ANALYSIS OF FERAL/STRAY CAT SOLUTIONS

By Ed Boks

In addition to the number of pets belonging to residents on Public Assistance and/or senior citizens on fixed income, a substantial number of animals euthanized in animal shelters each year are feral cats and their neonate offspring. A program to control the homeless cat population by neutering instead of culling cats in shelters is critical.

Overpopulation must be curtailed at its source; sterilization is the only humane, non-lethal solution to unchecked reproduction. TNR (Trap/Neuter/Return) is designed to achieve this goal by reducing the stray and feral cat population through attrition by trapping, sterilizing, and inoculating feral and stray cats against distemper and rabies, and then returning them to their already established territory, where they are monitored by feral cat colony managers.[1] The sterilization prevents the cats from reproducing while inoculations prevent disease. Ear-notching provides an easy way to identify cats in a TNR program.

TNR has a history in Denmark, England, Israel, and the United States,[2] is endorsed by the *American Veterinary Medical Association* and is currently being implemented with local governments' approval in many communities. Humane organizations have endorsed TNR, including the *Humane Society of the United States, Friends of Animals*, *Alley Cat Allies*, *Best Friends Animal Society* in Utah, *Tufts Center for Animals and Public Policy*,[3] the *Association of Veterinarians for Animal Rights* (AVAR) and the *Cat Fanciers' Association*.[4] A recent national opinion poll conducted by *Alley Cat Allies* in May 2003 found that out of 24,599 respondents, 94% supported TNR as an effective tool in addressing feral and stray cat population.[5] Since March 2002, the *Journal of the American Veterinary Medical Association* has published four articles in favor of TNR.

TNR has proven to be an effective and workable program for long-term population control and is increasingly being utilized by public and private entities to address feral cat populations and the concomitant problems of protecting the public health from rabies and cat nuisance complaints. It has been demonstrated to reduce overpopulation, complaints about roaming and the number of cats in shelters in communities in the United States and abroad.[6] It reduces euthanasia rates, and costs less than half of the cost of traditional trap and kill programs. Dr. Julie Levy, DVM, Ph.D., monitored an eleven-year TNR project that involved eleven feral cat colonies on a central Florida campus. Dr. Levy concluded that "a comprehensive long-term program of neutering followed by adoption or return to the resident colony can result in reduction of the free roaming cat population in urban areas."[7]

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[1] Clifton, Merritt, Editor, (1993), Can We Outlaw Pet Overpopulation?, *Animal People*, May 1993.
[2] Ibid.
[3] Ibid.
[4] The Cat Fanciers' Association, Inc., (1998), *CFA Guidance Statement: Free Roaming/Unowned/Feral Cats*, February 8, 1998.
[5] Alley Cat Allies, (2003), *National Opinion Poll.* May 2003.
[6] Johnson, Karen, (1995), National Pet Alliance Report on Trap/Alter/Release Programs*, Cat Fanciers' Association, Inc. Almanac*, July 1995, pages 92-94.
[7] Levy, Julie K., DVM, Ph.D., DACVIM; Gale, David W.; Gale, Leslie A., B.S., (2003), Evaluation of the effect of a long-term trap-neuter-return and adoption program on a free-roaming cat population, *JAVMA*, Vol. 222, No. 1, January 1, 2003.

TNR is working successfully in New Jersey in model TNR programs in Cape May, Atlantic City (at the Boardwalk), Phillipsburg and Bloomfield. In addition, support for TNR was one of the top three recommendations of New Jerseyans in comments received at public hearings on the topic.[8]

Elsewhere in the country, the Orange County, Florida, Animal Services Department, the San Francisco SPCA, and statewide programs in California and Utah have successfully implemented TNR programs.[9] Maricopa County, Arizona and correctional institutions in Ohio, Montana and New York State have also officially approved TNR as a means to feline population control. These programs are additionally beneficial to local governments, as volunteers can often be found to assist governments in managing feral cat colonies but are generally not willing to assist in trapping and removing cats for euthanasia.

Examples of successful TNR programs include:

Alachua County, Florida: A program called *Catnip* was implemented in 1998 and is responsible for sterilizing more than 22,000 cats since then. The program decreased shelter intake of cats by 61% since 2000.

Maricopa County, Arizona: Ed Boks, former Director of Animal Care and Control, Maricopa County, Arizona,[10] studied conventional methods of feral cat control for over 20 years. He determined that these methods do not properly regulate the population and, consequently, initiated a TNR program that is operated by the county animal control department. Within eight years the euthanasia rate dropped from 23 cats per 1,000 county residents to only eight cats per 1,000 county residents.[11]

Orange County, Florida: Orange County, Florida has a population of 700,000 people. Its animal control department incurs costs of approximately $105 per animal when it must respond to a complaint and impound and euthanize the animal. Before its TNR program was introduced, there were approximately two hundred complaints per year, resulting in as many animals being captured, with a cost of $21,000 to the county. Within six years after the introduction of TNR by animal control services in 1995, complaints decreased by approximately 10% as did the number of impoundments, with a total savings to animal services of over $100,000.[12] Within the six years of the start of the program, euthanasia decreased by 18%.[13]

San Diego, California: Founded in 1992 by Dr. Rochelle Brinton, the *Feral Cat Coalition* (FCC) introduced TNR to San Diego on a countywide basis. FCC is an all volunteer organization that provides free sterilization procedures for feral and stray cats. In addition to sterilization procedures, the cats are vaccinated for rabies and treated for fleas and any immediate medical problems. FCC volunteers monitor the feral cats after they are returned to the outdoors. The local animal control departments support the program as it has had a positive impact in reducing the feral population, thus reducing the number of cases to which they would have otherwise been required to respond. By 1994, two years after the start of the TNR program, the total number of cats brought into San Diego shelters dropped over 34% and the euthanasia rates in county shelters for all cats dropped

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[8] Animal Welfare Taskforce Report – New Jersey, 2004

[9] Krebsbach, Susan B., D.V.M, (2003), TNR-The Most Viable Option for Expedient Reduction of Stray and Feral Cat Populations, February 1, 2002.

[10] Maricopa County, Arizona is approximately 9200 square miles and has approximately 3 million residents.

[11] The Proof is in-TNR Works, *Neighborhood Cats*, August 24, 2003, www.neighborhoodcats.org.

[12] Orange County, Fla.: A Model Animal Services Program, *Alley Cat Allies* (fact sheet 2003).

[13] Hughes, K.L., Slater, Margaret R., Haller, Linda, (2002), The Effects of Implementing a Feral Cat Spay/Neuter Program in a Florida County Animal Control Service, *Journal of Applied Animal Welfare Science*, Vol. 5 No. 4, page 292.

40% (instead of the usual 10% increase). San Diego euthanized 8.0 shelter animals per 1,000 people in 1997; 4.9 in 2002. The reduction in the euthanasia rate translated to an estimated tax savings of $795,976.[14]

San Francisco, California: The San Francisco SPCA initiated a citywide TNR program in 1993. The SPCA has been working with feral cat caregivers to control the feral cat population, provide some medical care, keep the cats adequately fed and, when possible, adopt them into homes. There are three aspects to the program. The first is "feral fix," a program through which the SF/SPCA provides vaccinations and spay/neuter surgery for San Francisco feral cats, all at no charge to their caregivers. Since the program began they report altering over 10,000 cats. The second aspect of the program is "Cat Assistance Teams." In neighborhoods throughout the City, CAT members work together to humanely trap feral cats, transport them to Feral Fix, provide post-surgery recovery care, and socialize feral kittens before placing them in homes. CAT members also provide expert advice and assistance to novice caregivers in their neighborhoods. Finally, there is 9 Lives™ Humane Feral Cat Management Video Series including nine comprehensive videos that cover all aspects of caring for feral cats.[15] Within six years of commencing the TNR program, euthanasia rates dropped 70%.[16]

New York City, NY: *The New York City Feral Cat Council* ("NYCFCC") is a coalition of NYC animal groups working to humanely reduce the City's feral cat population through the use of TNR. They established a TNR program on the Upper West Side of Manhattan in 1999. Based on statistics compiled by New York City's Animal Care and Control, the number of stray cat intakes from the Upper West Side was reduced 73% in the first three years of the program. During the first year of the program, there was a 59% reduction in the number of cats arriving in shelters.

Cape May, New Jersey: In 1995, John Queenan, with the Cape May City Animal Control, proposed an ordinance to facilitate TNR and the feeding of feral cat colonies. Queenan based his proposal on similar regulations in Santa Cruz County, California. Because pick-up and euthanasia had not resolved the city's overpopulation problem, the ordinance focused on preventing reproduction. As a result of Cape May's ordinance change, 200 cats were altered in 1997. Based on the number of nuisance complaints, litters of kittens and visual sightings of the colonies, it is estimated that the feral cat population, which was between 500 and 800 cats in 1994, has been reduced by 50%.[17]

Atlantic City, New Jersey: The Humane Society of Atlantic County, in conjunction with the Health Department of Atlantic City and local volunteers, has used TNR successfully and with municipal approval. Through kitten adoptions and natural attrition (since these cats no longer reproduce), the feral cat population under the Atlantic City boardwalk was reduced by more than 70% within three years. Cat related nuisance complaints, common before enactment of the TNR ordinance, are now rare.[18]

Phillipsburg, New Jersey: Phillipsburg, Warren County also authorized TNR. Dr. Robert Blease, a veterinarian and founder of *Common Sense for Animals* ("CSA"), a non-profit organization that receives no public funding, initiated the municipality's TNR ordinance in 2001. All feral cats that are brought to CSA are vaccinated, sterilized, and identified by way if ear notching. Cats that are infected with FIV/FEHV, unhealthy or vicious, are humanely euthanized. Since Phillipsburg

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[14] Chappell, Michelle S., DVM (1999), A Model for Humane Reduction of Feral Cat Populations, *California Veterinarian*, September/October 1999.
[15] www.sfspca.org/feral/index.shtml.
[16] The Proof is in-TNR Works, *Neighborhood Cats*, August 24, 2003, www.neighborhoodcats.org.
[17] John Queenan, ACO/ACI, Cape May, New Jersey.
[18] Report on Atlantic City's Feral Cat Colonies, *Alley Cat Allies*, Vol. 11, Issue No. 4, Winter 2001.

authorized TNR the stray cat population has reportedly dropped an estimated 350 cats in the first year alone, and citizen complaints about stray cats have dropped to zero.[19]

Bloomfield, New Jersey: *The Friends of the Bloomfield/Bukowski Animal Shelter* (FOBAS) initiated a TNR program September 2003 with two colonies. The program has been endorsed and supported by the mayor, the town council and the Bloomfield Department of Health. *Neighborhood Cats*, a New York City-based volunteer non-profit organization, provides advice and assistance to the town, which adopted TNR as its official feral cat program.[20]

FERAL POPULATION FORMULA

Many animal welfare advocates contend it is impossible to determine feral cat populations. An inability to determine feral populations would require any strategic planning effort to rely on guess work. All programs must be required to produce measurable results to ensure continued funding. To measure the success of any feral cat initiative a reliable feral cat baseline population is imperative.

We are fortunate that a reasonable formula has been developed that estimates the feral cat population equals three times the number of cats killed in shelters plus net cat acquisition (i.e., number of cats added to households) less pet cat mortality.

The formula evolved from a 1996 survey[21] of 7,399 U.S. households. The survey found a crude birth rate of about 11.2 kittens per 100 cats in households and an attrition rate that included a death rate of 8.3 and a disappearance rate of 3%. In other words, it was found that cat births in households equaled attrition. It was further found that the movement of feral/stray cats into homes and shelters was approximately equal to the net growth in the household population plus the number of cats killed in shelters.

This suggests the number of feral/stray cats can be estimated by adding net cat acquisition to shelter killing and multiplying by three (to account for the one queen, one tom, and at least one sibling not entering homes or shelters who must exist to produce these known feral/stray cats).

In the targeted area 3,917 cats were impounded and 2,212 cats died or were euthanized in LA shelters in 2008[22]. The targeted area has an estimated 1.25 million people living in 397,433 households[23]. According to an AVMA formula[24] this area has 128,768 cat-keeping households, with a total of 283,290 cats among them.

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[19] www.commonsenseforanimals.org.

[20] The Proof is in-TNR Works, *Neighborhood Cats*, August 24, 2003, www.neighborhoodcats.org.

[21] *Birth and Death Rate Estimates of Cats and Dogs in U.S. Households and Related Factors* published in 2005 in volume 7.4 of the Journal of Applied Animal Welfare Science, co-authored by John C. New Jr. and William Kelch of the University of Tennessee, Jennifer Hutchison of the Australian Department of Agriculture, Fisheries, and Forestry, Mo Salman and Mike King of Colorado State University, Janet Scarlett of Cornell University, and Philip Kass of the University of California at Davis, established this formula from a 1996 survey of 7,399 U.S. households.

[22] LA Animal Services 2008 Statistical Report

[23] *Estimated Resident Populations and Households by District* provided by the Los Angeles Planning and Demographic Research Unit (December 2009)

[24] AVMA Formula: number of cat-owning households = .324 x total number of households

The combined mortality (8% or 22,663 cats) and disappearance (3% or 8,500 cats) rate of 11% per year is equal to the estimated number of births annually. This means there is a net self-replacement of an estimated 32,000 cats per year.

According to the U.S. norm for pet cat population increase over the past 20 years, the Los Angeles pet cat population is increasing at about 1% per year. Thus net acquisitions in Los Angeles exceed attrition by about 2,850 additional cats per year, beyond births.

Of these 2,850 acquired cats, 1,705 come from LA Animal Services (3,917 impounds minus 2,212 killed). Another 1,114 (2,850 minus 1,705) come from other sources. Based on national averages, no more than 290 come from breeders, leaving 824 acquired from other sources like pet stores.
LA cat acquisitions include LA shelter adoptions including feral-born kittens, and impounded stray cats, both kittens and tamed strays. The annual adjustment to the feral/stray population is 2,529 (1705 placed by shelters + 824 placed by other sources + the 2,103 who were killed. This totals 4,632 cats. Assuming that each cat had a mother, a father, and at least one surviving sibling, a crude total for the feral/stray cat population in the targeted area can be estimated at 13,896.

According to the *Fibonacci Rule*,[25] 70% of all feral cats must be sterilized before the successful breeding encounters of the remaining 30% are reduced to a rate sufficient only to replace normal attrition. This means 9,927 (or rounding up for good measure, 10,000) feral/stray cats must be spayed or neutered just to stabilize the feral/stray cat population in the targeted area. Meaningful and sustained reductions will occur only when that rate is exceeded.

[25] Leonardo Fibonacci: considered greatest European mathematician of the middle ages, born in Pisa, Italy about 1175 AD. Developed a formula relating to agriculture productivity; later used by Pasteur to predict 70% of a susceptible population has to be vaccinated to prevent an epidemic. Fibonacci's 70% Rule is recognized by Wor*ld Health Organization* and *Center for Disease Control.*