Economics of Crisis and Controversy

The Fiscal Impact of Trap, Neuter and Return Policies in Controlling Feral Cat Populations in the United States

Prepared For
Best Friends Animal Society

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Best Friends Animal Society:
Trap, Neuter and Return Fiscal Benefit Model

Summary of Results:

Over the last two decades, the number of cats in the United States has steadily increased along with the human population. Over a third of households owned at least one cat in 2007, equaling approximately 80 million pet cats in America.[1] While the number of feral cats is difficult to calculate, the feral cat population in the United States roughly equals the number of pet cats.[2] The rapidly growing population of feral cats has led many local governments into taking action to combat overpopulation. Generally, municipalities use trap and eradication techniques that involve high rates of euthanasia for those cats not able to be returned or adopted out.

Estimated Cat Population of the United States

Estimated Number of Cats	168,260,090
Estimated Number of Feral Cats	87,495,250

Removing feral cats from a community through eradication does not end the problem of overpopulation. Even if all feral cats are removed, the vacant niche left will be filled by new feral cats as pet cats can become strays and unspayed females give birth to new kittens. With municipal budgets under increasing strain, rising costs associated with animal control is an unwelcome burden. The table below illustrates the estimated costs associated with complete trap and eradication policies across the country:

Estimated Costs Associated With Feline Eradication for the United States

Trap/Enforcement	$4,374,762,500
Sheltering	$3,499,810,000
Food/Supplies	$3,499,810,000
Laboratory Tests	$874,952,500
Eradication/Euthanization	$3,499,810,000
Estimated Cost of Eradication in United States	$15,749,145,000

Based on this analysis, eradicating feral cats would cost nearly $16 billion for this unfortunate policy that takes the lives of millions of cats annually.[3] Those costs account for the following:

- Animal control and capture, and associated equipment,
- Required pound kenneling period per state laws, (varies)
- Food and other necessary supplies required while in pound,
- Any investigative medical tests and,

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1 See: American Veterinary Medical Association, U.S. Pet Ownership & Demographics Sourcebook, Schaumburg, Ill: Membership & Field Services, American Veterinary Medical Association), 2007.

2 *Sources of Cats in U.S. Households*, Alley Cat Allies, 2009.

3 Humane Society of the United States estimate for Animal Control is over $18.7 billion, at: www.humanesociety.org/issues.

- Associated cost of supplies used in euthanization.

Additional costs may vary based on municipality and of any associated animal control or veterinary salaries, costs accrued, operational expenses, etc.

A reduced cost alternative method to eradication is Trap, Neuter/Spay and Return, known popularly as TNR. TNR involves trapping the feral cats, providing spay or neuter services and vaccinations, then returning them to their niche in the community. In managed colonies or larger sanctuaries, these cats are able to live healthy lives. Due to alteration, it is expected that the colonies will gradually shrink in size.[4]

The costs associated with TNR programs are less than those under eradication policies, and TNR programs with veterinary volunteer participation is discounted even more.

Estimated Costs Associated With Alteration and Return

Trap/Enforcement	$4,374,762,500
Neuter/Spay	$3,499,810,000
Physical Exams	$3,499,810,000
Vaccinations	$3,499,810,000
Estimated Cost of TNR in the United States	$13,999,240,000
Net Savings	$1,749,905,000

As the data shows, comprehensive TNR would cost about $2 billion less than eradication, and if discounted packages are offered by veterinary volunteers, TNR will cost less than half of what an eradication strategy would. The raw costs for the TNR model are:

- Cost of actual trap or paid contractors to trap,
- Procedural cost of neutering/spaying, and associated medical supplies,
- Supplies and medicines used for testing and,
- Associated Vaccinations.[5]

The packaged TNR procedure is discounted because veterinarians and community volunteers are willing to offer their services which keep animal enforcement costs down.[6]

Estimated Costs Associated With Discount Packaged Alteration and Return

Trap	$4,374,762,500
Packaged TNR Procedure	$2,624,857,500
Estimated Cost of Discount Packaged TNR in the United States	$6,999,620,000
Net Savings	$8,749,525,000

[4] Figures reached through statistical analysis by John Dunham and Associates based on Levine, Jay F, Felicia B Nutter, Michael K. Stoskopf, *Reproductive Capacity of Free-Roaming Domestic Cats and Kitten Survival Rate*, Journal of the American Veterinary Medical Association, Vol 225, No. 9, November 1, 2004.

[5] *American Veterinary Medical Association, U.S. Pet Ownership & Demographics Sourcebook.*

[6] *The ABC's of TNR,* Alley Cat Allies: National Feral Cat Resource, 2008.

After the procedure, the cats are returned to the area of the community they were found in. Through continued community support through feral cat networks, the total cost to maintain an average sized colony is about $30 a month.[7] TNR with the necessary community support is therefore the most cost efficient means to feral cat population control. Even with new cats introduced into the community from the liters of the remaining unspayed females and migrant cats, the population should gradually decline due to the emphasis on neuter/spay.[8] It is expected that the colony would shrink overtime, and if the surrounding communities and states are able to implement TNR policies, then it is likely that few new feral cats will migrate to the area.

Best Friends Animal Society, the flagship of a grassroots network of people and organizations that care about animals, understands the importance of well funded animal control efforts. Feral cats eradication policies can cost huge amounts of money and take away resources from where they can be more effective.

Methodology:

The Best Friends Trap, Neuter/Spay and Return Cost Savings Calculator begins by estimating the number of feral cats in a given community. This number was estimated by sampling a pool of reliable population data of feral cats from four states, twelve cities, and thirteen counties located throughout the United States.[9] Using an average of the proportion of feral cats to total cats, the model also determined the number of total cats for a given location.

A quadratic regression model was used to generate an estimate of the number of feral cats in a given location. This model estimates the feral cat population based on demographic statistics of the human population living in the specified location including (number of housing units occupied by renters, number of family households, number of married households, the unemployment rate and the structural type of housing).

Once the number of feral cats in a given location has been calculated, the associated costs of each of the three methods can be estimated using the national averages culled from research by research journals, veterinary journals, national media publications, federal government reports, and animal welfare groups.[10] Data from selected locations was used to create a national cost average.[11] A standard price index was used to account for state price differences in costs.[12]

The cost calculator assumes either option A or option B: that all feral cats are eradicated or that all feral cats are protected under TNR methods. This was done for ease of cost comparisons.

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7 Data is based on a survey of feral cat sanctuaries in New York, Arizona, Utah and Florida.

8 Levine, Jay F, Felicia B Nutter, Michael K. Stoskopf, *Reproductive Capacity of Free-Roaming Domestic Cats and Kitten Survival Rate,* Journal of the American Veterinary Medical Association, Vol 225, No. 9, November 1, 2004.

9 States of Florida, Kansas, New York and Wisconsin, cities of Jacksonville, Orlando and St. Petersburg, Florida, Chicago, Illinois, Indianapolis, Indiana, Baltimore, Maryland, Fargo, North Dakota, New York and Buffalo, New York, Dallas, Fort Worth and Houston, Texas, and the counties of Baldwin and Mobile, Alabama, Maricopa, Arizona, Los Angles and Monterey counties in California, Adams, Colorado, Hillsborough, Alachua and Brevard counties in Florida, Washoe and Clark counties in Nevada, Jackson County, Oregon and King County, Washington.. All demographic data compiled from the U.S. census.

10 Data assembled from Alley Cat Allies, Maddie's Fund, American Veterinary Medical Association, the Humane Society of the United States, and state and municipal shelter statistics.

11 Averages taken from animal clinic data from surveyed states. The breakdown of individual costs of medical and shelter supplies are based on figures derived from *American Veterinary Medical Association, U.S. Pet Ownership & Demographics Sourcebook,* and the American Pet Products Association.

12 The standard price index is derived from data on direct expenditure from U.S. Census Bureau State and Local Government Finances: 2005-06.

Model Description and Data:

This Best Friends Animal Society Trap, Neuter/Spay and Return Cost Savings Calculator is based on data provided by the Federal government, veterinary research journals, animal control statistics, national media reports, animal activist groups, animal welfare publications, and feral cat colony registries and websites. The model utilizes a quadratic regression to determine the number of feral cats in a geographical area based on demographic data, (number of housing units occupied by renters, number of family households, number of married households, the unemployment rate and the structural type of housing) as a set of population characteristics.

A quadratic regression was used to account for demographic variations across diverse geographic areas. This quadratic regression served as a constraint to prevent the extreme upper and lower limits of data samples from skewing the actual observed results. As the model uses demographic data on the population of a certain location and data points found on specific cities, counties, and states to generate the population of feral cats in that given geographical area, the large state population and very small rural communities were adjusted in the model utilizing the quadratic. All demographic data is taken from the U.S. Census bureau.[13]

[13] U.S. Census Bureau 2006 Population Estimates.