Fact vs. fiction: What every public health official should know about free-roaming cats

Trap-neuter-return (TNR) is a common-sense, cost-effective solution for managing populations of unowned, free-roaming cats (sometimes called stray, feral or “community cats”) by preventing additional births — rather than trying to round up, house, feed and kill more cats. Despite TNR becoming increasingly popular over the past 25 years, a great deal of misinformation exists regarding TNR, and outdoor cats in general.

To protect your community’s public health and welfare, you need to know the facts.

Fiction: TNR doesn’t work.

Facts: The science is quite clear: There are only two ways proven to reduce, and eventually eliminate, a population of free-roaming cats: (1) intensive TNR efforts or (2) intensive eradication efforts, such as those done using poison, disease, lethal trapping and hunting on small oceanic islands.\(^1,2\) Given the horrendous methods employed — and costs that can exceed $100,000 per square mile\(^3\) — eradication is a non-starter in the U.S. The only fiscally sound option, then, is TNR. Arguments about the limitations of its effectiveness, the alleged impact of outdoor cats on the environment and so forth largely miss the point. In the vast majority of instances, TNR is simply the best option available to humanely reduce the outdoor cat population and any related nuisance complaints.

A number of TNR programs have demonstrated dramatic population reductions and, in some cases, have completely eliminated colonies of free-roaming cats. For details, please visit bestfriends.org/resources/feral-cats-and-tnr for resources such as “Trap-Neuter-Return Success Stories: What the Research Tells Us.”

Fiction: TNR increases the risk of rabies transmission to humans, domestic animals and wildlife.

Facts: The Centers for Disease Control and Prevention (CDC) reports: “Over the last 100 years, rabies in the United States has changed dramatically. More than 90 percent of all animal cases reported annually … now occur in wildlife.”\(^4\) Vaccination against rabies is common practice for TNR programs in the U.S., especially in parts of the country where rabies in cats occurs most frequently.\(^5\) In fact, a 2012 nationwide survey of feral cat groups conducted by Alley Cat Rescue revealed that 96 percent of the groups provide rabies vaccinations as part of their TNR programs.\(^6\) TNR therefore protects public health by creating a powerful barrier between wildlife and humans. And not every cat needs to be

\(^a\) Best Friends recommends that vaccination against rabies be included in all TNR programs, and that reasonable attempts are made to assure that boosters are also administered.
vaccinated to achieve “herd immunity”⁵ (Figure 1). The
public health benefit of TNR is therefore two-fold: The cats
are vaccinated, and their numbers are reduced over time.

Since 1975, the CDC has documented 109 cases of human rabies in the U.S., most of which were attributed to contact with wildlife. Of the 26 cases attributed to domestic animals, 25 were attributed to dogs (nearly all exposures were outside the U.S.). Just one case was attributed to contact with a cat.⁷ (Seven cases were the result of organ and arterial transplants.)

**Fiction:** TNR doesn’t reduce the spread of toxoplasmosis to humans, domestic animals and wildlife.

**Facts:** Although cats (domestic as well as wild felids, such as bobcats and mountain lions) are the only known “definitive host” of the *Toxoplasma gondii* parasite, infected cats generally shed the microscopic egg-like spores in their feces only once, for a one-week period.⁸ According to the CDC, humans can become infected by consuming the undercooked meat of an infected animal or by the accidental ingestion of oocysts found in the environment (e.g., garden vegetables from contaminated soil). Most people never exhibit symptoms, and for those who do, illness is generally mild. Prevention is straightforward: Meat should be frozen and/or cooked thoroughly (or avoided altogether) and hands should be washed with soap and warm water after handling meat; cat owners should change litter boxes daily, washing hands afterward; gloves should be worn while gardening or otherwise in contact with soil or sand.⁹

Data from the large-scale National Health and Nutrition Examination Survey reveal a significant decrease between 1988 and 2010 in the age-adjusted infection rate of toxoplasmosis among people 12–49 years of age born in the U.S. (Figure 2).¹⁰ Over this same period, the popularity of TNR increased dramatically,¹¹ raising doubts about any suggestion that community cats pose a serious threat of infecting humans with the *T. gondii* parasite. Moreover, research has shown that cats living in close proximity to humans — typical of TNR cats — are much less likely to be exposed to the...
Feeding community cats — common practice even where robust TNR programs don’t exist — therefore seems to be an effective measure of reducing the spread of toxoplasmosis in cats, humans and wildlife. Of course, an active, targeted TNR program would likely reduce the population of community cats, further reducing the risks.

**Fiction:** Contact with cats increases the risk of several diseases, including mental illness.

**Facts:** Many of the early studies on the subject, under more careful examination, have proved to be seriously flawed.\(^{13,14}\) More recently, large-scale longitudinal studies have challenged the findings of earlier research — finding no evidence, for example, of a link between cat ownership in early childhood and “psychotic disorders” later in life,\(^{14}\) and, more generally, “little evidence that *T. gondii* was related to increased risk of psychiatric disorder, poor impulse control, personality aberrations or neurocognitive impairment.”\(^{15}\)

**Fiction:** TNR is too costly to be feasible.

**Facts:** Studies show that TNR can actually save taxpayers money. A review of data from Hillsborough County Animal Services (HCAS) in Tampa, Florida, for example, found the cost to sterilize and vaccinate colony cats to be $65 per cat “as opposed to $168 for [HCAS] picking up, handling, and disposing of an animal.”\(^{16}\) This is similar to cost estimates from San José Animal Care and Services, in California, which reports a cost of approximately $72 per cat for “vaccinations against rabies and other common cat disease, flea treatment, ear treatment, microchip, and ear-tipping.”\(^{17}\) Estimates (unpublished) compiled from across the U.S. by researchers with the Alliance for Contraception in Cats & Dogs indicate less of a cost difference, but with TNR still more economical (about $20 to $97 per cat) than the traditional impoundment and lethal injection (about $52 to $123 per cat).

Dr. Donna M. Alexander, administrator for Cook County (Illinois) Animal and Rabies Control, has testified in court that “prior to adoption of the TNR programs, local municipalities were trapping and euthanizing approximately 500 to 600 feral cats per year, at a cost to taxpayers of about $135 per cat.” Implementation of the county’s TNR program, then about five or six years old, “had saved the county over $1.5 million, primarily resulting from having fewer feral cats to euthanize.”\(^{18}\)

**Literature cited**

5. ACR. Alley Cat Rescue’s National Feral Cat Survey. *PR Newswire 2012*. 


(18) County of Cook v. Village of Bridgeview; 2014.