

# INTRODUCTION

## After the Anthropocene

Geologists argue that our planet has entered the Anthropocene.<sup>1</sup> A new epoch began once humans became an earth-changing force, capable of leaving their signature in the fossil record.<sup>2</sup> There is a growing acceptance of this term among scientists, politicians, and other elites, which accompanies a recognition that there are few places, forms, and processes on this planet that do not bear the traces of human activity.<sup>3</sup> This is not, however, the triumph of Enlightenment science. Nature has not finally been known, tamed, and rationally ordered. Instead, the unforeseen, deleterious, and unequal consequences of these planetary activities are an established source of concern.

This diagnosis of the Anthropocene is revolutionary, akin to the shocking thoughts of Copernicus, Lyell, and Darwin.<sup>4</sup> Many cultures are still coming to terms with an understanding of the world as ancient, one of many and not built for us. Evolution continues to prove challenging to familiar figures of the created or at least uniquely social human. Now, we are being depicted as geological actors, entangled within and responsible for a powerful, unstable, and unpredictable planetary system. Unsurprisingly perhaps, for some publics the magnitude and consequences of our geological entanglements are proving hard to accept.<sup>5</sup>

The possibility of human planetary impacts provokes less cognitive dissonance among conservationists—who are the focus of this book. Such impacts have been staple concerns since at least the nineteenth century. But the diagnosis of the Anthropocene challenges the modern figure of Nature that has become so central to Western environmental thought, politics, and action. Here, Nature is a single, timeless, and pure domain untouched by Society, or at least the actions

of modern humans. This Nature can be known by objective Science and defended and restored by rational environmental management.<sup>6</sup>

In the reading I offer here, the Anthropocene describes a very different world. This world is hybrid—neither social nor natural. It is nonlinear rather than in balance. Futures will not be like the past and will be shaped by human actions. Multiple natures are possible. Science will be complicit in this modification and is political. There are multiple forms of natural knowledge—not all of which are scientific or even human—informing a myriad of discordant ways of living with the world. The result is a proliferation of knowledge controversies. This knowledge politics is unequal and relates to distinct forms of political economy. In short, there is no single Nature or mode of Natural knowledge to which environmentalists can make recourse. The Anthropocene is multinatural.<sup>7</sup>

This account differs markedly from popular approaches to environmentalism emerging after the diagnosis of the Anthropocene. As Paul Wapner explains, these have tended to cleave in two seemingly divergent directions.<sup>8</sup> The first, the “dream of mastery,” presents the Anthropocene as an economic and scientific opportunity necessitating more modernization—more knowledge, more technology, and better (i.e., more rational) forms of social and environmental organization. Here, impending disaster legitimates accelerating projects for global science, global markets in ecosystem services, and authoritarian interventions for geoengineering:<sup>9</sup> a final, optimistic modern leap to reconcile humans and the environment under the aegis of sustainable development. This is business as usual for ascendant free-market environmentalism.<sup>10</sup> In Wapner’s second direction, the “dream of naturalism,” the geology confirms the unnatural character of modern, urban, industrial society. The Anthropocene legitimizes various modes of retreat: renaturalization based on a return to some premodern or even prehistorical state revealed through a valorization of traditional/indigenous knowledge.<sup>11</sup> This is business as usual for modes of deep-green (and generally North American) environmentalism.

In spite of their differences, these environmentalisms have common flaws. They preserve the Nature–Society binary, valuing either “worlds without us” or domesticated environments subsumed to the

logics of market exchange. In so doing, they share a totalizing and anthropocentric belief in the power of science and technology to either destroy or manage the earth. This relies on a linear understanding of time, configured around an axis of human progress and decline. The power afforded the Anthropos in these accounts is misplaced and hubristic. It first neglects our persistent vulnerabilities to the earth's unruly geopower manifest in earthquakes, tsunamis, and other geological hazards.<sup>12</sup> Second, it downplays the biopower and resilience of life itself, which continues to elude Promethean aspirations for planetary management and will no doubt survive even the most extreme scenario for a warming world.

These approaches share political flaws. As a growing body of critical work makes clear, scientific invocations of a planet-shaping Anthropos summon forth a responsible species—or at least an aggregation of its male representatives. A common “us” legitimates a biopolitics that masks differential human responsibilities for and exposures to planetary change.<sup>13</sup> It justifies authoritarian governance by a cadre of (largely white, male, and Western) scientists and politicians. It effaces a vast range of alternative ways of knowing and valuing the world.<sup>14</sup> The dream of mastery denies nonhuman claims on the planet,<sup>15</sup> whereas the return to Nature denigrates life forms emergent from and dependent on human care; there is no place for domestic and feral species in the wilderness.<sup>16</sup> This politics is facilitated by a common temporality of impending apocalypse that accelerates action and forecloses on due political process.<sup>17</sup>

These are damning criticisms, fatal perhaps. But the Anthropocene is still a young and immature concept. It has terminological deficiencies and political problems. It has had an awkward genesis, but I don't think it is irrecoverably flawed. In this book I want to harness the potential of its epochal diagnosis to deliver a necessary shock to environmental thought—a shock that has been foretold by a range of critical work in the social sciences that I introduce below. I write about conservation after the Anthropocene in a dual sense: first, at the present juncture after the event of its shocking diagnosis; second, to sketch a future mode of environmentalism for life after the deficient planetary relations the Anthropocene describes.

Here, I am especially drawn to an account of the Anthropocene produced by its conceptual architects, which identifies three periods in the short history and imagined future of the epoch.<sup>18</sup> These first two are familiar and describe the Industrial Revolution (1800–1945) and the subsequent “Great Acceleration” in the processes initiated by industrialization. They argue that a third phase, entitled “Stewards of the Anthropocene,” is beginning, as “humanity is, in one way or another, becoming a self-conscious, active agent in the operation of its own life support system.”<sup>19</sup> In a rather arbitrary periodization, that is nonetheless convenient for the publication of this book, they suggest that this phase will start in 2015. They identify three future scenarios, the first being business as usual followed by two contrasting modes of stewardship involving mitigation and geoengineering.<sup>20</sup>

This account suffers from many of the problems identified above. Critical social scientists will find it rather too grandiose, technical, and apolitical. But it is heartening for its optimism and ambition and is useful in identifying the present as a key tipping point in planetary governance. Here, I propose an alternative scenario: that the diagnosis of the Anthropocene and the popularization of the “end of Nature” has the potential to value and catalyze modes of “stewardship” based on diverse, reflexive awareness of the always-entangled nature of humans with their environments, the indeterminacy of ecology, and thus, the contested nature of any aspirations toward environmental management—from the local to the planetary scale. Perhaps we could push the zeitgeist for geological epochs a bit further and propose a new epoch after the Anthropocene: the Cosmocene.<sup>21</sup>

The Cosmocene would begin when modern humans became aware of the impossibility of extricating themselves from the earth and started to take responsibility for the world in which they lived—turning to face the future, rather than running from the past, and acknowledging, building, and absencing from relations with all the risky, sustaining, and endearing dimensions of the planet. The Anthropocene would become a staging point, the threshold at which the planet tipped out of the Holocene before embarking upon a post-Natural epoch of multispecies flourishing with its own, perhaps less dramatic, stratigraphy.

## CONSERVATION

This is a grand, bold promise no doubt beyond the scope of a single book. I explore its potential through a partial and more modest engagement with nature conservation and the governance of the biological dimensions of life on earth. This book is not a synoptic survey of contemporary environmentalism, nor will it have much to say about the “geo” and the wider range of “planetary boundaries” threatened by the Anthropocene.<sup>22</sup> Nonetheless, conservation offers an exemplary domain of environmentalism for my analysis. It is a historic, well-established, and globalizing enterprise well aware of human impacts. It is steeped in Nature thinking and involves science, politics, and practical encounters with life that are characterized by Wapner’s dreams of both mastery and naturalism.

Traditionally, and still most commonly, conservation is reactive. It seeks to preserve a fixed Nature from modern, urban, and industrial Society by enclosing it in National Parks. These take the form of prehistorical “wilderness” in North America and much of Africa and South Asia or premodern countryside in Europe. This involves a combination of natural science and romantic iconography. It conjoins aristocratic patronage and state and civil society bureaucracy. Increasingly, though undoubtedly ambivalently, conservation is embracing the market. The past twenty years have seen the proliferation of financial, administrative, and biological technologies for commodifying Nature—from ecosystem services to ecotourism to gene banks. Under the guise of naturalism or mastery, both of these approaches seek control over human and nonhuman life.

My aim in this book is to develop and illustrate a multinatural approach to conservation after the Anthropocene. Its principal contributions are fourfold. I first offer an alternative ontology that conservationists might use in place of Nature. This acknowledges the hybrid and lively character of a world animated by a vast range of human and nonhuman difference adhering to multiple and discordant spatio-temporal rhythms. Second, I present conservation as a set of embodied and skillful processes of “learning to be affected” by the environment.<sup>23</sup> This offers a realist epistemology that attends to the multiple, uncertain, and experimental processes through which

natures are known. I examine both in situ encounters in the field and those mediated by the “fingery eyes” of moving imagery.<sup>24</sup>

Third, this leads to an environmental politics that acknowledges multiple forms of expertise and value. Not all of these are human; little is rational or instrumental; and there is frequent discord. I begin to explore the politics of conservation that cannot make recourse to Nature. Fourth, I explore conservation as modes of biopolitics shaping future worlds through the operations of assemblages of scientific knowledge, administration, and practice. These modes have different aims and take place in contrasting political–economic formations. I critically examine a range of contemporary forms of conservation to find a way between the twin poles of mastery and naturalism. I conclude with some positive suggestions for conservation in the Cosmocene. This is premised on the flourishing of difference, involving the conduct of multiple, often antagonistic, and unpredictable actors and forms of expertise. This book is part critique, part manifesto. It is upbeat and offers constructive criticism to open a conversation with conservation.

The theoretical arguments in the book emerge from and are illustrated by over a decade of research on nature conservation. I draw on the general conservation literature, including scientific papers, policy documents, and grey literature and popular media. I supplement this with data generated through three substantive, interwoven, and ongoing pieces of original fieldwork. Together, these cover a range of important knowledge practices, types of management, and forms of political economy in conservation. My research and, thus, my argument are largely focused on developments in the United Kingdom, continental Europe, and South Asia, but the trends discussed are often global and applicable in other regions.

The first piece of research comprised an investigation of the invention of biodiversity as a new way of organizing international conservation and its arrival in the United Kingdom in the 1990s. It features an overview of the sector and case studies of the conservation of the corncrake and low-intensity agriculture in the Scottish Hebrides and of urban conservation. The second set of materials stems from an examination of international conservation volunteering from the United Kingdom, focusing in particular on Asian elephant conservation in

Sri Lanka and other parts of South Asia. The third project is an investigation of historical and current enthusiasms for “rewilding” and “dedomestication” in European wildlife conservation, with a specific focus on the Oostvaardersplassen—a polder in Netherlands.

I provide a more extensive summary of the structure of my argument at the end of this chapter. Before doing so, I introduce some of the key concepts that inform my analysis.

## WILDLIFE

To ground a multinatural approach to conservation, I revive and rework the term *wildlife*—a rather antiquated word associated with prebiodiversity natural history. I develop an understanding of wildlife that was first presented by Sarah Whatmore in her influential *Hybrid Geographies*.<sup>25</sup> In wildlife I find an alternative ontology to Nature to inform future environmentalism. An ontology is a theory of what the world is; it establishes key categories, relations, and processes. Wildlife might not seem like an obvious place to start. There is a common assumption that the end of Nature equates to an end to wildness, a domestication of the planet.<sup>26</sup> This is the case only if we accept the mapping of wildlife to wilderness, to places defined by human absence.<sup>27</sup> Instead, wildlife lives among us. It includes the intimate microbial constituents that make up our gut flora and the feral plants and animals that inhabit urban ecologies.<sup>28</sup> Risky, endearing, charismatic, and unknown, wildlife persists in our post-Natural world. Unlike Nature, wildlife also suggests processes. It describes ecologies of becomings, not fixed beings with movements of differing intensity, duration, and rhythm. Wildlife is discordant, with multiple stable states. It is not in any permanent balance. It is shaped by but divergent from the past, multinatural in its potential to become otherwise.

I develop this ontology of wildlife in more detail in the following chapter, which reviews parallel and interdisciplinary developments in the social and natural sciences. I build first from the writings of Bruno Latour, Donna Haraway, and Gilles Deleuze, who in different ways challenge the modern Nature–Society binary and the political settlement to which it has given rise. I engage with a wider literature in which their thought has been developed to offer multinatural and

more-than-human grounds for environmentalism. Here, I build in particular on a body of work within my own discipline of geography by scholars such as Sarah Whatmore, Steve Hinchliffe, and Bruce Braun. Their analysis of the problems of Nature precedes the popular diagnosis of the Anthropocene, making comparable observations about the fundamental hybridity and nonlinearity of the planet.

I bring this work into conversation with writings from the conservation sciences. The diagnosis of the Anthropocene has coincided with and energized a period of soul searching, dispute, and realignment within the conservation movement.<sup>29</sup> There is a popular recognition that conservation is failing. In spite of its dramatic growth as a form of governance in the twenty years since the Earth Summit in Rio, biological diversity continues to decline. A growing awareness of the present and future trajectories of agriculture, climate change, and invasive species has led many conservationists to acknowledge the impossibility of saving a pure and timeless Nature. Instead, they focus on the “novel ecosystems” of the Anthropocene.<sup>30</sup> I draw in particular on the excellent account of this new paradigm offered by Emma Marris in *Rambunctious Garden: Saving Nature in a Post-wild World*—though I reverse Marris’s terms for what has been lost and what should be saved.<sup>31</sup>

For the later decades of the twentieth century, critical social scientists largely avoided positive articulations of ontology due to concerns with their disciplines’ unsavory histories of biological and environmental determinism. These claimed natural causes (e.g., race or climate) for social phenomena (e.g., development), placing them beyond politics. It was sufficient to debunk such claims as social constructions. Ontology was left to the scientists. The result was the realist-versus-idealist (or relativist) impasse that plagued debates between the social and natural sciences in the 1990s. This was true with work on conservation, which reveled in deconstructing claims for authentic Nature and the modes of management they naturalized.<sup>32</sup> But once hybridity had been revealed, this work had little to say about the character, dynamics, or desirability of different material worlds.<sup>33</sup> An ontology of wildlife helps move beyond this impasse, offering a positive, realist, but nondeterministic ontology to inform interdisciplinary science and debate.

## WILD EXPERIMENTS

A hybrid and discordant ontology of wildlife has important epistemological and political implications for conservation. Cast off from the certainties of Nature, how are past and present ecologies known? How might their futures be predicted? What should be conserved if multiple futures are possible? Who should decide and through what processes? To engage these questions I offer an epistemology of conservation as comprising a series of wild experiments—speculative practices unsure of future outcomes. I first draw on work developing a “more-than-representational” account of knowledge practices.<sup>34</sup> This approach undermines the Cartesian separation between a rational human mind and an instinctive animal body. It challenges the prevalent figure of the Human scientist as a “brain-in-a-vat”<sup>35</sup> sensing the world through disembodied vision and draws attention to the importance of affect—the precognitive sensory mechanisms, perceptual energies, and feelings that link bodies in encounters.<sup>36</sup>

I develop this work to present conservation as tentative and skillful processes of “learning to be affected” by a target organism or ecology, disciplining one’s body to tune in to its forms and dynamics.<sup>37</sup> Concentrating in particular on field science, I attend to the embodied, multispecies encounters through which the flux of wildlife gets sensed, known, and represented in conservation. I extend this analysis of affect to present conservation as a passionate practice, energized by the enthusiasms of scientists, volunteers, and other publics in their quest for valued encounters with other species. Conservation is not rational, solely motivated by the instrumental desire to secure the delivery of ecosystem services.

Instead, I identify a range of “affective logics” that frame interspecies encounters in conservation.<sup>38</sup> An affective logic describes a habituated mode of engaging with, knowing about, and feeling toward wildlife. These are cultural phenomena emergent from bodily encounters. I configure my analysis of affect in conservation around a discussion of nonhuman charisma. Conservationists frequently talk about the key roles played by charismatic species, but this charisma remains undertheorized. I develop a tripartite understanding of charisma that moves out from the anatomical and ecological properties of the nonhuman in

question to explore the aesthetic dimensions of interspecies encounters with both proximal and distant conservation publics.

These encounters between conservationists, publics, and other species do not occur in a political vacuum. To contextualize these knowledge practices, I figure conservation as proceeding within an assemblage.<sup>39</sup> The concept of an assemblage describes the “stuff of politics”: the material ecology of bodies, technologies, texts, and other materials through which knowledge is produced and ordering takes place.<sup>40</sup> The assemblage of conservation is heterogeneous. In addition to lively human and animal bodies, it comprises nature reserves, fences, and guns; scientific instruments, maps, papers, and databases; legal designations, action plans, and market mechanisms; and films, websites, and online transfers, to give a few examples.

Assemblages allow certain actors to speak for, commodify, govern, and thus shape the world, often in conflict with other representations. Assemblages have inertia. They are haunted by pasts, groove present practice, and serve to anticipate different futures. Assemblages have geographies that perform connections and link bodies and places in multiple spatial, or topological, formations. Assemblages allow elites to act at a distance. Assemblages are always partial and dynamic. They are under way and on the move. The concept of assemblage seeks to convey process, and when conceived as a process, any assemblage is thus potentially unstable. No assemblage is hegemonic.

This approach offers a multinatural epistemology that recognizes multiple ways of being affected by the world, encoded in a range of affective logics incarnated in material assemblages. I develop this approach to explore the knowledge practices of conservation as experimental. Rather than seeking to test explicit theories and hypotheses framed by transcendent archetypes of Nature, these experiments involve an open-ended set of practices likely to generate surprising results. Here, an experiment is a trial or a venture into the unknown.<sup>41</sup> In the field they often involve deliberations with numerous publics and forms of expertise in situations where multiple futures are possible and there is no clear division between lab and field.

Michel Callon and his fellow researchers have explored the various techniques through which publics can be involved in such multinatural experiments.<sup>42</sup> They differentiate “research in the wild” from “secluded

research.” The latter, they argue, is most commonly associated with the lab (though it can take place in the field) and has tended to cut itself off from the publics it subsequently affects. Such secluded research still has an important role, but they argue it should be linked to its publics through engaging in research in the wild among emergent collectives of expertise.

Research in the wild implies neither a disavowal of nor a eulogy to science, bureaucracy, or reason. It helps to bring them into politics. As Jane Bennett has compellingly shown, *wildness* can mean more than thought from outside civilization—the romantic residual in reaction to the alienation of modern life.<sup>43</sup> In keeping with recent reevaluations of the term, I propose an epistemological and political place for wildness at the heart of contemporary life.<sup>44</sup> Here, wildlife is vernacular, everyday, and democratic.<sup>45</sup> It provokes curiosity, disconcertion, and care. It demands political processes for deliberating discord among multiple affected publics.

We can think of the wild as the commons, the everyday affective site of human–nonhuman entanglement. Politics in the wild involves democratizing science, relinquishing the authority that comes with speaking for a singular Nature. Multispecies, often urban, wilds are where political life takes place now that the laboratories of modern science have taken over the world and we have all become caught up in the global experiment that is the Anthropocene. I hope to show how political–ecological experiments in such wilds offer new ways of conceiving and practicing environmental politics and of living with human and nonhuman difference.

In my analysis of the political ecology of conservation, I am especially concerned with the different values placed upon encounters. I draw on and develop Donna Haraway’s brief discussion of encounter value and the emergence of forms of “lively capital.”<sup>46</sup> The concept of nonhuman charisma helps to develop a taxonomy of encounter value. I engage with the extensive literature on the political ecology of conservation to explore the different ways in which encounters get valued under different modes of political economy. I attend in particular to the commodification of encounters in spectacular modes of neoliberal conservation, identifying the power of commodified flagship species in funding and framing conservation action.<sup>47</sup> I examine the

implications of commodified encounters for the animals, ecologies, and marginal publics subject to this form of conservation practice.

Thinking of conservation as wild experiments means giving up on Nature. This is risky. A fixed Nature, known by Science, is the fulcrum for the territorial, legal, and political gains made by the conservation movement during the twentieth century. A hybrid and immanent ontology could be more conducive to the demands of neoliberal capitalism than a fixed Nature.<sup>48</sup> Multiple fluid natures are perhaps more fungible and amenable to the logics of market exchange. And the recognition of multiple forms of environmental expertise risks undermining the authority of Natural Science—generating “skepticism” and facilitating discord to preserve the status quo.<sup>49</sup> Though Emma Marris has little to say about the politics of her “rambunctious garden,” her book and the wider interventions proposed by the “modernist green”<sup>50</sup> movement in conservation has prompted debate, disquiet, and nascent changes within the sector.<sup>51</sup> These are important issues that I take up in this book and discuss at length in the conclusion.

## BIOPOLITICS AND COSMOPOLITICS

To trace the operations and significance of these experimental encounters, I present conservation as a type of biopolitics, where biopolitics describes a modern form of governance that seeks to secure the future of a valued life (both human and nonhuman) at the scale of the population. Biopolitics involves the systematic, but never totalizing, application of scientific knowledge, technology, and administration. I am particularly interested in how different modes of conservation come to shape different worlds, cutting up the flux of wildlife and performing particular ideas of what life should be saved. I term this process “ontological choreography” after Donna Haraway.<sup>52</sup> I explore how different modes of conservation cut up wildlife according to different knowledges and in the interests of different human and nonhuman actors. Tensions between modes of conservation result in what Anne-Marie Mol has termed “ontological politics,” whose outcomes become vital in shaping the planet in the Anthropocene.<sup>53</sup> In short, my argument is that conservation after the Anthropocene is performative,

actively shaping subjects and ecologies in relation to the knowledge by which it is informed.

In this book I develop a rather eclectic approach to biopolitics, tailored to an analysis of the science, politics, and practice of conservation. Its basic principles are drawn from the work of Michel Foucault, who identifies two “political strategies”<sup>54</sup> original to modern forms of government.<sup>55</sup> The first, which he terms “governmentality,” describes the rise of powerful knowledge practices that construct standardized models of normal, rational, healthy citizens and inform technologies that discipline individual adherence to these subjectivities. Arun Agrawal has reworked this concept to describe the “environmentality” of conservationists’ efforts to create environmental human citizens.<sup>56</sup> I engage with and develop this work to explore how the affective logics of conservation are governed through the mediation and commodification of conservation encounters, under different forms of political economy.

My main interest is in the second political strategy Foucault identifies. This is the emergence of modern forms of “biopower” where the concern shifts from the behavior of individuals to the management of life at the scale of the (often unruly and unpredictable) population. Foucault highlights how modern “biopolitics” involves productive and destructive processes through which life is made to live or left to die. The concept of biopolitics is now commonplace in the social sciences and informs critical analysis of the deployment of natural science to manage populations to secure human and environmental health.<sup>57</sup> Foucault is resolutely human in the foci of his analyses of biopower and notoriously ambivalent about animals and the environment as political problems.<sup>58</sup>

Post-Foucauldian scholars have developed the concept of biopower to identify and analyze the multitude of modes of nonhuman biopolitics that characterize late-modern governance.<sup>59</sup> Perhaps the most well known are Giorgio Agamben’s writings on the “anthropological machine”: the categorical procedure through which lines are drawn between human, political life (*bíos*) and bare, animal life (*zoē*).<sup>60</sup> Agamben is most concerned with the deadly consequences for humans of being rendered animal—what Foucault termed “thanato-politics”<sup>61</sup>

and has little to say about the effects on nonhumans of being rendered *zoë*.<sup>62</sup> This work is important, but as various critics have argued, it is rather too totalizing, anthropocentric and, deathly. It presents biopolitics as the control over life and neglects both the generative dimensions of securing life and the ability of life to do otherwise.<sup>63</sup>

In this book I draw on and develop a range of livelier and more affirmative approaches to biopolitics that are willing to afford some power to the “bio.” One key source is Haraway, who presents biopolitics as processes of “living with”—modes of companionship figured as unequal and power-laden but nonetheless contingent and more-than-human dances of relations through which material bodies learn to be affected by one another.<sup>64</sup> Her approach is more consistent with the ontology of wildlife that informs this book. It culminates in an appeal for a “cosmopolitics”—a concept she takes from Isabelle Stengers—premised on the flourishing of multispecies difference.<sup>65</sup> Although she is interested in the biopolitics of breeds and species, Haraway takes the individual organism (largely dogs) as the unit of her analysis.

Haraway’s cosmopolitics of living with resonates with work in geography by Steve Hinchliffe, Sarah Whatmore, and their co-researchers on the biopolitics of biosecurity (the governance of mobile plant and animal disease) and urban conservation.<sup>66</sup> This work has focused more on processes, landforms, and species less familiar to humanist models of biopolitics. For Hinchliffe a cosmopolitics for living with aggregate nonhuman populations involves anticipating, nurturing, and managing events that emerge from the circulation of human and nonhuman actors in diverse spatial formations (or topologies).

This cosmopolitics is not about rendering the present eternal but involves a careful, processural political ecology that is open to the immanent “likely presences” of nonhuman life.<sup>67</sup> Epistemologically, it is aligned with (and informs) the concept of wild experiments outlined earlier. Their work is founded on a political commitment to “putting accepted knowledges at risk” by working with emergent collectives of experts, not all of which are human. It offers a science-politics that does not make resource to Nature.<sup>68</sup>

These approaches to biopolitics as processes of living with nonhumans figure conservation as tentative processes of working with the biopower of the ecologies and organisms that comprise the nonhu-

man world. They require a humble, less anthropocentric model of the ontological choreography of conservation. Not only is conservation marginal in relation to other human claims on the earth, but also it is rarely in control of its target ecologies. Beyond the limited set of organisms nurtured by agriculture, the species that are faring best in contemporary hybrid ecologies are those most able to occupy its modified spaces and spatialities. Invasive “global swarmers” trouble conservationists as biosecurity threats, pest species that threaten biodiversity and circumvent human efforts toward their control.<sup>69</sup> We should be wary of the popular anthropocentric metaphor of biodiversity conservation as an ark for the Anthropocene. The biopolitics of biodiversity will shape but not determine future ecologies. There are powerful inhuman natures at work here on a dynamic and warming planet that will shape future ecologies.

In his writings on governmentality and biopolitics Foucault is concerned especially with the rise of neoliberalism. The ascendancy of this mode of political economy has troubled much subsequent writing on biopolitics as well as critical work on nature conservation. Neoliberalisms are less central in the accounts that follow, as they are less significant to the forms of conservation about which I write. Conservation in Europe during the period I describe was dominated by a range of non-governmental organizations working in conjunction with sympathetic statutory authorities at the national and European scale. These groups were largely opposed to the logics of private property, markets, and commodification. Conservation management was funded through volunteer donations, direct public payments, and most significant, taxpayer-funded agro-environmental subsidies delivered through the EU Common Agricultural Policy. This is changing and is certainly less the case with the market-oriented modes of conservation that I discuss in chapter 7.

## STRUCTURE OF THE ARGUMENT

The first three chapters outline and illustrate the conceptual foundations of the approach to conservation I have summarized. In chapter 1, I present the ontology of wildlife that forms the foundations for this book. I illustrate this with reference to Asian elephants and the

political ecology of Sri Lanka. In chapter 2, I explore conservation as a process of learning to be affected and present the concepts of non-human charisma and affective logics in conservation. I explore these through a set of reflections on bird surveillance. Chapter 3 offers my first take on the biopolitics of conservation. Here, I trace the arrival of biodiversity as a new way of understanding and governing wildlife in the United Kingdom. I focus in particular on the scope of what gets understood and conserved, identifying a distinct taxonomy that maps onto the forms of nonhuman charisma identified in chapter 2. I trace the performance of this oligopticon and reflect on the role of the material assemblage of conservation in shaping this mode of biopolitics.

The next two chapters detail and compare prevalent modes of contemporary conservation. In chapter 4, I offer a detailed case study of corncrake conservation. The corncrake is a rare and threatened migratory bird that inhabits the marginal landscapes of the Scottish Hebrides. It is dependent on the preservation of crofting, the local low-intensity agricultural system. I explore the biopolitics of corncrake conservation, tracing how the corncrake was aggregated as a dynamic population modeled to calculate optimum modes of corncrake-friendly land management. I reflect on how corncrakes and crofters were governed through these interventions. I take the corncrake as exemplary of a mode of conservation biopolitics that I term “conservation as composition.” This is targeted at species and is rooted in equilibrium ecology. It seeks to render the present eternal—subsidizing, deliberating with, and regulating human land uses to prevent both intensification and abandonment.

In chapter 5, I compare this mode of biopolitics to a very different form of conservation associated with the recent enthusiasms for rewilding. I provide a critical analysis of a flagship example of this approach in the management of the Oostvaardersplassen—a polder in the Netherlands. Rewilding shifts the historical benchmark of conservation to premodern landscapes and focuses on the restoration of ecological processes. It advocates land sparing rather than land sharing. In some cases it involves experimental, open-ended forms of science and management less sure about what an ecology might become. It is controversial, not least because it challenges the science and policy

associated with the compositional model of conservation. It is risky in its appeal for nature development. Through a critical and affirmative analysis of this example, I identify the promise and risks of this alternative.

The final three chapters focus on a significant domain within the biopolitics of conservation. Chapter 6 examines moving imagery and the affective logics that characterize wildlife film. Conservation depends heavily on media for fund-raising, advocacy, and education. Many of us live in media ecologies in which we are more likely to encounter rare and charismatic wildlife in screen than in the flesh. Returning to elephants, I critically examine four prevalent logics according to which animals are evoked and reflect on their implications for modes of environmentality shaped within media ecologies. I identify the potential of curiosity as an affective logic for attuning to the difference of wildlife.

In chapter 7, I look at markets and explore one mechanism through which wildlife is brought to the market in contemporary conservation. I focus on the commodification of valued encounters with charismatic species. I develop the concept of nonhuman charisma introduced in chapter 2 and trace its increasing significance to emerging and powerful forms of spectacular neoliberal conservation. Focusing largely on Asian elephant conservation, I reflect on the biopolitics of configuring conservation around commodified encounters. I examine the implications for individual captive animals, wider ecologies, and the marginal farmers forced to live in proximity with free-ranging members of this charismatic flagship species.

Chapter 8 turns to questions of space. It explores the geographies of wildlife through a critical analysis of the topologies associated with different approaches to wildlife conservation. Topology is a branch of mathematics that invents new ways of conceiving spatial relations beyond the familiar cartography of the topographic map. I explore how thinking topologically helps identify the territorial trap into which modern conservation fell when it configured biogeography around purified nature reserves. I examine how this regional topology has been challenged first by urban conservationists and then by the connectivity turn that is currently taking place in conservation. I explore

the utility of networks, fluids, and fire as alternative topological metaphors for examining the biogeographies of wildlife conservation after the Anthropocene.

The conclusion returns to the broad aims I outline at the start of the introduction. It summarizes the cosmopolitics of wildlife conservation that I develop and gives an overview of my aspirations for conservation after the Anthropocene, distilling the contributions of this book to engaging in some “anticipatory semantics” with the concept of the Anthropocene. I finish by identifying some tensions within and challenges to this model. I discuss the ontological politics of conservation, the interface between wildlife and biosecurity, and the relationships between wildlife conservation and neoliberal capitalism.