AMERICAN BIRD CONSERVANCY

CATS INDOORS
A Campaign of American Bird Conservancy

DOMESTIC CAT PREDATION ON BIRDS AND OTHER WILDLIFE

How many birds and other wildlife do domestic cats kill each year in the U.S.?

Exact numbers are unknown, but scientists estimate that nationwide, cats kill hundreds of millions of birds, and more than a billion small mammals, such as rabbits, squirrels, and chipmunks, each year. Cats kill common species such as Cardinal, Blue Jay, and House Wren, as well as rare and endangered species such as Piping Plover, Florida Scrub-Jay, and California Least Tern.

There are more than 77 million pet cats in the United States. A 1997 nationwide poll showed that only 35% are kept exclusively indoors, leaving the majority of owned cats free to kill birds and other wildlife at least some of the time. In addition, millions of stray and feral cats roam our cities, suburbs, farmlands and natural areas. Abandoned by their owners or lost (stray), or descendants of strays and living in the wild (feral), these cats are victims of human irresponsibility due to abandonment and failure to spay or neuter pets. No one knows how many homeless cats there are in the U.S., but estimates range from 60 to 100 million. These cats lead short, miserable lives.

Great Horned Owl: Clipart.com

Loss of wildlife habitat and fragmentation due to human development are the leading causes of declining bird populations. However, scientists now list invasive species, including cats, as the second most serious threat to bird populations worldwide. Habitat fragmentation provides cats and other predators easier access to wildlife forced to live on smaller tracts of land. Rather than havens for wildlife, these areas can be death traps.

Cats Are *Not* a Natural Part of Ecosystems

The domestic cat, *Felis catus*, is a descendant of the European and African wild cats. Domesticated in Egypt more than 4,000 years ago, cats may be the most widespread predator in the world. In the U.S., cats were not abundant until the late 1800s when they were brought to help control burgeoning rodent populations associated with agriculture. Some people view cat predation of rodents as beneficial, but native small mammals are important to maintaining biologically diverse ecosystems. Field mice and shrews are also prey for birds such as Great Horned Owl and Red-tailed Hawk.

Cats Compete With Native Predators

Owned cats have huge advantages over native predators. They receive protection from disease, predation, competition, and starvation—factors which control native predators such as owls, bobcats, and foxes. Cats with dependable food sources are not as vulnerable to changes in prey populations. Unlike many native predators, cats are not strictly territorial. As a result, cats can exist at much higher densities and may out-compete native predators for food. Unaltered cats are also prolific breeders. In warmer climates, a female cat can have 3 litters per year, with 4 to 6 kittens per litter.

Cats Transmit Disease to Wildlife

Unvaccinated cats can transmit diseases, such as rabies, to other cats, native wildlife and humans. Cats are the domestic animal most frequently reported to be rabid to the Centers for Disease Control and Prevention. Cats are also suspected of spreading fatal feline diseases to native wild cats such as mountain lion, the endangered Florida panther, and bobcat. For more information, see the fact sheet, **The Great Outdoors Is No Place For Cats** at www.abcbirds.org/cats.

Cat Predation Studies

Extensive studies of the feeding habits of free-roaming domestic cats have been conducted over the last 55 years in Europe, North America, Australia, Africa, and on many islands. These studies show that the number and types of animals killed by cats varies greatly, depending on the individual cats, the time of year, and availability of prey. Roughly 60% to 70% of the wildlife cats kill are small mammals; 20% to 30% are birds; and up to 10 are amphibians, reptiles, and insects. However, birds can be up to 100% of a cat's prey on some islands.

Some free-roaming domestic cats kill more than 100 animals each year. One well-fed cat that roamed a wildlife experiment station was recorded to have killed more than 1,600 animals (mostly small mammals) over 18 months. Rural cats take more prey than suburban or urban cats. Birds that nest or feed on the ground, such as California Quail, are the most susceptible to cat predation, as are nestlings and fledglings of many other bird species.

The following are summaries of specific studies:

East Bay Regional Park District, CA: A two-year study was conducted in two parks with grassland habitat. One park had no cats, but more than 25 cats were being fed daily in the other park. There were almost twice as many birds seen in the park with *no* cats as in the park *with* cats. California Thrasher and California Quail, both ground-nesting birds, were seen during surveys in the no-cat area, whereas they were *never* seen in the cat area. In addition, more than 85% of the native deer mice and harvest mice trapped were in the no-cat area, whereas 79% of the house mice, an exotic pest species, were trapped in the cat area. The researchers concluded, "Cats at artificially high densities, sustained by supplemental feeding, reduce abundance of native rodent and bird populations, change the rodent species composition, and may facilitate the expansion of the house mouse into new areas." (Hawkins, C.C., W.E. Grant, and M.T. Longnecker. 1999. Effect of subsidized house cats on California birds and rodents. *Transactions of the Western Section of The Wildlife Society* 35:29-33).

California Quail: Alan Hopkins

San Diego, CA: In a study of the relationships between coyote, mid-sized predators such as cats, and scrub-dwelling birds, cat owners living along the rims of canyons collected the prey their cats brought home. These canyons are isolated pockets of habitat with species that may not occur elsewhere. On average, each outdoor cat that hunted returned 24 rodents, 15 birds, and 17 lizards to the residence per year. Birds were 26.7% of the prey killed by cats. The researchers estimated that cats surrounding mid-sized canyons return 840 rodents, 525 birds, and 595 lizards to residences each year. This level of predation appears to be unsustainable. The study also found that in small canyons where the coyote was absent, there was an increase in mid-sized predators such as cats, and a drastic decline in diversity or elimination of scrub-breeding birds. But in the larger canyons where coyotes were still present, the scrub-breeding birds were also present. (Crooks, K.R. and M.E. Soule. 1999. Mesopredator release and avifaunal extinctions in a fragmented system. *Nature* 400:563-566).

England: The Mammal Society conducted a survey of animals brought home by domestic cats. During a five-month period in 1997, 964 cats killed more than 14,000 animals. The mean number of catches or kills per cat was 16.7, and birds were 24% of the prey. The mean kill rates for belled cats was 19 and for no-bells 15. In other words, cats wearing bells killed more. Only 162 rats were killed by the cats, making them very poor ratters. The researchers concluded, "Although it is unlikely that cats alone will cause any species to become endangered in Britain, for those which are already under pressure for other reasons, such as thrushes, harvest mice, grass snakes, and slow worms, cats could become significant."(The Mammal Society. 1998. Look what the cat's brought in! www.abdn.ac.uk/mammal/catkills).

Wichita, KS: In a study of cat predation in an urban area, 83% of the 41 study cats killed birds. In all but one case, when feathers were found in scat, the owner was unaware that their cat had ingested a bird. In fact, the majority of cat owners reported their cats did not bring prey to them. Instead, the owners observed the cats with the bird or found remains in the house or in other locations. A de-clawed cat killed more animals than any other cat in the study. (Fiore, C. and K. B. Sullivan. Domestic cat (*Felis catus*) predation of birds in an urban environment. www.geocities.com/the_srco/Article.html).

Wisconsin: Researchers at the University of Wisconsin coupled their four-year cat predation study with data from other studies, and estimated that *rural* free-roaming cats kill at least 7.8 million and perhaps as many as 217 million birds a year in Wisconsin. Suburban and urban cats add to that toll. In some parts of the state, free-roaming cat densities reach 114 cats per square mile, outnumbering all similar-sized native predators. (Coleman, J.S., S.A. Temple, and S.R. Craven. 1997. Cats and Wildlife: A Conservation Dilemma. 6 pp. www.wisc.edu/extension/catfly3.htm). In an ongoing, but unpublished, study of cat prey items including stomach contents, scat analysis, observations of kills, and prey remains, birds were 19.6% of 1,976 prey captured by 78 outdoor cats (Temple, S.A, Univ. of WI, personal communication, 1/22/04).

Virginia: Researchers compared a free-roaming domestic pet cat in a rural area with 4 urban cats. The rural cat captured a total of 27 native species (8 bird, 2 amphibian, 9 reptile, and 8 mammal, including the star-nosed mole, a species of special state concern). The 4 urban cats captured 21 native species (6 bird, 7 reptile, and 8 mammal). Between January and November 1990 each cat caught, on average, 26 native individuals in the urban area, and 83 in the rural area. The study did not count prey killed and completely consumed, prey killed and left elsewhere, prey that escaped but died later from infection or injury, or non-native prey. (Mitchell, J. and R.A. Beck. 1992. Free-ranging domestic cat predation on native vertebrates in rural and urban Virginia. *Virginia Journal of Science* 43:197-206).

Cats on Islands: Because some island bird populations evolved in the absence of mammalian predators, they have no defense mechanisms against them. When cats are introduced or abandoned on an island, elimination of entire bird populations can result.

Domestic cats are considered primarily responsible for the extinction of 8 island bird species, including Stephens Island Wren, Chatham Island Fernbird, and Auckland Island Merganser, and the eradication of 41 bird species from New Zealand islands alone. On Marion Island in the Sub-Antarctic Indian Ocean, cats were estimated to kill 450,000 seabirds annually prior to cat eradication efforts. (Veitch, C.R. 1985. Methods of eradicating feral cats from offshore islands in New Zealand. *ICBP Technical Publication* 3: 125-141).

Cats in Habitat Islands: Cats can have significant impacts on local wildlife populations, especially in habitat "islands" such as suburban and urban parks, wildlife refuges, and other areas surrounded by human development. The loss of bird species from habitat islands is well documented, and nest predation is an important cause of the decline of neotropical migrants. (Wilcove, D.S. 1985. Nest predation in forest tracts and the decline of migratory songbirds. *Ecology* 66: 1211-1214). The endangered Point Arena mountain beaver, Stephen's kangaroo rat, and Pacific pocket mouse now live on habitat islands created by destruction and fragmentation of their habitat in California. Predation by pet and feral cats on these species is a serious threat to their future existence. (Thelander, C.G. and M. Crabtree. 1994. Life on the Edge. A Guide to California's Endangered Natural Resources: Wildlife. BioSystems Books, Santa Cruz, California).

Wedge-tailed Shearwater: David G. Smith

Cat Predation of Federally-Protected Wildlife

The Migratory Bird Treaty Act (MBTA) prohibits the hunting, taking, capturing, or killing of any migratory bird. In seeming violation of this landmark law, owners of free-roaming cats permit their pets to kill birds protected by the MBTA. As noted above, domestic cats are also killing birds and other wildlife protected under the Endangered Species Act (ESA). Through the ESA, the federal government protects and restores wildlife at risk of extinction. Although cats may not be responsible for the perilous status of endangered wildlife, the loss of even a single animal can be a setback to the survival of some species.

The Truth About Cats and Birds:

Well-fed Cats Do Kill Birds. Well-fed cats kill birds and other wildlife because the hunting instinct is independent of the urge to eat. In one study, six cats were presented with a live small rat while eating their preferred food. All six cats stopped eating the food, killed the rat, and then resumed eating the food. (Adamec, R.E. 1976. The interaction of hunger and preying in the domestic cat (*Felis catus*): an adaptive hierarchy? *Behavioral Biology* 18: 263-272).

Cats With Bells on Their Collars Do Kill Birds. Studies have shown that bells on collars are not effective in preventing cats from killing birds or other wildlife. Birds do not necessarily associate the sound of a bell with danger, and cats with bells can learn to silently stalk their prey. Even if the bell on the collar rings, it may ring too late, and bells offer no protection for helpless nestlings and fledglings.

Most Birds That Seem to Escape Don't Survive

Wildlife rehabilitation centers report that most small animals injured by cats die. Cats carry bacteria and viruses in their mouths, some of which can be transmitted to their victims. Even if treatment is administered immediately, only about 20% of victims survive the ordeal. A birdthat looks perfectly healthy may die from internal hemorrhaging or injury to vital organs.

A large percentage of patients at wildlife rehabilitation centers are cat attack victims and animals orphaned by cats. At Wildlife Rescue, Inc. in Palo Alto, California, approximately 25% of their patients between May and June 1994 were native cat-caught birds, and almost half were fledglings. Thirty percent of birds, and 20% of mammals at the Lindsay Wildlife Museum in California were caught by cats. Cat predation of wildlife is especially frustrating to wildlife rehabilitators. These losses are totally unnecessary because unlike other predators, pet cats do not need to kill these animals to survive.

Cat Colonies Are a Problem for Birds and Other Wildlife: Domestic cats are solitary animals, but groups often form around an artificial feeding source, such as garbage dumps or food specifically put out for them. These populations can grow very quickly, can have significant impacts on wildlife populations, and can cause significant health risks to other cats, wildlife, and humans. Feeding these cats does not prevent the predation of birds and other wildlife.

Conclusion: Ultimately, cats are not ultimately responsible for killing our native wildlife—people are. The only way to prevent domestic cat predation on wildlife is for owners to keep their cats indoors!

For more information, contact:
AMERICAN BIRD CONSERVANCY
CATS INDOORS - THE CAMPAIGN FOR SAFER BIRDS AND CATS
1731 Connecticut Avenue, NW, 3rd Floor, Washington, DC 20009
Phone: 202/234-7181; Fax: 202/234-7182;
E-mail: abc@abcbirds.org; Web site: www.abcbirds.org