissions from a selected geographical area with high cat shelter admissions Alachua County, Florida.**

A review of animal shelter records for the past 7 years reveals that a single zip code is responsible for a disproportionately large number of cat admissions to the animal shelter each year. Over the past 6 years, zip code 32601 contributed 22% of the cat admissions to the animal shelter, even though it comprised only 8% of the county's human population and 0.5% of the county's land mass. In addition, only 5-7% of all cats admitted to Operation Catnip for sterilization from 2002 through 2004 originated from this area (95-135 cats/year, average 113), suggesting that there is a large capacity to increase sterilization.

Zip code 32601 encompasses 4.6 square miles in the southeast section of the city of Gainesville. It is populated by 17,033 residents occupying 8,420 housing units. The demographic composition of this zip code reflects an economically depressed section of the community. Median household income (\$19,833) is less than the regional (\$34,840) and national (\$38,353) averages. The violent/property crime indexes (7.0/8.0) are also higher than the regional (6.8/6.4) and national (3.0/3.2) rates. A total of 14% of homes do not have a vehicle. The proportion of minority residents (34%) is higher than the county as a whole (26%).

From the previous survey of Alachua County, we would estimate that there are 3,637 homeless cats fed by residents in this zip code. However, it may be inappropriate to extrapolate county-wide data to this location, and other differences, such as the number and sterilization rate of pet cats in the area may also play a role in the number of cats admitted to the shelter from this area.

In order to evaluate the effect of a sterilization program on shelter admissions, it will be important to characterize in detail the past history of animal shelter admissions and pet ownership in the area. To some degree, this can be accomplished by a review of the computerized records maintained by the animal shelter. Details such as sex, age (juvenile vs. adult), and socialization status are available. There is concern, however, about the accuracy of data entered prior to the past year. Data entry from this point forward is expected to be more detailed and accurate.

It will be important to evaluate statistics from the target area in light of patterns observed in dogs and cats in the county as a whole. Local pet rescue and sterilization programs have

increased adoptions and sterilizations in the past few years, with a resultant decrease in total shelter admissions and euthanasias. A detailed analysis of what subpopulations are most affected has not yet been performed. Even though county-wide numbers are already declining, we would hope to observe a more rapid decline of cat admissions from the target area, particularly among certain subpopulations such as kittens and feral cats. Without the detailed analysis of the overall county animal population, it will not be possible to interpret any changes observed in the target area population.

Methods:

*1) Review of existing animal shelter records*

A thorough review of records for the past 5 years will be performed to develop annual statistics from both the county as a whole and the target zip code including: Numbers of cats admitted, sex, age, socialization status, and disposition. Similar statistics will be compiled for dogs.

*2) Survey of residents of zip code 32601*

During the first month of the project, a prospective survey will be conducted to determine the rate of pet ownership, sterilization of pet cats, and feeding of homeless cats in the target area. The survey will be patterned after the one previously used in our published report. The survey structure will be updated after consultation with survey experts from the University of Florida Bureau of Economic and Business Research, which will also provide the randomly selected telephone number list for the survey. The results from this survey will provide a more accurate estimate of the cat population in the target area.

**Objective 2: Institute an intensive TNR program in the target area.**

This project will rely on the existing infrastructure of Operation Catnip, which operates a monthly large-scale sterilization clinic for stray and feral cats and subsidizes sterilization at 16 of the 26 county veterinary clinics. Currently, these programs sterilize approximately 2,000 homeless cats each year. The monthly clinics have capacity for approximately 40 additional surgeries per month. Full utilization of the private clinics would yield an additional 1,500 surgeries each year, for a total of nearly 2,000 additional surgeries annually. Therefore, with adequate funding, the community has the capacity to double the current sterilization rate of homeless cats.

The Operation Catnip programs rely on the cat feeders (caretakers) to borrow traps, capture the cats, and arrange their transportation to be sterilized. This requires a significant level of awareness and motivation in the private sector. A survey of caretakers indicated that community awareness of the trap-neuter-return option and the availability of free sterilization for feral cats are primarily spread by word of mouth, supplemented by referrals from veterinarians, tabling at public events, and publicity by other animal welfare organizations. Since these practices have tended to focus on activities associated with higher income neighborhoods and pet lovers, it is likely that awareness of the cat overpopulation problem, the benefits of sterilization, and options for nonlethal cat control are largely unknown in the target community.

For cat colonies without known caretakers and for caretakers who are not physically capable of trapping or transporting cats, a volunteer Trapping Committee is available to trap and

transport the cats. The need for this kind of assistance markedly outstrips the capacity of the committee, leading to a long waiting list for assistance or the complete inability to help at all in some situations.

In addition to lack of awareness of Operation Catnip programs among some segments of the community, the lack of sufficient infrastructure within Operation Catnip prevents the adequate response to urgent situations. These include cat environments affected by construction, mediation of disputes between neighbors over cats, and intervention in situations in which cats would normally be relinquished to the animal shelter. These hurdles prevent the program from expanding to its total surgical capacity.

**The primary goal of the project is to implement an intensive sterilization program for stray and feral cats in the target area.** This will be accomplished by a highly organized and focused community campaign to increase awareness, assistance, and capacity within this area, with the goal of performing approximately 1,000 surgeries above the average baseline of 113 cats from zip code 32601 each year for two years. This represents a 50% increase in the current productivity of Operation Catnip.

Methods:

*1) Recruitment of full-time research assistant to coordinate the project.*

This person will be responsible for coordinating programs for increasing community awareness, dispute intervention, coordinating cat caretakers and volunteer trappers, and responding to reports about cats made to the animal shelter. This person will also be responsible for maintaining records for the project, obtaining raw monthly statistics from the animal shelter, preparing reports, and conducting the survey at the beginning of the study and again at the end.

*2) Increase community engagement in nonlethal cat control.*

An intensive campaign to recruit residents of the target area to present cats for free sterilization will include direct mail to all households twice yearly, tabling at public events, churches, community meetings, and speaking at local service organizations. Animal control field officers will carry and distribute written information and will assist in distributing traps for capturing cats for sterilization. Upon receiving calls from the public regarding cat problems, animal shelter staff will refer the callers to Operation Catnip to see if a nonlethal resolution to the problem can be affected. Only if this mediation fails will animal control officers remove the cats.

*3) Development of a trapping program in the target area.*

The research assistant will recruit, train, and coordinate several teams of volunteers to carry out a trapping program for cats without identified caretakers or for caretakers who have physical limitations or transportation problems which prevent them from capturing and transporting cats for sterilization. These teams will operate throughout the month to bring cats to both the large monthly clinics and to the local veterinarians who sterilize cats in their own practices. One hundred humane cat traps will be purchased for this project.

*4) Delivery of veterinary services.*

The existing veterinary care protocols in place at Operation Catnip will be utilized. As such, cat sterilization will take place at the monthly large-scale clinics, at local veterinary clinics, and at the College of Veterinary Medicine via the Shelter Medicine Program. In addition, cats from zip code 32601 will be microchipped to allow identification of project cats that may subsequently enter the animal shelter. Although the monthly clinics and the 3 veterinary clinics located in the target area will be provided with microchips as part of the project, it is likely that some cats will be sterilized by clinics located in other parts of the county. An attempt will be made to encourage microchipping in those clinics as well, but it is likely that some cats from the target area will not be microchipped due to lower levels of awareness and compliance outside of the target area. All cats will be sterilized, ear tipped, and vaccinated against rabies, panleukopenia, herpes, and calici virus. Based on patterns observed at Operation Catnip since 1998, we expect that approximately 60% of the cats presented for sterilization will be females.

**Objective 3: Determine the effect of the TNR program on cat admissions to the animal shelter.**

The primary outcome assessment of interest will be the change in the number of cats admitted to the animal shelter from the target area prior to the intensive sterilization campaign and at its conclusion 2 years later. These numbers will need to be compared to admission statistics from other parts of the county and to dog statistics to account for the general county-wide trend of decreasing admissions and subsequent euthanasias. Secondary outcome assessments will include the disposition of cats admitted to the shelter, the volume and type of complaints received at the animal shelter about cats, the outcome of mediated complaints, and the pattern of pet ownership and stray cat feeding in the target area at the end of the study.

Methods:

*1) Compilation of animal shelter statistics.*

Monthly, quarterly, semiannual, and annual reports will be created summarizing animal shelter statistics (species, sex, age, socialization status of animals admitted, number of cats with tipped ears, number of cats with microchips or other identification, disposition of animals admitted, complaints about animals from the public) throughout the 2-year study period. A final annual report of animal shelter statistics at the end of year 3 will also be prepared. The outcome of complaints mediated by Operation Catnip volunteers will be recorded.

*2) Completion of follow-up survey of residents of zip code 32601.*

The original survey of pet ownership and cat feeding among residents of the target zip code will be repeated using a new list of random phone numbers in the final month of the study period. This will allow the determination of whether a significant change in pet ownership or cat feeding practices occurred during the project activity. Of particular interest will be the proportion of residents who feed homeless cats or have had them sterilized.

## Potential Pitfalls

Interpretation of data and project organization will likely be complicated by a variety of concurrent processes.

1) County-wide animal shelter admissions and euthanasias have been declining for the past several years, although the rate of decline is less dramatic for cats than for dogs. Therefore, the demonstration of a positive effect of the project in the target area will require a relatively steeper decline compared to other areas of the county.

2) Enhanced public awareness of cat overpopulation and the availability of sterilization as a remedy may lead to increased sterilization of pet cats in the target area as well. Although this may impact the number of unwanted cats that reach the animal shelter, this same phenomenon is likely to occur anywhere a high-profile TNR program operates. Thus, even though it is not a direct activity of the TNR program, it is likely to be a side-effect commonly observed in other communities taking the same approach.

3) Increased discussion about a nonlethal solution to the homeless cat problem may paradoxically lead to increased complaints. Residents who previously did not appreciate cats but also did not realize there was a forum for complaints may be motivated to take action against the cats, thus increasing the problems reported to the animal shelter.

4) We have previously reported that sterilized homeless cats often live for many years. Therefore, the project could be successful in increasing the proportion of sterilized cats in the target area, without actually reducing their total population. Thus, complaints and animal shelter admissions may remain unchanged because 2 years is not long enough to observe significant attrition of the population. However, we are hopeful that a detailed analysis of shelter intake statistics will reveal that the implementation of the intensive sterilization program is associated with a decrease in kitten admissions.

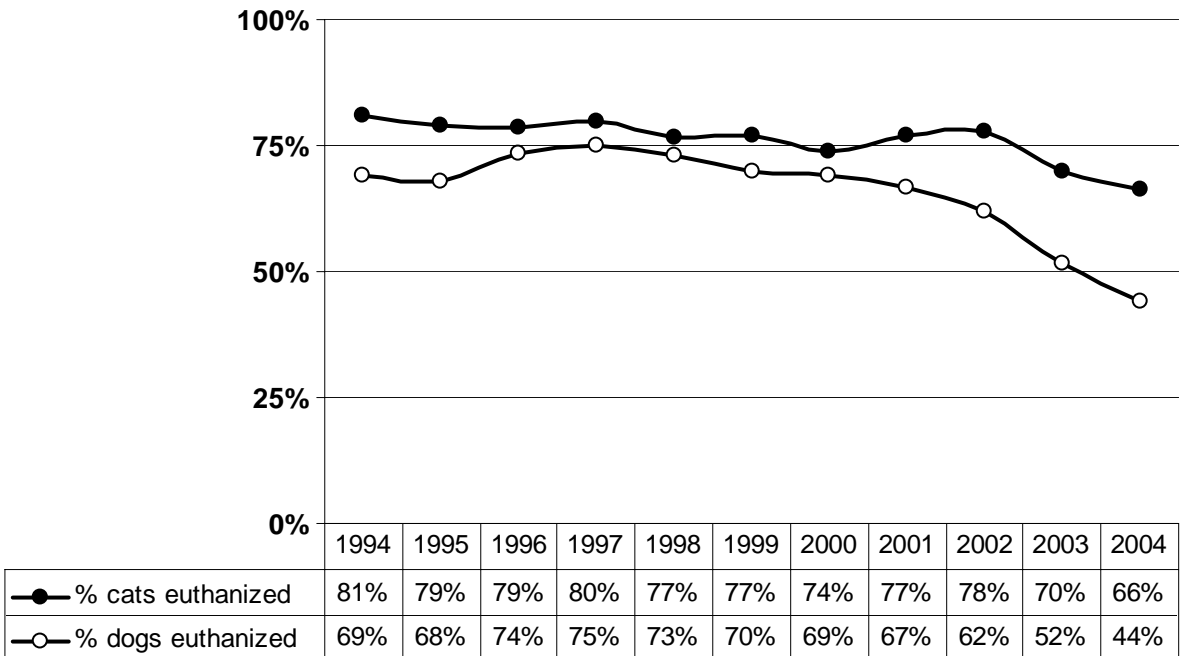
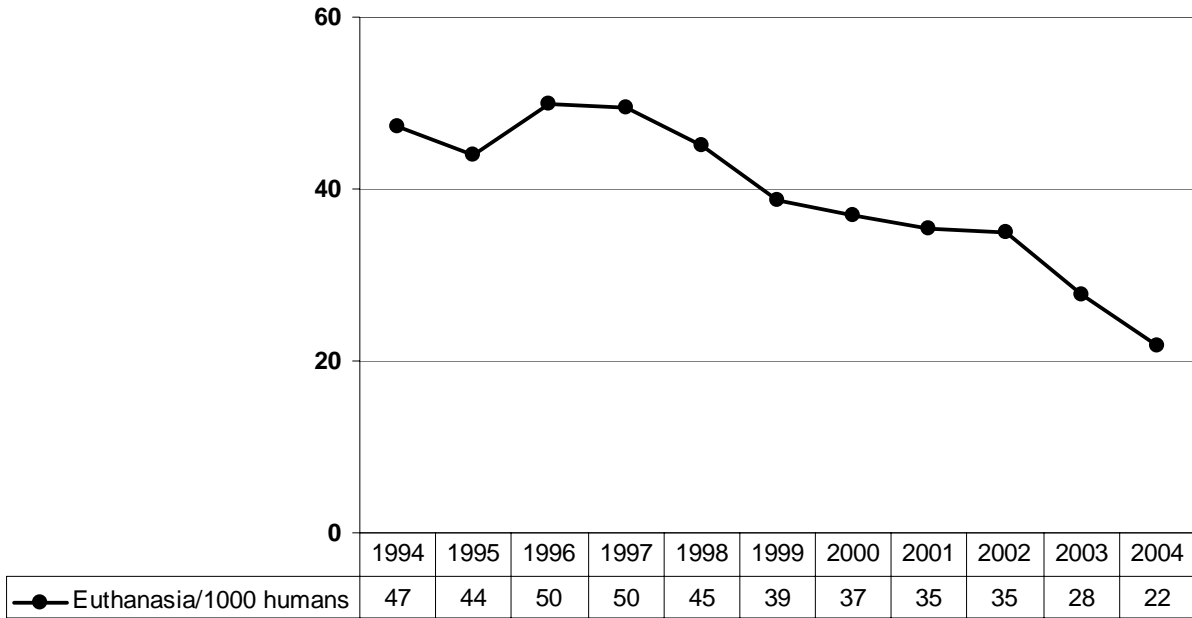
5) Many TNR programs incorporate adoption of kittens and friendly strays as part of the overall control program. This is encouraged because it is believed that cat welfare is enhanced when socialized cats are placed in permanent homes. This may represent the greatest contribution to reducing the population of homeless cats in the short term. Ideally, socialized cats and kittens in the Maddie's Outdoor Cat Project would be made available for adoption rather than being released at the trapping site. The existing Maddie's Pet Rescue Project has resulted in a marked increase in adoption productivity in the past several years. However, the Maddie's project places a premium on transfers from the animal shelter, while discouraging rescues from the public. Since the cats passing through the proposed project will not be admitted to the animal shelter, they would be a lower priority for the Maddie's adoption partners. It is the current policy of Operation Catnip not to assist in capture of cats that are destined to be sent to the shelter, because Operation Catnip adheres to a "No Kill" philosophy, and the shelter cannot at this time provide an adoption guarantee. Operation Catnip does not have the means for managing an adoption program of its own. There are other adoption groups in the county that do not participate in the Maddie's project, and it is possible that they would be able to accept at least some of the socialized cats for adoption after they are sterilized.

6) The target area has an estimated homeless cat population of at least 3,600 homeless cats, and we are proposing a project in which only 2,000 sterilizations above baseline would be accomplished in 2 years. The proportion of a population that must be sterilized in order to reduce its size is unknown. It is possible that sterilizing only 55% of the estimated population over 2 years may not have a significant effect. The ongoing reproduction in the unsterilized population will also exert an unknown effect. It would be ideal to have an opportunity within the project to increase funding for the surgeries performed in year 2 if it appears to be indicated and feasible. An alternative would be to select a different location to study that has a lower number of estimated cats. However, cat admissions from other areas are so low that it would be difficult to affect a statistically measurable decrease over the 2-year time frame of the study.

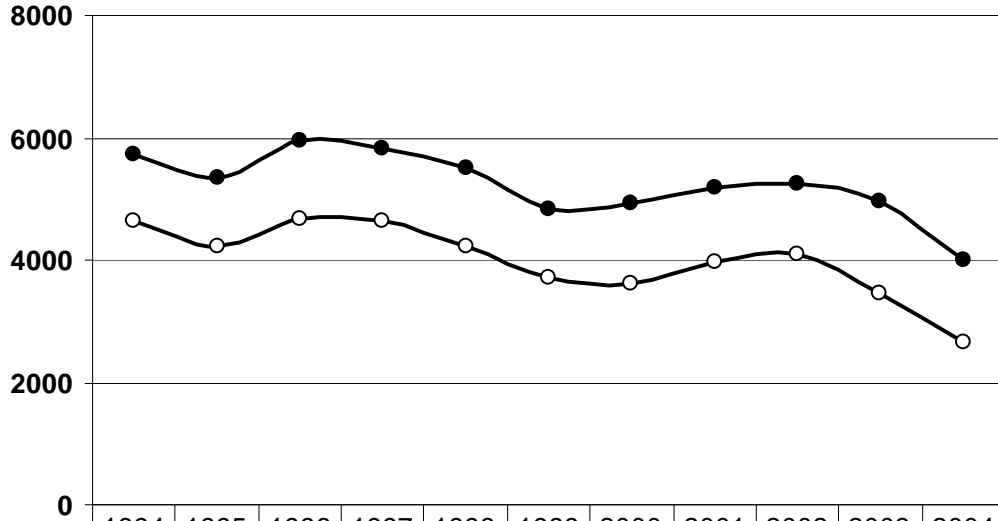
7) Ideally, a study area would be selected with natural barriers to cat translocation, such as rivers or major highways. A detailed search was made of Alachua County, but no such areas were identified. The target area is well-marked by major roadways, but these are not likely to be large enough to prevent crossing by cats, particularly at night when traffic is low. Therefore, it is possible that a “vacuum-effect” could occur if a void left by sterilization was filled by cats migrating into the area. However, as previously stated, the total number of cats residing in the area is unlikely to be dramatically reduced by sterilization alone during the 2-year project time frame.

8) The success of the project is dependant on a sudden increase in the support of the residents of the target area for the TNR program. This will require a remarkable increase in awareness of the problem and the proposed solution over a very short time frame. For this reason, it is essential that a research assistant with skills in both community organization and feral cat management be dedicated to the project. Although volunteers could likely achieve the same result over a longer time frame, the study design does not allow for a prolonged ramp-up of activity over several years. As the coordinator of the entire project, this individual will bear a high level of responsibility, including effective enrollment of cats to meet the monthly project goals, volunteer recruitment and management, performance of the demographic surveys, management of the data, and preparation of the reports. In short, the success of the entire project rests in large part with this individual.

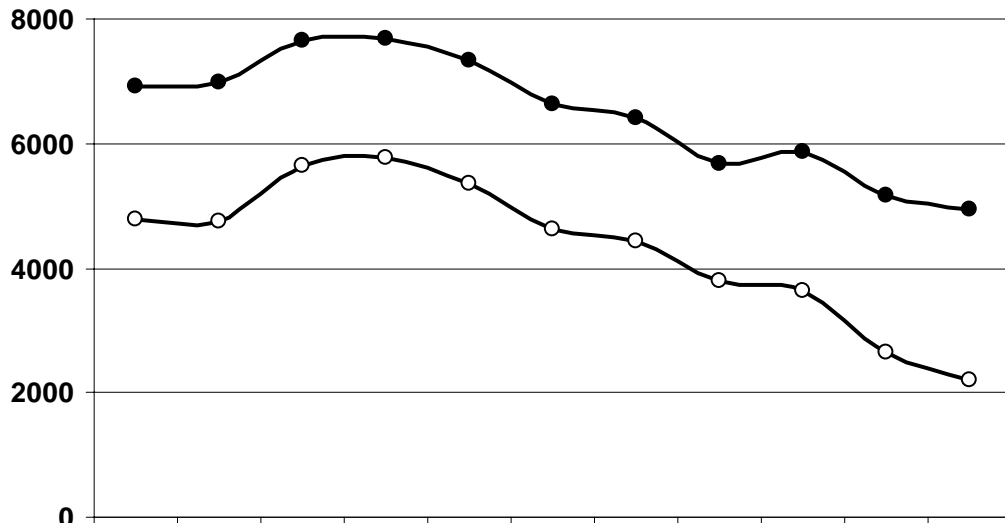
### Annual Admissions and Euthanasias of Dogs and Cats at Alachua County Animal Services



**Annual Admissions and Euthanasias of Dogs and Cats  
at Alachua County Animal Services**



● cats admitted	5723	5352	5943	5829	5496	4827	4917	5178	5243	4969	4005
○ cats euthanized	4644	4224	4672	4650	4215	3714	3630	3979	4086	3467	2659



● dogs admitted	6910	6993	7652	7688	7334	6617	6420	5685	5866	5153	4942
○ dogs euthanized	4771	4738	5630	5753	5351	4634	4432	3793	3636	2657	2184

**Evaluation of the effect of a long-term trap-neuter-return and adoption program on a free-roaming cat population.**

Levy JK, Gale DW, Gale LA. J Am Vet Med Assoc. 2003 Jan 1;222(1):42-6.

Department of Small Animal Clinical Sciences, College of Veterinary Medicine, University of Florida, Gainesville, FL 32610, USA.

**OBJECTIVE:** To evaluate the effect of a long-term trap-neuter-return program, with adoption whenever possible, on the dynamics of a free-roaming cat population. **DESIGN:** Observational epidemiologic study. **ANIMALS:** 155 unowned free-roaming cats. **PROCEDURES:** Free-roaming cats residing on a university campus were trapped, neutered, and returned to the environment or adopted over an 11-year period. **RESULTS:** During the observation period (January 1991 to April 2002), 75% of the cats were feral, and 25% were socialized. Kittens comprised 56% of the original population. Male cats were slightly more numerous (55%) than females. At the conclusion of the observation period, 47% of the cats had been removed for adoption, 15% remained on site, 15% had disappeared, 11% were euthanatized, 6% had died, and 6% had moved to the surrounding wooded environment. Trapping began in 1991; however, a complete census of cats was not completed until 1996, at which time 68 cats resided on site. At completion of the study in 2002, the population had decreased by 66%, from 68 to 23 cats (of which 22 were feral). No kittens were observed on site after 1995, but additional stray or abandoned cats continued to become resident. New arrivals were neutered or adopted before they could reproduce. **CONCLUSIONS AND CLINICAL RELEVANCE:** A comprehensive long-term program of neutering followed by adoption or return to the resident colony can result in reduction of free-roaming cat populations in urban areas.

**Number of unowned free-roaming cats in a college community in the southern United States and characteristics of community residents who feed them.**

Levy JK, Woods JE, Turick SL, Etheridge DL. J Am Vet Med Assoc. 2003 Jul 15;223(2):202-5.

Department of Small Animal Clinical Sciences, College of Veterinary Medicine, University of Florida, Gainesville, FL 32610, USA.

**OBJECTIVE:** To estimate the number of unowned free-roaming cats in a college community in the southern United States and identify the characteristics of community residents who feed these cats. **DESIGN:** Cross-sectional, random-digit telephone survey. **SAMPLE POPULATION:** 587 households in Alachua County, Florida, surveyed between March 1 and May 10, 1999.

**PROCEDURE:** Telephone surveys were conducted, and respondents were asked questions about feeding of unowned free-roaming cats. **RESULTS:** 70 (12%) households fed free-roaming cats; mean +/- SD number of free-roaming cats fed per household was 3.6 +/- 1.9. Households that fed free-roaming cats were more likely to own pet cats than were households that did not feed free-roaming cats; however, 30 of 70 (43%) households feeding free-roaming cats did not own cats or dogs. Although the percentage of pet cats that were neutered was high (90%), only 8 (11%) households that fed free-roaming cats attempted to have such cats neutered. The free-roaming cat population was estimated to represent approximately 44% of the population of cats in the county. **CONCLUSIONS AND CLINICAL RELEVANCE:** Results suggest that unowned free-roaming cats may represent a substantial portion of the total cat population in a region. Public policies and education programs aimed at reducing cat overpopulation should include provisions for neutering unowned free-roaming cats, and efforts should target the general public, not only pet owners, because not all households that feed unowned free-roaming cats own pets.

### **Characteristics of free-roaming cats evaluated in a trap-neuter-return program.**

Scott KC, Levy JK, Crawford PC. J Am Vet Med Assoc. 2002 Oct 15;221(8):1136-8.

Department of Small Animal Clinical Sciences, College of Veterinary Medicine, University of Florida, Gainesville 32610, USA.

**OBJECTIVE:** To determine characteristics of free-roaming cats evaluated in a trap-neuter-return program. **DESIGN:** Cross-sectional study. **ANIMALS:** 5,323 free-roaming cats. **PROCEDURE:** Data collected included sex, maturity, pregnancy status, number of fetuses per pregnancy, cryptorchidism, and occurrence of complications or euthanasia. **RESULTS:** Adult cats represented 85% of the population, and 57% were female. Overall, 19% of adult females were pregnant, and mean litter size was 3.6 fetuses. Pregnancy rate peaked at 36 to 47% of all females evaluated in March and April and decreased to < or = 4% from October through January. Cryptorchidism was observed in 1.9% of the males; 0.4% of the adult females had pyometra. Only 1.9% of the cats were already neutered. Euthanasia and unexpected death rates were 0.4 and 0.3%, respectively. The most common severe problems encountered included pyometra, neoplasia, surgical complications, diaphragmatic hernia, debilitation, and chronic inflammatory diseases. **CONCLUSIONS AND CLINICAL RELEVANCE:** Neutering programs for free-roaming cats should include preparations to perform more spays than castrations. Typically, almost half of the female cats trapped during spring will be pregnant. Cryptorchidism is uncommon but is encountered on a consistent basis, so care should be taken to differentiate previous castration from retained testicles. Euthanasia of debilitated cats for humane reasons is rarely necessary, and unexpected deaths occur at a low rate. It is feasible and safe to neuter large numbers of free-roaming cats in large-scale clinics.

### **Characteristics of free-roaming cats and their caretakers.**

Centonze LA, Levy JK. J Am Vet Med Assoc. 2002 Jun 1;220(11):1627-33.

Department of Small Animal Clinical Sciences, College of Veterinary Medicine, University of Florida, Gainesville 32611, USA.

**OBJECTIVES:** To describe the characteristics of unowned, free-roaming cats and their caretakers who participated in a trap-neuter-return (TNR) program and to determine the effect of the program on free-roaming cat colonies. **DESIGN:** Prospective study. **SAMPLE POPULATION:** 101 caretakers of 920 unowned, free-roaming cats in 132 colonies in north central Florida. **RESULTS:** Most (85/101; 84%) caretakers were female. The median age was 45 years (range, 19 to 74 years). Most (89/101; 88%) caretakers owned pets and of those, most (67/101; 66%) owned cats. The major reasons for feeding free-roaming cats were sympathy and love of animals. Most caretakers reported that the cats they cared for were too wild to be adopted, but many also reported that they considered the cats to be like pets. The total surveyed cat population was 920 before participation in TNR and 678 after TNR. Mean colony size was 7 cats before TNR and 5.1 cats after TNR. Most cats lived on the caretaker's property. At the time of the survey, 70% (644/920) of the cats had been neutered. **CONCLUSIONS AND CLINICAL RELEVANCE:** The decrease in the surveyed free-roaming cat population was attributed to a reduction in births of new kittens, adoptions, deaths, and disappearances. Recognition of the human-animal bond that exists between caretakers and the feral cats they feed may facilitate the development of effective control programs for feral cat populations.