

NEW STUDY SHOWS EUTHANASIA IS MORE EFFECTIVE THAN TNR IN FREE-ROAMING CAT MANAGEMENT

By Pamela Jo Hatley, Esquire¹

The Journal of the American Veterinary Medical Association (JAVMA) published in its December 15, 2004 volume a report of a study that shows trap-and-remove (euthanasia) is more effective than trap-neuter-return (TNR) in reducing the number of free-roaming cats.² Researchers Mark C. Andersen, PhD, Brent J. Martin, DVM, DACLAM, and Gary W. Roemer, PhD reported the results of their study in which they used matrix population models and elasticity analysis to compare the effects of euthanasia and TNR on free-roaming cat populations. The results of the study showed that euthanasia has a greater influence on population growth than TNR.

The researchers developed matrix models in which estimates of the reproduction and survival rates (vital rates) of juvenile and adult cats were applied to formulate future population projections. The researchers also applied to the matrix models a method of analysis called “elasticity analysis.” In their elasticity analysis the researchers applied alterations in the estimates of cat reproduction and survival rates to explore how these alterations would influence the growth rate of free-roaming cat populations.³ Matrix population models and elasticity analysis are widely used in wildlife studies to develop management plans and explore population dynamics.⁴

To set the parameters for the matrix population models used in their study, the researchers applied data from published studies of free-roaming cats in urban environments.⁵ Analyses of the matrix models showed that with application of TNR, the population growth rate of free-roaming cats was still greater than 1 even when 75% of female cats in the population were spayed.⁶ On the other hand, application of euthanasia to only 50% of the cats in the population resulted in negative population growth.⁷ Moreover, application of euthanasia to 75% of the cats in the population would result in the population being halved every year.⁸

Upon careful consideration, such results should not be surprising since, as the researchers point out in their report, TNR targets reproduction rates (fecundity) and euthanasia targets survival rates. As the report states, “Because these two approaches target different vital rates they may have fundamentally different outcomes with respect to their influence on cat population growth rate.”⁹ According to the report, a 50% reduction in annual survival rate (i.e. euthanasia) would

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² Andersen, M.C., B. J. Martin, and G. W. Roemer, *J. Am. Vet. Med. Assoc.*, 2004;225:1871-1876 (December 15, 2004).

³ *Id.* at 1872.

⁴ *Id.* at 1871, 1872.

⁵ *Id.* at 1872.

⁶ *Id.* at 1873.

⁷ *Id.*

⁸ *Id.*

⁹ *Id.* at 1874.

result in a cat population that declined by approximately 10% per annum, whereas a 75% reduction in reproduction rate (i.e. TNR) would still result in an increasing population.¹⁰

Of course, unlike euthanasia, TNR does not permanently remove cats from the population. In a TNR program where 75% of the female cats in the population are spayed, 100% of the cats are still there and 25% are still likely to breed. Considering this obvious difference in the two methods, one can see why the population growth rate remains positive with the application of TNR even at a very high rate. And as a practical matter, it is not likely that many TNR programs reach 75% coverage. Even the most well managed cat colony in Florida, ORCat at Ocean Reef on Key Largo, admittedly cannot trap all of its cats for the spay-neuter program. (Apparently ORCat also cannot prevent the dumping of cats on its property either according to an Ocean Reef employee who shared this information with the author while the author was at Ocean Reef last June attending the “Feral Cat Forum” sponsored by Florida Fish & Wildlife Conservation Commission.)

Euthanasia, on the other hand, permanently removes cats from the population and thus more effectively reduces population growth. But if euthanasia, the “traditional” method of animal control, is the more effective method, then one might ask why the free-roaming cat population has exploded as it has in recent years. The JAVMA study report explains, “Traditional animal control is constrained by resources and rarely sustains active cat population management on a broad scale.”¹¹ Simply speaking, control of domestic animals is left to the local governments, and the local governments do not provide adequate resources to their animal control agencies to apply trap-and-remove to the extent necessary to effect a reduction in cat population. In fact, many animal control agencies typically do not trap and remove free-roaming cats unless such cats are reported to be a nuisance or threat to public health.

This does not mean trap-and-remove is not effective, however. As the study shows, trap-and-remove is more effective than TNR as a method of population control of free-roaming cats. Hence, rather than waste taxpayers’ money on less effective TNR programs, local governments should provide their animal control agencies with the necessary policies and resources to do their jobs well. Instead of passive, applied-only-upon-complaint trap and remove, animal control agencies should be equipped to engage in proactive animal control to effect a positive reduction in the free-roaming cat population.

In fact, were animal control agencies to publicly take a more proactive approach to trap-and-remove, the resulting effect on cat population growth might exceed that indicated by the JAVMA report due to the extrinsic effects on people. For example, a proactive program of euthanasia might have a chilling effect on abandonment. Persons who would otherwise be inclined to abandon their unwanted cats rather than turn them over to shelters might be deterred from such activity if they knew their abandoned pet cat would likely be picked up as a stray and wind up at the pound anyway. Conversely, TNR has been shown to foster abandonment.

¹⁰ *Id.*

¹¹ *Id.* at 1871.

But what about the social costs? As the JAVMA report states, “TNR programs are often instituted because of society’s aversion to euthanasia as a method of control.”¹² Cats are America’s favorite pet. People find them wonderfully affectionate and intriguingly wild. Because so many people love cats, the TNR v. euthanasia debate has risen to the level of a highly emotionally charged argument. However, as the researchers point out in their report, the welfare of free-roaming cats also concerns society because cats often are victims of vehicle collisions, and fights among themselves and other animals.¹³ In addition, free-roaming cats are subject to disease, hunger, and infection, and present public health issues for humans. Furthermore, from a wildlife conservation standpoint, cats simply do not belong in the wild. They have a high reproductive rate and few natural enemies thus in the wild they become an invasive species.

In conclusion, free-roaming cat populations must be controlled and reduced. The method used to control and reduce their populations should be the more effective one. This new study shows the more effective method of controlling and reducing the free-roaming cat population is trap-and-remove, or euthanasia.¹⁴ Thus, a proactive policy of trap-and-remove should be implemented by local animal control agencies and supported and funded by local governments. As I have urged in the past, a program of removal must be coupled with a public education campaign. The Florida Fish & Wildlife Conservation Commission (FWC) has begun such an education campaign. Available on FWC’s website (<http://www.myfwc.com/cats/index.htm>) are printed, video, and audio public service announcements, PowerPoint presentations, and posters. Local governments need to follow FWC’s lead. Cats do not belong in the wild.

¹² *Id.*

¹³ *Id.*

¹⁴ Persons who strongly oppose euthanasia might find ways in which they could effect a trap-and-remove method themselves such as trap-neuter-confine (TNC). Yes, this method is expensive and time consuming, but TNC, like euthanasia, permanently removes free-roaming cats from the wild. Thus, TNC should be as effective as euthanasia in reducing the free-roaming cat population.