

## History of the domestic cat:

*Felis catus*, domesticated over 4000 years ago, descends from European and African wild cats. Controlling vermin around early civilizations, cats are now found alongside humans on nearly every continent.



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Increasingly popular as pets, 37% of Canadians own one or more cats. The population of owned cats (over 10 million) is growing faster than the number of households-putting these animals at risk of being abandoned, and left homeless. This raises concern and risk for the impacts on birds, and other wildlife, in both urban and rural environments<sup>1</sup>

Cats are prolific breeders, and from six months of age, can produce up to 3 litters a year, of 4-6 kittens:

The impact of one unsprayed female, her mates, and the resulting offspring:



## Why are birds vulnerable to cats?

Many of Canada's birds nest and feed on or near the ground. While birds have some defences from native predators they evolved alongside, they are vulnerable to those introduced from other countries.

Cats are different than natural predators, and have a high impact on native wildlife because they:

- exist in much high densities than native predators
- hunt during both night and day
- hunt even when well fed
- hunt in front of humans (most native predators shy away from humans)
- exist in populations not kept in check by declining prey or other ecological factors<sup>2</sup>
- stalk and kill adult birds (no native mammalian predator does this)<sup>2</sup>

*Free roaming owned cats in suburban areas bring home only 23% of captured prey-they more often consume, or leave prey at the capture site.*<sup>4</sup>



- Photo by Bruce Stevens

Stealth, speed, keen eyes, sharp teeth, claws, and innate hunting behaviour makes house cats highly effective predators of birds and other wildlife.

*It is estimated that house cats kill 100-350 million birds per year in Canada.*<sup>3, 6</sup>

## What is our current understanding of the issue?

- Human and industrial activities kill hundreds of millions of birds and millions of nests each year in Canada<sup>3</sup>
- House cats (owned/feral) account for highest human related direct mortality
- Building and vehicle collisions, the second greatest cause, kill exponentially fewer birds.<sup>3</sup>
- forestry, agricultural, oil and gas, and wind turbine impacts may have high localized effects, but since cats occur in widespread human environments, cumulative mortality by cats is much greater<sup>3</sup>
- 25% of Canada's 461 regularly occurring birds are particularly vulnerable to cats because they nest or forage on or close to the ground
- Of these, 23 are already listed as 'at risk' by the Committee on the Status of Endangered Wildlife in Canada<sup>6</sup>
- house cats kill an estimated 1-4 billion birds annually in the US.<sup>7,2</sup>

## How do outdoor and free-roaming cats affect our environments?

Cats are not a natural part of the ecosystem. Cats exist in high densities, and:

- hunt small native mammals that are a part of our biologically diverse ecosystem and that provide food for native predators
- are in competition with our native predators such as birds of prey
- can infect wildlife (and humans) with diseases<sup>8</sup>
- can cause stress, reduced fertility and reproduction, and change natural foraging and breeding behaviour<sup>2</sup>

## How do scientists estimate cat populations and mortality of birds?

We can't count or measure details about every person or animal, so we rely upon sound estimates from scientists and mathematicians. Estimates of numbers and trends help us daily to understand aspects of our communities and environment: The World Health Organization estimated life expectancy in 2013 as 71.5 years, and Statistics Canada estimated the provincial unemployment rate in 2015 as 8.0%.

Environment Canada's scientists set a high standard for research. Their estimates on cat predation is drawn on data from other studies, subject to statistical analysis, and bound by rules of probability. Such rigorous research is subjected to scrutiny by independent researchers, via peer review. Numbers they generate are therefore reliable to a high degree of certainty.

*Studies have shown that bells and colourful collars are not effective in preventing cats from killing birds and other wildlife—wildlife is not trained to realize the danger, cats can learn to stalk silently, and bells and collars do not protect flightless nestlings or fledglings.<sup>8</sup>*

– Photo by Bruce Stevens



## Where can I learn more about the science and how to help?

- <sup>1</sup> Canadian Federation of Humane Societies. 2012. Cats in Canada: A comprehensive report of the cat overpopulation crisis. ([http://www.cfhs.ca/files/cfhs\\_catreport\\_english\\_1.pdf](http://www.cfhs.ca/files/cfhs_catreport_english_1.pdf))
- <sup>2</sup> Dauphine, N., and Cooper, R.J. Impacts of free-ranging domestic cats (felis catus) on Birds in the United States: a review of recent research with conservation and management recommendations. Proceedings of the Fourth International Partners in Flight Conference: Tundra to Tropics 205- 219. ([http://www.pwrc.usgs.gov/pif/pubs/McAllenProc/articles/PIF09\\_Anthropogenic%20Impacts/Dauphine\\_1\\_PIF09.pdf](http://www.pwrc.usgs.gov/pif/pubs/McAllenProc/articles/PIF09_Anthropogenic%20Impacts/Dauphine_1_PIF09.pdf))
- <sup>3</sup> Calvert, A.M., Bishop, C.A., Elliot, R.D., Krebs, E.A., Kydd, T.M., Machtans, C.S., and Robertson, G.J. 2013. A synthesis of human-related avian mortality in Canada. Avian Conservation & Ecology: 8(2), 11 (<http://www.ace-eco.org/vol8/iss2/art11/>)
- <sup>4</sup> Loyd, K.T., Hernandez, S.M., Carroll, J.P., Abernathy, K.J., Marshall, G.J., 2013. Quantifying free-roaming domestic cat predation using animal-borne video cameras. Biol. Conserv. 160, 183-189. (<http://www.kitycams.uga.edu/other/Loyd%20et%20al%202013.pdf>)
- <sup>5</sup> Sarnia Humane Society: [Cat population diagram]. (<http://www.sarniahumaneociety.com/C24C5/wp-content/uploads/2012/10/cat-population.jpg>)
- <sup>6</sup> Blancher, P. 2013. Estimated number of birds killed by house cats (Felis catus) in Canada. Avian Conservation and Ecology 8(2): 3. (<http://dx.doi.org/10.5751/ACE-00557-080203>)
- <sup>7</sup> Loss, S.R., Will, T, and Marra, P.P. 2013. The impact of free-ranging domestic cats on wildlife of the United States. Nature Communications: 4(1396), (<http://www.nature.com/ncomms/journal/v4/n1/full/ncomms2380.html>)
- <sup>8</sup> American Bird Conservancy. Domestic cat predation on birds and other wildlife. 2016 [online brochure] (<http://www.njaudubon.org/Portals/10/CatsIndoors/PDF/Predation.pdf>)

*There are ways to help. Cats can join the Allied Cats network – these cats lead happy, safe lives indoors, or with supervised controlled outdoor access. ([www.ecologyaction.ca/alliedcats](http://www.ecologyaction.ca/alliedcats)). Sharing this information with others is also important. For more information on the Ecology Action Centre's Bird Conservation Projects: <https://www.ecologyaction.ca/issue-area/bird-conservation>*



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# THE IMPACT OF DOMESTIC CATS ON BIRDS

*Making sense of the Science*

## TOPICS INCLUDED:

- **Bird Vulnerability**
- **Cat Populations**
- **Ecological Effects**