



# THE WILDLIFE SOCIETY

## FACT SHEET

## Feral Cats: Impacts of an Invasive Species



A domestic cat carries its prey. Free-ranging and feral cats kill billions of animals each year (Credit: Wikimedia Commons User Lxowle).

### What is a feral cat?

Domestic cats can be categorized into three groups: indoor, free-ranging, and feral. Indoor cats are “house cats” and spend all of their time within the home. Free-ranging cats spend all or a portion of their time roaming outdoors but are habituated to humans. Feral cats are not socialized to humans and live entirely outdoors. However, “house cats” can easily revert to feral behaviors if released outdoors and all cats are predators, regardless of their socialization, and will hunt prey if given the opportunity.

The domestic cat (*Felis catus*) is the most prevalent pet in the U.S., numbering between 148 and 188 million individuals.<sup>1</sup> Originally bred from wild cats (*Felis silvestris*) in the Near East approximately 10,000 years ago,<sup>2</sup> domestic cats are now considered a distinct species. As a domesticated animal, cats have no native range and are considered a non-native, invasive, feral species when allowed outdoors to interact with native ecosystems. An invasive species is an organism that causes or is likely to cause ecological or economic harm, or endanger human health in an environment where it is not native.<sup>3</sup>

### Reproduction

Domestic cats can reproduce prolifically. Individuals become sexually mature as early as six months of age, and reproduction can occur throughout the year.<sup>4</sup> A single female may produce as many as three litters each year with two to four kittens per litter,<sup>5, 6</sup> with the capacity to successfully raise as many as 12 offspring each year. Production of only two offspring over an individual’s reproductive life is enough to establish a stable population.

### Predatory Behavior and Ecological Impact

Domestic cats are highly skilled, instinctive predators. All cat species are carnivorous and even when well-fed, domestic cats continue to hunt.<sup>7</sup> This innate ability and desire to hunt makes the domestic cat a threat to native wildlife species whenever cats are permitted to live or roam outdoors.

While indoor cats pose little threat to native wildlife, free-ranging and feral cats cause severe ecological impacts. Domestic cats are responsible for the extinction of numerous mammals, reptiles, and at least 33 bird species globally.<sup>8</sup> A study published in 2013 estimated between 1.4–3.7 billion birds and 6.9–20.7 billion mammals are killed annually in the U.S. by feral and free ranging domestic cats, making them the largest human-influenced source of mortality for birds and mammals in the country.<sup>9</sup>

Free ranging and feral cats decrease native wildlife abundance and diversity, especially of species that nest on or near the ground, such as California Quail, Killdeer, and Ovenbirds. In addition, free-ranging and feral cats can cause serious harm to populations of rare or endangered wildlife, especially when human-supported cat colonies concentrate large numbers of feral cats within the range of an at-risk species.<sup>10</sup>

## Disease Transmission

Domestic cats can serve as a vector for a number of diseases, including zoonoses – diseases that can be transmitted to humans – such as rabies, toxoplasmosis, bartonellosis, and salmonellosis.<sup>11</sup> Their ability to transmit these diseases poses serious health risks to humans and native wildlife.

Rabies is a viral disease that affects the central nervous system, and is most often transmitted through bite wounds. In the U.S., cats make up a small percentage

of mammals identified as rabies vector species, but are responsible for a disproportionate number of human exposures. For example, in New York State cats represented just 2.7% of the animals infected with rabies from 1993-2002, but were responsible for approximately 33% of the recorded human exposure incidents.<sup>12</sup>

Cats are the primary host of the parasite *Toxoplasma gondii* which can cause toxoplasmosis, a disease responsible for neurologic and ocular symptoms in humans. Toxoplasmosis is transmitted to humans through contact or consumption of food, water or soil contaminated with cat feces carrying *Toxoplasma gondii* eggs.<sup>13</sup>

Humans provide a potential mechanism for disease transmission when they establish outdoor feeding stations for feral cats. Managed feral cat colonies bring together all the elements necessary to create a high risk of disease transmission from cats to people or wildlife -- concentrated



A domestic cat peers out of a bird feeder. Cats are known to predate on wildlife including many birds. (Credit: Wikimedia Commons User Karelj).

numbers of unvaccinated cats, wildlife attracted by food sources, and close proximity to humans.

## Problems with Trap-Neuter-Release

Trap-neuter-release (TNR) is advocated by some as a humane solution to the problems posed by feral cats. In this approach, cats are trapped, marked with a clipped ear, sterilized, vaccinated, and then returned to a feral cat colony, with the as-

sumption sterilized cats will not be able to reproduce and therefore colony size will decrease over time. However, numerous scientific studies have found that trap-neuter-release operations fail to reduce populations within a colony.<sup>14, 15, 16, 17, 18, 19, 20, 21</sup>

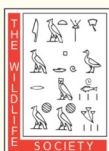
As a result, feral cats released back into native ecosystems, even those sterilized and vaccinated, continue to have significant consequences for native wildlife and people.

## Indoor Cats

Keeping cats indoors protects wildlife and also cats. Cats that live or are allowed outside are subject to many hazards, including cars, attacks by domestic and wild animals, poisoning, predation, and increased disease exposure.

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