CHAPTER 6

Conclusions

INTRODUCTION

The debate about outdoor cats matters in a number of ways. It is important for “bird-lovers” and “cat-lovers,” and for people concerned about nonhuman animals and wild nature. While the cat debate is especially significant for these groups, outdoor cats and the arguments over their fate have far-reaching implications. At stake are not only human obligations to nonhuman animals and nature but also the public role of science and the ways in which engaged citizens can shape public policy. In this final chapter, we reflect on what we have learned about these issues and how we can best move forward to resolve the conflicts about outdoor cats. We begin by returning to the main themes that we have discussed throughout the book.

The first and perhaps most pervasive of these themes is the ways that selective readings of data and heated, polarizing language have influenced both the public and scientific discussions about outdoor cats, especially regarding their effect on native wildlife and management options. Our second major theme is the complex public role of science, including divergent understandings of the evidence on this issue and, more generally, the appropriate place of science in public discussions. Third, the cat debate, and especially the conflicts between “bird-lovers” and “cat-lovers,” illuminate the complex ways people value nonhuman nature, and in particular the reasons that stakeholders with different perspectives prioritize
either individual animals or ecological processes. These three themes are interconnected in many ways, and both separately and together they run throughout our discussions in the previous chapters. We use these points to tie the different threads of this book together and also to propose practical steps that scientists, cat advocates, conservationists, and local communities can take to address the issues in a constructive and effective way.

**FRAMING AND COMMUNICATION**

The different issues regarding outdoor cats are interconnected, so it is difficult to separate the various threads. In particular, the ways we frame and communicate about issues influence and are influenced by our thinking about all the other issues, including the public role of science and the value of different aspects of nonhuman nature. Thus we begin our effort to tie together the book’s major arguments with the concept of framing, which also will enter into the subsequent sections.

As we noted earlier, the concept of framing is ubiquitous in the social sciences. Simply put, framing describes the ways that the media and other sources of information focus attention on specific topics or events and describe these topics or events to others—the “others” in this examples are often identified in communication theories as the “audience” or “receiver” of the message or frame. Framing can help audiences sort through multiple messages to decide how to process, organize, and prioritize information. Because frames are socially constructed, they are driven by the goals, agendas, and biases of the people who create them and promote them. In addition, frames can intersect with the audience’s own biases. Audience bias can contribute to the rejection of or selective interpretation of evidence or information that contradicts their own opinions and views.

We believe, as philosopher of science Donna Haraway (1991) puts it, that all knowledge is “situated,” meaning that we can only know from our particular situation and experiences. This means that framing is inevitable, because there is no “view from nowhere.” While framing is a fact of life for embodied, limited beings, that does not mean that we should give up efforts to pursue what Haraway calls “better accounts of the world, that is, ‘science’” (p. 196). Scientists, ethicists, and citizens can all seek better knowledge, particularly through critical, constructive discussions that engage as many positions and perspectives as possible. We return to this theme in subsequent sections.
Here, in relation to the issue of framing, we want to emphasize a two-fold argument. First, we have to acknowledge that all the parties involved in the cat debates are reading the data and building their arguments with the help of distinctive frames, which are not shared with, and sometimes are diametrically opposed to, other readings of the situation and the available evidence. The perspectives of both bird advocates and cat advocates are situated, partial, and subject to what social scientists term confirmation bias. Confirmation bias occurs when we read and evaluate data in ways that support our previously held convictions. We see many examples of this in the cat debates. For example, wildlife managers and conservation scientists sometimes seem to read all the evidence through the lens of their prior conviction that cats are ecologically damaging and must be removed. In chapter 3, we mentioned research conducted on Reunion Island as an example of the way framing may shape the ways that readers interpret and use science, but also the ways that scientists present it and make recommendations about conservation action. An article about the research asserts that cats are a significant threat to endangered petrels and that there is an “immediate need to establish conservation procedures to reduce the feral cat population and so limit their harmful effects on petrels.” According to the authors, such “conservation procedures” should include “permanent poison baiting and trapping” (Faulquier et al., 2009, p. 334). Although the article concludes with a call for lethal control of cats, careful reading shows that, according to the authors’ own research, petrel populations face additional threats, including light-induced mortality of fledglings. The emphasis on cats and the attenuation of other sources of harm to petrels is an example of confirmation bias contributing to selective framing that supports the authors’ previously held convictions about cats.

Framing and confirmation bias can, perhaps unconsciously, shape the ways that scientists conduct and interpret research. This kind of framing can be problematic logically if conclusions do not appear to follow directly from the evidence. It also is problematic practically, because it can lead to counterproductive management strategies if lethal cat control is implemented without addressing other problems. Thus, selective framing also could prompt further criticism from cat advocates who claim that environmental managers and wildlife advocates are focused on cat impacts without acknowledging other sources of environmental risk.

The authors of the study on Reunion Island also note feral cats on the island consume large numbers of non-native rodents, who are also a
threat to petrels, and that eradication of cats could trigger “mesopredator release,” with possibly dire consequences (Faulquier et al., 2009, p. 335). Mesopredator release refers to population explosions in animals such as rats, lizards, or snakes that serve as both prey and predator. Cats often consume mesopredators, some of which are non-native and ecologically destructive. A study of the “mesopredator release effect” in island ecosystems found that “although counter-intuitive, eradication of introduced superpredators, such as feral domestic cats, is not always the best solution to protect endemic prey when introduced mesopredators, such as rats, are also present” (Courchamp et al., 1999, p. 282). Another article echoed this point: “non-indigenous predators and mesopredators can become important components of island food webs—so important that their subsequent removal can have repercussions felt throughout the entire food web” (Cadotte, 2009, p. 259). For logistical and practical reasons, it is important that scientists and policymakers consider all the possible consequences of lethal cat management, including public resistance to this approach, mesopredator release, or explosions in populations of destructive, non-native prey animals (e.g., rabbits in Australia) (Sutherland et al., 2011). While it is never possible to know all the effects of a given program, it is important to take the foreseeable ones into account and shape policy on the basis of a holistic understanding of both ecological and social factors, rather than treating any single one in isolation.

Our point in citing these complications is not to suggest that outdoor cats cause no ecological damage. There is clear evidence that in certain cases, they do. However, other issues are almost always involved in the decline of any native species, and ecological science should not fixate on a single factor. Even when cats do prey on endangered native species, they are almost never the only threat. A study of endangered woodrats in Key Largo, for example, found that the most important variable influencing woodrat population was the availability of natural and artificial nest materials. The next most significant variable was the density of predators, including cats and also raccoons, a native species whose population was strongly correlated with human food sources (Winchester, Castleberry, & Mengak, 2009). In a situation like this, it would be counterproductive to conclude that the woodrats will be protected if we merely eliminate feral cats in the area. Even if there were no humanitarian reasons to care about the fate of the cats, lethal cat control is not a panacea for complex ecological problems.
We do not want to give the impression that framing and confirmation bias are problems only for bird advocates and conservation biologists. To the contrary, cat advocates are just as prone to interpret the data through their own lens. Most insist that cats simply do not kill enough birds and other native animals to pose a serious ecological threat and that whatever threat exists can be fully addressed through TNR. As the ASPCA puts it, “even if the presence of cats is shown to impact wildlife, community cat programs, which have as their goal a humane reduction in cat population, remain a desirable solution to minimizing any actual (rather than perceived) threats to other species” (ASPCA Position Statement, n.d., para. 20). While this is probably true for certain settings, especially disturbed urban or suburban settings, there is abundant evidence that in more fragile ecosystems, especially on islands or coastal areas, cats are significant threats to endangered species.

Evidence about cat predation is not the only data that matters in the “cat wars.” Another debate rages over different management options, and especially about the effectiveness of TNR programs in reducing the population of free-roaming cats. Some research suggests that TNR programs are not successful in reducing cat populations or the expansion of cats’ territories in ecologically sensitive areas (Guttilla & Stapp, 2010; Levy & Crawford, 2004). In some cases, however, TNR programs do appear effective in this regard, especially when combined with efforts to adopt out colony cats who are friendly to humans (Levy & Crawford, 2004). However, other research shows that TNR programs are, at best, ways to stabilize outdoor cat populations, not tools for radically diminishing them. This may not be a problem in already disturbed settings, where cats do not necessarily prey on endangered species. In other locations, however, maintaining a stable cat population is a recipe for extinction.

The different parties involved in the debate over outdoor cats not only interpret the evidence in different ways but, even more basically, they begin with different questions and different criteria. TNR advocates, on the one hand, may define a successful program as one that stabilizes the population of outdoor cats and prevents outbreaks of communicable diseases. For bird conservation advocates, on the other hand, a successful program would lead to a radical reduction or even the complete elimination of outdoor cat populations. With such divergent measures, it is no wonder that the two sides do not agree on what the data says.
Both sides in the cat debate insist that empirical evidence should shape ethical and policy positions. And both claim that the science supports them in a polarized, all-or-nothing battle. Just as the Audubon Society insists that science is on their side, so Alley Cat Allies assert that their position is driven by a “science-based approach” (Alley Cat Allies, n.d.-c). This apparent paradox is the result of beginning with predetermined positions on crucial moral questions such as who has value and what counts as success. Both sides already know what they prioritize, and they read the science from that perspective. If birds and other native wild animals have primary value, then it is not hard to find evidence that cats cause them harm. If cats have primary value, on the other hand, it is equally easy to find evidence that cats are often a negligible factor in ecological decline. Both sides, in short, can find support for their positions from the wide-ranging, far from systematized research on cat predation and TNR.

Given the reliance on divergent frames and disagreement about what the data says, or even what the problem is, it is no wonder stakeholders involved in the debate about outdoor cats cannot agree on the best practical programs to implement. These theoretical disagreements are not the only problem delaying pragmatic solutions to the cat debate, however. Divergent readings of the data and confirmation bias polarize the debate further when they employ the kind of heated rhetoric that we have discussed throughout this book.

The fact that the sides seem so entrenched and so divided raises the question of whether it is possible for partisans in the cat debate to be persuaded, by any method or approach, to change their minds about the issue. The possibility that their positions are so entrenched that they cannot be changed is troubling, both because it reduces the chances for achieving a consensus in support of sound policies on this problem and, more broadly, because it points to internal contradictions in the positions of all parties involved. On the one hand, they both claim that they have developed their positions on the basis of sound empirical evidence and that their management proposals (TNR or lethal control) logically follow from this evidence. On the other hand, both dismiss “scientifically based” arguments that contradict their own. It is tempting to say that they cannot both be right about having science on their side, but we believe that it is more complicated. Both do have science on their side, to some extent. By this we mean that there is reputable (peer-reviewed, rigorously conducted) research that shows that outdoor cats kill native wildlife. There is also legitimate research
that shows that TNR programs help stabilize populations of outdoor cats, on the one hand, and that such programs do not substantially reduce the numbers of cats, on the other.

One possible interpretation of these divergences is that the research on outdoor cats cannot lead to generalizations, because it has been conducted in different locations, with different methodologies and interpretive frameworks. If that is the case, then the only scientifically sound solution seems to be locally based programs, depending on the distinctive circumstances of each setting. In places where research shows that cats have little impact on native wildlife, for example, TNR programs may be a good option. In other locations, where research shows that cats are preying on native songbirds or endangered wildlife, then communities may want to consider more drastic solutions, such as intensive relocation or humane euthanasia. We return to these discussions later in this chapter, when we focus on practical policy solutions.

While it is true that the research varies in part because cat predation varies widely, this is only part of the story. Other factors also enter into the contradictory conclusions of “science-based” interpretations on both sides of the argument. It is not just that the evidence varies from place to place, but also that the evidence looks different depending on who is interpreting it. In the cat debate, as in countless other controversies, many people on both sides seek and interpret evidence through the lens of their predetermined opinions. While no one can escape confirmation bias entirely, it is possible to actively seek to minimize its influence in settings such as the outdoor cat debate.

One crucial step toward minimizing confirmation bias and pursuing consensus is to listen to the other side. Again, this sounds far simpler than it is. It requires setting aside certainty about our own convictions, for a start, which can be especially hard for scientists and other professionals who have devoted much time and energy to studying a particular problem. Listening also demands that we stop viewing our adversaries as stupid, ignorant, or badly intentioned. In short, listening requires framing the conflict not as a fight between good and evil, but rather as a disagreement between people with good intentions, all of whom sincerely believe that their positions are well-supported by science, morally sound, and practically effective.

It sounds as though we have suggested that reframing requires reframing—and to some extent, this is true. What we mean is that in order to move beyond the polarized, stagnant state of the current debate, we need
to see the “other side” differently. We have to reframe the people, in other words, so that we can talk—and listen—to each other, and only then can we reframe the cat debate into a manageable problem. This reframing of the debate hinges in large part on the ways we think about science, including its role in public policy and also the ways scientific research is conducted—by whom, in what circumstances, and for what ends.

**SCIENCE IN THE PUBLIC SPHERE**

The role of scientific data is both critical and complicated in many contemporary issues, from climate change to health care. It is critical because almost everyone involved in the issue believes that scientific research and evidence are relevant to moral judgment and policy decisions. It is complicated because, as we noted above, partisans on all sides claim that the evidence supports their position and, at the same time, frequently discredit the evidence cited by their opponents as biased, inaccurate, or irrelevant. Selective framing and confirmation bias would thus appear to doom the place of science to a supporting role, not something that people use to develop their arguments, but rather something sought after the fact, to bolster predetermined positions. The debate about outdoor cats is an excellent case study for thinking further about these issues, including the hazards of using science in public debates as well as the prospects for more constructive approaches.

In the cat debate, as we have discussed throughout this book, there are two primary issues on which people disagree about the data: first, cat predation, and second, the effectiveness of management options (TNR or lethal control). On both these issues, people on each side claim to have the weight of evidence on their side. Bird advocates and environmental scientists who oppose TNR assert that cats are “the single greatest source of anthropogenic mortality for US birds and mammals,” (Loss et al, 2013, p. 1). This dire conclusion is based on estimates of “the magnitude of bird and mammal mortality caused by all cats across the contiguous United States” (Loss et al., 2013, p. 2). However, these estimates make big assumptions about community-level variables, as well as cat and bird behavior across urban and rural contexts. This approach is related to the problems of framing and confirmation bias. On this issue, as on so many, people’s prior values and worldviews shape not only their reading of the data, but
Bird-lovers, of course, are not the only ones who choose and interpret scientific evidence selectively. Animal welfare and cat advocates often ignore or minimize the evidence that, in some settings, cats do prey on native wildlife, sometimes to a dangerous extent. At best, they describe the literature as inconclusive. For example, the ASPCA (n.d.) position statement on community cats asserts that “scientifically-based knowledge of the success of cat or other predator removal is incomplete” (para. 21). Most discussions of wildlife by cat advocates shift the focus from cat predation to the fact that humans are the primary threat to wildlife, suggesting that “community cats are, at times, erroneously singled out as a convenient target” (ASPCA, n.d., para. 19). Alley Cat Allies puts it more strongly, asserting that despite scientific evidence that other anthropogenic threats are more significant, “we still see—in the press, in non-peer-reviewed publications, and in public policy—people blaming wildlife decline on cats. Sidestepping the issue of human destruction to focus on trivial but sensational issues, such as the so-called ‘cat versus bird’ debate, only diverts attention away from the enormous and far more dangerous impact of humans” (Alley Cat Allies, n.d.-c, para. 3).

These examples suggest, to a cynic, that “science” is not that different from the Bible, insofar as people can find in it evidence to support whatever position they want to advocate. But is science really that subjective and fickle? We do not think it is. Some accounts of the world—and of birds, cats, and humans—are better than others. The questions we need to answer are how these better accounts are produced and how we can identify and evaluate them. While there is no hard and fast rule, we suggest five principles that can assist in evaluating competing accounts and also in developing pragmatic policies.

First, science is evidence-based. This phrase, which is central to discussions about the role of science in public policy today, raises almost as many questions as it answers. Which evidence? Produced by whom? For what reasons? Answering these questions is important for the credibility of scientists, for the improvement of public debates, and also for achieving effective solutions that can garner widespread community support. We believe that there is a need for greater transparency in scientific communication and research about outdoor cats, including constructive discussions with people and groups affected by the issues at hand.
Second, science must be holistic. By this we mean that it should look at the big picture, not just focus on one angle, or one perspective, or one piece of the problem. A good example of holistic thinking would be taking into account the challenges of mesopredator release as a consequence of eradicating larger predators such as cats. Not all research or every publication can look at all aspects of a problem, but scientists and policymakers alike can draw on a wide range of data and interpretations with the goal of producing the best possible picture of the problem. To focus narrowly on a single piece, such as cat predation, does not acknowledge the complexity of ecological systems or lead to policies that can adequately address this complexity.

Third, we believe science should be inclusive and democratic. This does not mean that scientific validity should be subject to popular vote, but it does mean that the people who care about and are affected by an issue ought not only to have a role in the development of policy proposals, but also, where possible, to participate in the collection and analysis of scientific data. This proposal is supported by a number of organizations and researchers (Cooper, Loyd, Murante, Savoca, & Dickinson, 2012; HSUS, 2012).

Fourth, science should be aware of the dangers of confirmation bias and strive to avoid it, to the extent possible. As we noted in the previous section, this process can begin by listening to opposing viewpoints. Such conversations not only provide important information, but also humanize the adversary. We may never achieve an ideal of rational, transparent public debate, but we can certainly do better than the current state of name-calling and dismissal.

Fifth and last, science can inform policy by identifying pragmatic and problem-solving solutions to polarized debates. Attacking the findings and motives of other scholars does not contribute to effective solutions, nor does framing research in such a way that it inevitably reinforces the researchers’ prior convictions. Holistic, democratic, and transparent research practices and communication have the best chance of informing policy that can attain widespread support and address problems in effective ways.

NATURAL VALUES

The debate about cats is about science and policy, but it is also about ethics. More precisely, it is about how we value nature and animals, the reasons we value them, and the ways we prioritize and choose between competing
claims. As we discussed in chapter 3, the conflicts over outdoor cats raise some of the important issues at stake in environmental and animal ethics today. These include (but are not limited to) the relative value of individual sentient creatures and larger ecological wholes, such as ecosystems and species; the complicated boundaries between categories such as wild and domestic or native and invasive; the moral implications of killing healthy animals for a greater good; and even the relationship between political democracy and environmental protection. For these reasons, we believe that examining the moral dimensions of the debate can shine light, more generally, on the ways we think about nature and animals, the reasons we find them valuable, and the practical implications of these ideas.

First, both sides—all sides—in the cat debate care about nonhuman animals and nature. The shorthand “cat-lovers” and “bird-lovers” greatly oversimplifies the issue, but it does point to this important truth. This is also evident in the attempts of major animal welfare organizations, including the Humane Society of the United States and the ASPCA, to walk the delicate line between wildlife and cat advocates, acknowledging the legitimate concerns of both even while supporting TNR as the best solution in most circumstances. The reason that people who share a deep commitment to protecting nature and animals can disagree so vehemently is that nature has many different meanings. Thus the divisions between outdoor cat advocates and their critics is not, simply, over the question of whether nature has value. They agree on that, but they diverge wildly on a host of smaller issues, such as how to define nature, what aspects of it are most significant and valuable, the reasons these have value, and the obligations of humans.

As we have noted, among the most important features of the conflict are the questions of scale—individuals or collectives—and the place of domestic animals. To oversimplify, again, “bird-lovers” tend to place primary value in ecological wholes such as species, populations, or ecosystems. They also tend to define natural value in relation to wild, native species and the ecosystems in which they live. Domesticated and non-native species, including outdoor cats, are “invaders” who threaten these ecosystems and their constituent species.

In contrast, “cat-lovers” tend to value individual animals, based not on their parts in or contributions to a larger whole, but rather on their intrinsic qualities, such as sentience, sociability, intelligence, or beauty. From this perspective, the distinctions between wild and domestic or between...
native and non-native are less significant than the qualities that give individual creatures value. Because both cats and birds (and rodents, reptiles, and other prey animals) all have value, it is not morally justifiable to kill members of one species in order to protect others. Many cat advocates, further, do not only believe that the various species involved all have value, but prioritize cats based on their history of relationships with humans, their intelligence or beauty, or other qualities that are not related to their place in larger ecosystems. This strengthens their conviction that lethal control is not a morally acceptable way to solve the problems, whatever they are, created by outdoor cats.

A number of environmental philosophers believe that the two positions may be impossible to unite—or that such efforts will lead to what Mark Sagoff (1984) termed a “bad marriage” and “quick divorce.” From their perspective, it is impossible to balance concern for individual creatures and ecological wholes without ultimately choosing one at the expense of the other. Sagoff and most environmental philosophers believe that whenever there is a conflict, and they see many, it is necessary to prioritize ecological wholes. This leads to positions in support of lethal control of feral animals who appear to threaten native species, from goats destroying rare wildflowers to cats killing songbirds (rare or not). Because their underlying values are fundamentally opposed, any “marriage” between animal and environmental advocates will inevitably end in discord.

We acknowledge the deep disagreements between the parties involved in the debates about outdoor cats, and we do not envision any simple or easy reconciliation. In fact, no final reconciliation, in a philosophical sense, may be possible. We do, however, believe that the two sides share some common values and interests, and that on the basis of these, it is possible to find common ground. The commonalities can be identified only if we set aside polarizing language and adopt a pragmatic approach that seeks to solve problems despite foundational philosophical differences.

CONCLUSIONS AND LOOKING AHEAD

While we do not believe there is any single definitive resolution to the debates regarding outdoor cats, we do believe that better conversations and better policies are possible. Such constructive solutions must be, first and foremost, supported by evidence-based science. However, this is not
a transparent term—while it is used frequently, it means different things to different people. Evidence-based science does not imply science that is value-free or unambiguous, which is not possible. However, evidence-based science does have some basic requirements. First, it must be peer-reviewed. Second, it must attend to local variations and uncertainties. Third, it must acknowledge the biases and positions of the researchers. Scientists, like philosophers and activists, are prone to the same limitations and errors as all humans, and we will not find common ground if one side believes that only their adversaries are fallible. Nor will we advance toward effective policies that have widespread support if one side calls the other names like “crazy” or “perverted.” Both cat advocates and bird advocates, and their allies, have been guilty of this behavior, even though it is obviously counterproductive.

A much more productive approach is to use evidence-based, transparent science as a necessary grounding for effective programs that can, in turn, gain widespread support from diverse constituencies. One way to pursue such programs is to democratize the process of gathering and interpreting scientific data, through citizen science, public forums, and better communication by scientists and their allies. Consensus must also be based on explicit attention to the values, worldviews, and contexts (such as a history or conflict and distrust) that shape not only public reception, but also the work of professional scientists.

Just as we look for philosophical and moral common ground, we can look for some practical common ground. While much work remains to be done, we can already identify some practical programs that should receive widespread support from all parties involved in the cat debates. These include, first, better research, using consistent methods so that we can assess crucial issues such as the kind and number of animals killed by outdoor cats, cats’ roles in complex ecosystems (e.g., in relation to mesopredators), the effectiveness of TNR at reducing or at least stabilizing cat populations, and the differences in cats’ roles in divergent settings (e.g., fragile island preserves vs. city neighborhoods). We also need better data about the consequences of eradication programs where they have been done. In order to collect and evaluate this data, both bird and cat advocates can and should participate.

In the end, we do not envision a “one-size-fits-all” answer to this problem. Each community may need to find its own particular path, with the guidance of evidence-based science and a commitment to open-ended, compassionate, and transparent conversations. However, we do believe
that the principles we have outlined for better policy debates, better public conversations, and holistic, democratic science can contribute to effective solutions to the cat debate and other polarized environmental conflicts.