

Book Review

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Conundrum of cats

Marra, Peter P., and Chris Santella. 2016. **Cat wars: the devastating consequences of a cuddly killer**. Princeton University Press, Princeton, New Jersey. 212 pp. \$24.95 (cloth), ISBN: 978-0-691-16741-1 (acid-free paper); \$14.72 (e-book), ISBN: 978-1-400-88287-8.

Key words: attitudes; biodiversity; birds; conservation; disease; domestication; extinction; feral; management; wildlife.

Humans have long demonstrated the capacity, inclination, willingness, and motivation to purposefully extirpate or cause the extinction of species, especially pests. That we did and continue to do so unintentionally and/or indirectly, as well, even for species that we value, should not be surprising, given our numbers, industriousness, and acquisitiveness. Which leads to a conservation conundrum of cats.

Conservation is the considered response to the ecological changes our behaviors have wrought, and the central challenge of the practice of conservation necessarily includes changing human behavior. This book, from its title through its narrative and photos, attempts to do this by recounting histories of relationships among cats, birds and other wildlife, and humans, by documenting the sheer numbers and scope of the current relationships, and by proposing solutions to the professed problem (one of which is the extirpation of a behavioral phenotype of one species to save others). It is a book that has already been praised and vilified in on-line reviews, and that fact in itself suggests that it is a worthwhile read to help understand and address this disconcerting conservation issue.

To summarize, Chapter 1 is a narrative of the fate (i.e., 1895 obituary) of the Stephens Island wren, likely at the paws of Tibble, the lighthouse keeper's cat, interwoven with an introduction to cat behavior and fauna on the isles of New Zealand that makes clear what is possible as the result of naïve and unconscious human activities in natural landscapes. Chapter 2 recounts a 1980s bird study on restored grasslands in Wisconsin farm country that turned into one of the first evaluations of effects of free-ranging cats on biodiversity. Interspersed with a summary of cat domestication, a brief researcher biography, and an introduction to the effects of invasive species (especially on islands), we discover that 1.4 million cats in Wisconsin likely killed a minimum of 10% of small- to medium-sized birds within each cat's hunting range (a total of perhaps 7.8 million/yr), and that the publication of these results led to wide-spread news

coverage, considerable hate mail, and a modern day squaring off of "bird people" and "cat people."

In Chapter 3, the history of songbird appreciation is reflected in the story of Roger Tory Petersen's contributions to the rise of bird-watching as a major American recreational activity, and the allure of cats by historical and current anecdotes of cats as pest managers, economic engines, pets (96 million cats living in 46 million households), and entertainment. Importantly, there is a review of the notion of "un-owned" or free-ranging cats, those that generally live outside of households, that likely prey more regularly on wildlife and number an additional 60–100 million. Chapter 4 begins with a review of Forbush's 1916 monograph on cats as bird killers, mousers, and destroyers of wildlife, and then goes on to recount the development of the Migratory Bird Treaty Act (1918) and the subsequent mixed record of bird species population increases or declines. Negative anthropogenic impacts on bird populations for a variety of reasons are described, as are more specific research accounts of the role of domestic cats in the mortality of birds, mammals, reptiles and amphibians, including specific numerical estimates of losses. A 2013 scientific paper on cats as wildlife killers, its coverage in the *New York Times*, and the large public debate it generated are described, followed by a perspective on the role of cats in the Sixth Extinction. If effects of direct cat predation of wildlife was not enough to make one sit up and take notice, Chapter 5 addresses the role of domestic cats as agents of disease (e.g., plague, rabies, *Toxoplasma*, feline leukemia) that can lead to extirpation of wildlife species and can play an important role in human health.

Current day cat-management approaches are described in Chapter 6, including those in the US by a private individual protecting endangered piping plovers and legal initiatives by conservation organizations, a nation-wide culling effort by the Australian government, and a private eradication program in New Zealand where all but 2 mammal species (indigenous bats) are exotic invasives. The killing of one species to benefit another is discussed as an ethical issue, and brought to real life by the trial of the cat-killing plover protector. Chapter 7 focuses on the (non-)efficacy of the trap-neuter-return approach to cat population management; although more palatable to cat defenders, it seems there is little to no evidence that such programs have any measurable effect on cat-caused mortality of wildlife.

Chapter 8 tackles the heart of the issue by aligning with others (i.e., the Humane Society of the US) in views

on what can be agreed on (by “most reasonable parties”) concerning cat abundance (too many), impact on wildlife (too much), disease transmission potential, lifespan and quality, and root cause of the controversy (people). Although stating that “free-ranging cats are not the primary threat to the future of birds and other wildlife,” the case is made that landscapes with fewer free-ranging cats should be part of a greater conservation agenda, that a multi-pronged approach is necessary, and that convincing people to change their behavior will be no easy task. Attempts to teach, cajole, and regulate cat owners to acknowledge the conservation issue and become more “responsible” are described, as are ideas about why the convincing is so hard to do. Chapter 9 is both a lament and plea. It recognizes that humans often are reactive, much to our chagrin, whether it concerns the disasters of passenger pigeons, the dustbowl, or DDT. We have trouble grasping the enormity of problems, and have a major “science denial” problem (e.g., climate change). Still, the authors are keeping their fingers crossed that the public will soon recognize and act on what is fact to the already believing “that free-ranging cats—both the un-owned and the owned pets allowed to roam freely outside—pose a pending ecological and public-health disaster.”

This book needed to be written (and needs to be read), if for no other reason than to lay out a larger conservation case and update what has been found recently about the clear enormity of scale of the human/domestic cat/wildlife interaction. It is written for the larger public and, although this may slightly frustrate conservation scientists wanting to easily find the publications on which the text is based (they are in the References section), it blends data, anecdotes, and examples needed to make a point. Some necessary readers may be put off by the authors’ perspective (e.g., the provocative title and the admitted point of view in Chapter 8 that the authors prefer to remove all free-ranging cats from the environment). Given this seeming intent, the fact that there is no preface to explain the purpose of the book or to recruit wary readers may be irrelevant. Still, a potentially perceived unbalance, an

ethical stance that others may not share, and a sense that only if people understood how big the problem was they would get it may disappoint some readers, especially those on the side of cats. I liked the quotes at the beginning of each chapter, felt that the presentation of chapter material didn’t flow as well as it might, was dismayed that there hasn’t been more research on human attitudes and cats (but see Gramza et al. 2016), and am hopeful that technological advances not known when the book was written may provide some useful alternatives (Hall et al. 2015, Willson et al. 2015). As an ecologist, I still want to know what the population impact is (e.g., how does the number of birds killed by cats vary by species and which species are thus most vulnerable?), but such questions are as of now unanswerable. I am curious as to how human attitudes toward, for example, wild-ranging horses and burros that are another seemingly intractable conservation dilemma, may shed light on dealing with cats. This volume is an example of the kinds of issues that will arise again and again in our conservation futures, and thus should be seriously considered.

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