



## Effects of an Invasive Species: Domestic Cats

Though originally bred from wild cats, the domestic cat (*Felis catus*) has no native range and is listed among the **100 worst non-native invasive species in the world** by the International Union for Conservation of Nature (IUCN).<sup>1</sup>

### What is a domestic cat?

Domestic cats are one of the most popular pets in North America and can be categorized into three management groups:

**Indoor cats:** Owned pets that spend all of their time within the home—house cats.

**Free-ranging cats:** Owned pets that are habituated to humans but spend all or a portion of their time roaming outdoors.

**Feral cats:** Unowned animals that live entirely outdoors. These cats are not socialized to humans but descended from domesticated individuals.

### Disease Transmission

Domestic cats can serve as vectors for multiple diseases, including **zoonotic diseases**—diseases that can spread to humans.<sup>2</sup> Threats to human and wildlife health from domestic cat disease include:

- **Rabies:** A potentially fatal viral disease transmitted through bite wounds. In 2014, cats accounted for 61% of rabid domestic animals recorded in the U.S.<sup>3</sup>
- **Toxoplasmosis:** Caused by a microscopic parasite in cat feces. Can result in birth defects, behavioral disorders, or illness in people with weakened immune systems.<sup>4</sup> Can also cause death or other severe negative effects to wildlife.



Domestic cats are highly skilled, instinctive predators that kill billions of animals each year<sup>7</sup> (Credit: Wikimedia Commons User Alex T./Lxowle/Mark Marek).

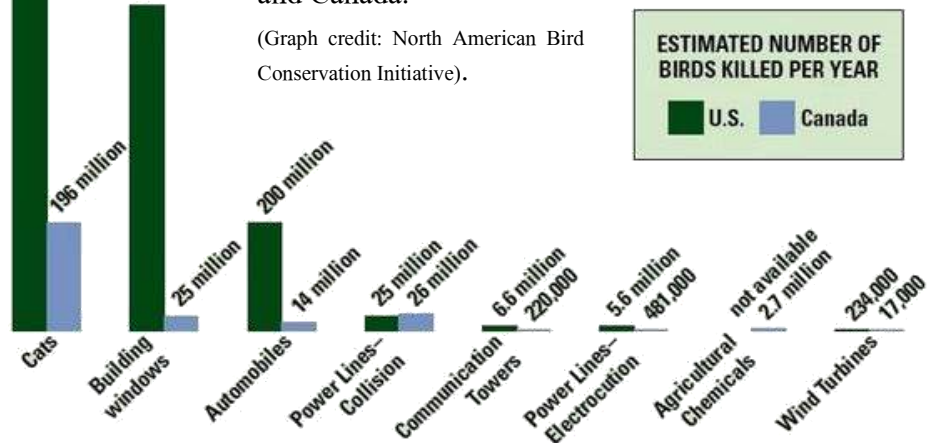
### Predatory and Behavior Effects

All cats are **carnivorous**; and even well-fed domestic cats will continue to hunt if given the opportunity.<sup>5</sup> While feral cats pose the biggest threat to wildlife, all domestic cats, regardless of their habituation to humans, will hunt prey if released outdoors.<sup>6</sup>

A study published in 2013 estimates that domestic cats kill between **1.3–4.0 billion birds** and **6.3–22.3 billion mammals** in the U.S. per year; making them **the largest human-influenced source of mortality** for birds and mammals in the country.<sup>7</sup> Globally, domestic cats have caused the extinction of several mammals, reptiles, and at least 33 bird species.<sup>8</sup>

The graph below shows estimated bird mortality from cats relative to other anthropogenic sources in the U.S. and Canada.<sup>9</sup>

(Graph credit: North American Bird Conservation Initiative).



## Domestic Cat Reproduction

Domestic cats are prolific breeders. A single female cat can reach sexual maturity at just six months of age and produce up to **three litters per year with two to four kittens per litter** (Up to 12 cats per year).<sup>10</sup>

Limited empirical data exists for the total number of feral cats in the U.S., but estimates range from **30 to 80 million cats**—not including the roughly **40 million** pet cats with outdoor access.<sup>7</sup> The size of feral cat populations, combined with their high reproductive potential, exacerbates concerns over **animal welfare, wildlife predation, and disease**.



Feral cat “colony” (Credit: Wikimedia Commons User Kushi)



TNR programs use eartipping to mark a sterilized cat. (Credit: Rachel Jaskow).

## Problems with Trap-Neuter-Release

Trap-neuter-release (TNR) is often considered as a humane solution to reducing feral cat overpopulation, and involves catching, vaccinating, sterilizing, and then releasing feral cats. With a long-term commitment of resources—and the sterilization of approximately **71-94% of a population**—this type of high-intensity management can theoretically reduce feral cat colonies.<sup>11</sup>

However, numerous long-term scientific studies have shown TNR programs to be **ineffective** or even **counterproductive** because they enable the abandonment of owned cats, thus resulting in the indefinite maintenance of feral cat colonies.<sup>11</sup> This compounds the problems caused by feral cats and justifies the continued presence of an invasive species in North America. As a result, **TNR undermines the work of wildlife professionals and severely jeopardizes the integrity of native biodiversity**.

## Domestic Cats: Things to Consider

### Keep Cats Indoors

Keeping cats indoors protects wildlife and the cats themselves. Cats that live or are allowed outside are exposed to cars, wild animal attacks, and diseases.

### Don't Feed Outdoor Cats

Providing food for outdoor cats, even over-feeding, does not stop natural hunting behavior. It can also lead to larger feral cat colonies, thus compounding the problem.<sup>5</sup>

### Spay and Neuter Pets

Educate cat owners to spay or neuter their cats and keep them indoors. TNR does not reduce overpopulation or prevent wildlife deaths.<sup>11</sup>

### Raise Awareness

Encourage researchers to develop and disseminate information on the impacts of feral cats on native wildlife, relative to predation, competition, and diseases.

1. Lowe, S., Browne, M., Boudjelas, S., & De Poorter, M. 2000. 100 of the World's Worst Invasive Alien Species: A Selection from the Global Invasive Species Database. The Invasive Species Specialist Group: 6–7 (available at [http://www.iucngisd.org/gisd/100\\_worst.php](http://www.iucngisd.org/gisd/100_worst.php)).
2. Case, J. B., Chomel, B., Nicholson, W., & Foley, J. E. 2017. Serological survey of vector-borne zoonotic pathogens in pet cats and cats from animal shelters and feral colonies. *Journal of Feline Medicine and Surgery* 8(2): 111–116.
3. Centers for Disease Control and Prevention. 2014. Reported Cases of Rabies in Cats and Dogs, by County, 2014. Centers for Disease Control and Prevention, available at <https://www.cdc.gov/rabies/resources/publications/2014-surveillance/2014-cats-and-dogs.html> (Accessed Jan. 2017).
4. Torrey, E. F., & Yolken, R. H. 2003. *Toxoplasma gondii* and Schizophrenia. *Emerging Infectious Diseases* 9(11): 1375-1380.
5. Jessup, D.A. 2004. The welfare of feral cats and wildlife. *Journal of the American Veterinary Medical Association* 225(9): 1377.

6. Kays, R. W., & DeWan, A. A. 2004. Ecological impact of inside/outside house cats around a suburban nature preserve. *Animal Conservation* 7: 1–11.
7. Loss, S. R., Will, T., & Marra, P. P. 2013. The impact of free-ranging domestic cats on wildlife in the United States. *Nature Communications* 4: 1396.
8. Nogales, M., Vidal, E., Medina, F. M., Bonnaud, E., Teresh, B. R., Campbell, K. J., & Zavaleta, E.S. 2013. Feral Cats and Biodiversity Conservation: The Urgent Prioritization of Island Management. *BioScience* 63(10): 804-810.
9. North American Bird Conservation Initiative, U.S. Committee. 2014. The State of the Birds 2014 Report. U.S. Department of Interior, Washington, D.C. 16 pages.
10. Nutter, F. B., Levine, J. F., & Stoskopf, M. K. 2004. Reproductive capacity of free-roaming domestic cats and kitten survival rate. *Journal of the American Veterinary Medical Association* 225 (9): 1399.
11. Longcore, T., Rich, C., & Sullivan, L. M. 2009. Critical Assessment of Claims Regarding Management of Feral Cats by Trap–Neuter–Return. *Conservation Biology* 23(4) : 891.

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