Helen Kopnina · Haydn Washington
Editors

Conservation

Integrating Social and Ecological Justice

Springer 2020

Chapter 14
Let Earth Rebound! Conservation's New Imperative

Eileen Crist

The Blueprint

The status quo of a human-possessed and humanized ecosphere might be viewed as a shared "blueprint" in being widely regarded as given, normal, and even desirable. The blueprint consists of a physical and ideational apparatus of planetary ownership that includes an array of types of owning (private, nation-state, international, and commons), along with the entrenched normalcy of the endless stream of uses and practices that human possession entitles. Importantly, the blueprint of a physical-ideational apparatus of Earth ownership is what social theorists call hegemonic: it operates, or more precisely *is*, by virtue of broad human consent.

The blueprint essentializes the humanization of the world thereby solidifying itself as a foundation upon which the human gridding of the world is undertaken. Because the blueprint of ownership or possession has been essentialized—meaning Earth appropriation has been disguised as Earth ontology—the human gridding has become enabled to be something that is ever-in-process: it has been undertaken and will continue to be undertaken (barring revolutionary social change or societal collapse) in perpetuity. Neither the blueprint of planetary ownership nor the gridding it sponsors are universal to human cultures or an inherent drive of human nature. They are an Earth regime "kit" that Western civilization elaborated over the course of millennia and which today has become globally ascendant.

Gridding consists in slicing the (variously) human-owned world and apportioning the slices to (various) human uses. (Conventionally, "the grid" refers to the network of electricity deliverance, but here I am repurposing it for a much wider sense.) Human gridding is effected through roads and highways, fences and walls, above- and below-ground infrastructures, nation-state borders and the geopolitical maps representing them, surveillance technologies (such as GIS, collaring wild animals,

E. Crist (✉)
Department of Science, Technology and Society, Virginia Tech, 231 Lane Hall, Blacksburg, VA, USA
e-mail: ecrist@vt.edu

mobilizing drones, etc.), large-scale agricultural estates, industrial plants, military installations, mega-dams, shopping centers, strip malls, mining operations, zoos, golf courses, and of course rural and urban settlements. Intrinsic to the nature of the grid is that it is always unfurling. Metaphorically (and literally) it is like the all-too-familiar town that is always under construction either to accommodate growth or just to accommodate always-being-under-construction.

There are also profuse griddings of the seas (though many less available to direct perception). Shores have been massively appropriated worldwide—an enabling of the shared blueprint of Earth ownership—and turned into "beaches" and "beachfront" properties. Entire regions of the ocean have been configured into "fisheries," a weird albeit commonplace term that fuses the fish, their places, and the industrial fishing industry into one (presumed good) conglomerate. Some areas of the ocean with fishery or mineral "resources" are literally gridded into blocks that nation-states auction off to industries for extraction operations. Even as I write these words, behind closed doors, the seabed is being sliced up by nation-states and allied industry marauders for mining polymetallic nodules, seamounts, and hydrothermal vents. Already, over 1 million square kilometers of the high seas have been divvied up in seabed mining contracts (Roberts et al. 2017). The ocean as a whole is gridded for shipping lanes and as dumping ground for agrochemicals, sewage, industrial waste, plastic, and lost fishing gear. (In recent times, it has also been consigned to being a "carbon sink.") The atmosphere above each nation-state is carved out as owned by the corresponding nation, while the whole atmosphere as humanity's "commons" serves as its waste bin. The stratosphere also—as it is looking increasingly likely—may well be gridded as a receptacle of regularly injected sulfur particles for climate geoengineering.

The grid resembles a mechanical virus, restless to reproduce more or upgrades of itself. Indeed, right now, amidst a tidal wave of species extinctions and population annihilations morphing into a mass extinction event, the global political-economic establishment is pouring colossal resources into nature-destroying and nature-fragmenting infrastructural expansion, within and between national territories (Laurance 2015, 2018a, b; Alamgir et al. 2017). At this historical moment of biodiversity collapse and dangerous climate change, precisely when human gridding should become exceedingly circumspect and sizeable portions of it undone, "we are living in the most explosive era of infrastructure expansion in human history" (Laurance 2018a). The compulsion to affirm human control of geographical space and ownership of Earth's estate is feeding the grid's expansionism. The viral grid is here, ceaselessly expanding, ever in planning, and determined to continue asserting itself.

Underlying the grid and its modus operandi is the blueprint, or the physical-cum-ideational essentializing of the planet as human-owned that has successfully secured broad consent to that ownership as ontologically given. "Ontologically given" means that people see Earth ownership as something natural rather than *political*—i.e. involving the exercise of power, inequality, and exploitation by means of entrenched institutional and discursive structures. The iniquitous relationship of the dominant human to the Earth has been all but effectively concealed: in an ultimate Machiavellian move, the political *as such* has been retracted from the world of "the merely

living" and drawn exclusively into the realm of the supreme human. Earth colonization thus appears unproblematic within the dominant culture; in fact, it does not even really *appear*. The social conditioning of people—from a very young age and throughout their lifespans—into the blueprint of planetary possession accounts for "why the land-use crisis gets so little publicity," as eco-commentator Brian Palmer (2015) complains regarding the disproportional conversion of land for human uses. Simply put, the humanized metamorphosis of the planet does not constitute a "crisis" for hegemonic humanity; it is just how things are. Nature colonialism perennially disguises itself as essence and thereby endures.

Because of the human grid's stout foundation—the normalcy of Earth ownership—the grid is always already authorized to expand. Which it does and will continue to do, for the grid has no built-in mechanism, rule, ethos, etiquette, point of satiation or contentment to ever bring it to rest. In its always-in-process character the human grid is, if you will, shameless.

The blueprint of Earth-possessed includes variously sized geographical pockets of nature reserves—wild and semi-wild places that fall under the rubric of "protected": strictly protected, sustainably used, multiple-use designated, conserved for ecosystem services, labelled as cultural or natural heritage, serving recreational and ecotourist functions, and all around kept at hand as Earth's "natural capital." These places appear to be off-grid, but because the human grid is ubiquitous and ever underway these places are perpetually menaced by the grid and, anyway, almost invariably partially gridded. Nature reserves contain roads, borders, trails, research stations, campgrounds, cellular towers, and so on; they may be zoned for "sustainable" logging, grazing, or mining; and they are monitored and managed often with killings and herbicides. The ever-looming and always-partial grip of the grid on nature reserves (national parks, wildlife refuges, wilderness areas, etc.) is the case because nature reserves are *in* the blueprint. They do not have an identity outside human possession—as an exception or deviation from it—but are fully ensconced within that possession. Humans control (ultimately all) geographical space and consider themselves entitled to do so, full stop. (This presumption is so normalized that the Moon, Mars, and their "resources" also appear, *naturally*, up for grabs.)

Indeed, nature reserves enhance the blueprint and legitimate it all the more, because (on the one hand) they add to its versatility and (on the other) they seem exempt from human possession. Nature reserves may even work to defuse resistance to the blueprint of human planetary ownership, by serving as a smoke-screen to the blueprint's totalitarian rule. Please do not misinterpret this analysis: nature reserves (all of them and most especially the strictly protected) are *absolutely necessary*, otherwise so much more of the world's places and beings would have gone into the night of extinction and oblivion (Pimm et al. 2014). Yet in the prevailing human regime, nature reserves are not outside the blueprint; they are human-owned, and what's more, they are never safe from the grid's expansionism. The potential reneging of their status as protected—for as long as this nature-colonizing civilization endures—hangs over them like a guillotine held back by a threadbare rope. As environmental thinker David Johns puts it, "if existing societal structures continue as they are, most

conservation achievements may turn out to have been little more than temporary stays of execution" (Johns 2010: 641).

Conservation in the blueprint does not work beyond being an indispensable, stopgap, and precarious remedy to the present-day eco-calamity. Protected areas have not stemmed the tide of destruction, only slowed it down (Pimm et al. 2014). In the medium- and long-run, conservation in the blueprint (aka "conservation in the Anthropocene") will not preserve the planet's species, subspecies, and varieties, abundance of wild populations, genetic variation, ecological complexity, biodisparity (uniqueness of places), richness of ecotones and natural processes, animal migrations, and other wild and wilderness qualities. Over time, protected areas become degraded and lose species and populations for any number of (compounding) reasons: they are too small, they are breached by (lawful or law-breaking) hunters, miners, loggers, or settlers, they get partially or fully degazetted by (right-wing or left-wing) human-supremacist governments, and they are perpetually ingressed by pollutants, from nitrates and acid rain to climate-altering greenhouse gases.

Many dimensions of the natural world cannot even survive conservation functioning at its best: big wide-ranging animals, migratory and dispersal phenomena, river systems, and the absorption of wild natural processes like fire or volcanic eruptions—all of which need bigness and connectivity—lose out in the present-day status quo (see Chap. 12 by Noss in this volume). Moreover, these grievances do not even touch on how nature "reservations" commandeer mobility, autonomy, and self-determination away from wild nonhumans. For example, this very morning—devoted to my reading over this chapter one last time before submission—I read the news that one of Yellowstone's famed wolves, nicknamed Spitfire by wolf lovers, was shot dead by a trophy hunter 5 miles outside of Yellowstone's borders (Rahman 2018). There is no end to the crimes perpetrated against nonhumans—crimes exonerated by a thing as insubstantial as the tyrannical power of life and death that humans have just seized over all other beings. Meanwhile, it is a fair generalization to state that conservation in the blueprint treats the nonhuman realm as composed of wild species-specimens to be sequestered, confined, managed, and kept in existence in (often minimally and ever monitored) viable numbers (Lulka 2004; Mathews 2016). From that perspective, Spitfire was specimen number 926F, and her death deemed a conventionally acceptable misfortune for roaming beyond her designated detention camp in the world.

Adding to these withering critiques, climate change is the deal-breaker of conservation in the blueprint. Climate change will not only destabilize protected areas, but the entire globe. Nonhuman and human beings will be (are being) forced to move and they will be (are) hard-pressed to do so. There will be, as we are already seeing, the spread of disease, suffering, starvation, mass mortality events, and extinction in the geographical-temporal zone where a deepening climate crisis meets an increasingly humanized world. Climate change is poised to synergize with a natural world already severely diminished and fragmented to intensify the blows on life (Urban 2015). It will make land crack with dryness, bring deluges of floods, cause wildfires to rage, turn the ocean corrosive, shrink freshwater entities and glaciers, unravel ecological partnerships, batter the coastlines, and redefine nonhuman and human epidemics in

a Biblical idiom. Climate change will grab the baton of mass extinction—now in the hands of agriculture and mass killings—and go for the finish line (Maxwell et al. 2016).

In short, conservation in the blueprint does not, and will not, work. The humanized world it squarely resides in is neither good nor prudent. The blueprint of human Earth ownership sponsors a (pseudo) world-order that is "world-poor," and brittle to boot. It turns—in a downwardly cascading spiral given the perennial human gridding it propagates—the diverse into the less diverse, bio-disparity into bio-homogeneity, wild animal abundance into defaunation, coral reefs into graveyards, the unknown into the mundane, and the enchanted into the banal by inscribing a human regime onto Earth's chaotically and richly entangled being. Yet it is within Earth's chaos that the supreme order of the Creative lies. The blueprint of human planetary ownership undoes that self-arising, incomparable order.

We are thus called to undo the blueprint both in our minds and in the world. We must unmask its guise as normal and understand Earth's possession for what it is—the exercise of power, violence, and injustice on a cosmic scale. A critical piece of undoing the blueprint is to redefine conservation *against it* instead of in it.

The Great Reversal: Earth-Wide Conservation

Originally, conservation was about protecting nature for its scenery, unique landscape features, provider of recreational, aesthetic, and spiritual experiences, and aid to health promotion and stress reduction. Toward the latter part of the 20th century, conservation's aim also became about maintaining viable wildlife populations, sustaining ecosystem services, and promoting green infrastructure and ecotourism. Whatever the various rationales, conservation within the blueprint of a human-possessed Earth has always remained "compatible with large-scale human exploitation of natural environments" and, in terms of its nature-protection goals, has tended toward an "ecology of the minimal" (Mathews 2016: 140).

Conservation visionaries today are urging a profound shift is how we think of and practice conservation (Noss et al. 2011). Now is the turning point to recognize that protecting land and seas cannot be defensibly defined as another "land-use" category among others (agricultural, forestry, and so on). Conservation's emerging imperative is about letting Earth rebound, with its diverse, lavishly numbered beings set free to live as who they are, become what they may, and co-create the ecosphere (Locke 2013; Mathews 2016; Dinerstein et al. 2017; Butler and Lubarsky 2017; Kopnina et al. 2018; Washington 2018; see Chap. 12 by Noss in this volume). As ecocentric thinker Helen Kopnina and coauthors write, we must imagine "the future of conservation as nothing less than an attempt to preserve abundant life on Earth" (2018: 140). "Abundant life" here includes the ecosphere's autochtonous features of species and subspecies diversity, ecological complexity, plentiful numbers of wild beings, variety of behavioral repertoires, animal cultures, and individualities, and

uniqueness of different places. All these aspects require bigness and connectivity—Earth-wide conservation.

The vision of Earth-wide conservation is profoundly compelling on a double register: it constitutes the surest pathway to preempting and mitigating the catastrophes of mass extinction and rapid climate change; and it forges the way for the emergence of a historically new, harmonious relationship between ecosphere and humanity. To implement this visionary conservation approach, our mandate is to restore Earth as the very matrix—the bio-alchemical cauldron—within which sustainable, modest, and ecologically friendly human land-uses can be couched. Large-scale conservation is about unleashing vast expanses of land and seas, to remain unexploited, unoccupied, and unfragmented, within which humanity and a myriad other life forms can all make roomy homes. To draw on an analogy of the five elements (earth, water, fire, air, and space), Earth-wide conservation involves reinstating the integrity of the space element—the element which encompasses all others—conserving Earth itself as the plenum that encompasses the arising and unfurling of all earthly existence.

This re-imagination of conservation—both as a means to address eco-catastrophes and as a long-term end in itself—is the antidote to extant and contemplated geo-engineering schemes as ostensible solutions to the ecological and social crises that confront us. Such schemes include rerouting rivers and tethering them with mega-dams, massive outbuilding of infrastructural systems, genetically engineering crops and animals for a degraded world, "solar radiation management" for treating global warming, and extraterrestrial mining and colonization. All such pursued and anticipated "techno-sublime" solutions are nothing novel: they are the blueprint of human planetary ownership putting the grid on steroids.

But the bold pursuit of large-scale conservation is about something new under the Sun. It is about setting Earth free to be an expansive, untamed, and exuberant mandala of life that can *actually*, if implemented in timely fashion, heal many ecological wounds, arrest the ongoing destruction of wild animals and flowering plants, preempt mass extinction, and "manage solar radiation" with unparalleled expertise (Roberts et al. 2017; Wilson 2016; Scheffers et al. 2016).

Freed of most human-imposed griddings and all but the lightest human uses, Earth's federation of ecologies will become rife in beings, allow life to move, provide a refuge for the threatened, soak up much of the atmospheric carbon of the industrial age, and be our noble legacy of an integral planetary hearth for the future of all life. The following are now absolutely imperative: ending all wetland, primary forest, seagrass meadow, and coral reef destruction; protecting the ocean from industrial fishing and pollution on a massive scale; preserving river and lake systems; restoring forests, (terrestrial and coastal) wetlands, and grasslands; and guarding wild animals from the global poaching holocaust (Butler 2008; Jackson 2008; Manning 2009; Diop et al. 2009; Pitcher and Chang 2013; Wuerthner et al. 2015; Pauly and Zeller 2016; Hance 2017; Jones et al. 2018; Ripple et al. 2016).

Only this scale of conservation can prevent the devastation of extinctions and take the catastrophic edge off climatic upheaval. Only this scale of Earth protection can turn the course of history away from the planet-devouring prerogative and inertia that the blueprint of planetary colonization has inflicted.

Opting for Earth-wide conservation—protecting land and ocean on a massive scale with unbounded generosity—requires of us to tap into the deep intelligence that resides in our brain-heart-gut complex, an intelligence to which technocratic projects for constructing a "smart planet" (The Economist 2011) cannot hold a candle. All smart-planet projects are, indeed, the predictable progeny of the blueprint—of a humanized and human-possessed Earth holding on for dear life to its image as ontology, that is, to its self-image as unquestionably and indestructibly real. To keep the blueprint afloat, even if on dialysis, all manner of machinations are abroad: from "sustainable intensification" of industrial food production to the desalination solution for water shortages, from zoning more of the seas and coastlines for aquaculture to subordinating all Earth's rivers, from mining the seabed to mining asteroids, from multiplying nuclear power plants to moving to Mars. Such grandiose plans are absurdly out of step with what is required of us.

The direction calling us has a circumscribed place for modern technology—this is not a neo-Luddite war cry—but its main thrust is so technologically unglamorous and simple that its beauty and expedience tend to be missed. Earth-wide conservation (large-scale protection, restoration, and connectivity of terrestrial and watery realms) has long been known to be the guarantor for safeguarding biodiversity (Noss and Cooperrider 1994; Wilson 2002). Studies are now revealing that it is also a critically important strategy for dealing with global warming. Briefly put, Earth-wide conservation is key to preempting both the sixth extinction and hothouse Earth (Ceballos et al. 2015; Wilson 2016; Steffen et al. 2018). One recent study found that conserving forests, grasslands, and wetlands, reforesting grazing ranges within forest ecoregions, and revving up agroecological practices can (by 2030) contribute 37% of the mitigation needed to keep temperatures from rising more than 2 °C over preindustrial levels (Griscom et al. 2017). Other recent reports urge that ending all (land and coastal) wetlands destruction is imperative to avert additional carbon releases (which are threatening runaway heating), while massively restoring wetlands will help gobble up atmospheric carbon dioxide (Roberts et al. 2017; Finlayson et al. 2017; Steffen et al. 2018).

Undoing the blueprint of Earth-possession involves reversing its specs. Unbridled nature, wild in beauty, diversity, expansiveness, unexpectedness, and above all creativity will hold us in its gracious being and carry us through the dark times here and coming. This vision of massive Earth conservation is not about reinstating some mythic condition or romantic primordial dream. It is simply about freeing the natural world on an vast scale—to be roadless, cellular-tower-less, pipeline-less, with *no* logging, mining, or grazing, off limits to off-road vehicles, agrochemicals, and animal murders, networked, taking care of itself, and busy building soil, making lushness, and birthing beings. Big enough and linked up enough to handle wildfires and mega-storms and to transmute carbon into green.

Downscaling the Human Enterprise

Releasing nature into its voluminous freedom cannot be achieved without substantial demographic, economic, social, and behavioral changes on the human end of things (Mora and Sale 2011; Mander 2012; Butler 2015; Bongaarts 2016; Washington and Twomey 2016; Crist et al. 2017). Importantly, Earth-wide conservation calls us to revolutionize how we make food. Organic, polycultural, and in good part perennialized food production, on agroecological landscapes biodiverse in plant cultivars and heirloom animal breeds, and interfacing in abiding friendship with wild nature is—as a complementary strategy to large-scale Earth conservation—key to protecting biodiversity and coping with climate change (Jackson 2010; Rodale Institute 2014; Jackson et al. 2018). The industrial food system—with animal agriculture in the lead—is hands-down the most destructive human system on Earth. We cannot redress the ecological crisis and move in the direction of Earth-wide conservation without profound changes in the food system.

Freeing nature—while also averting any human hardships implied in placing large-scale areas off limits to human uses—means there must be far fewer of us, as well as far fewer of our resource-intensive and intensively-polluting "livestock" (Weis 2013; Machovina et al. 2015; Monbiot 2016; Crist 2019). Amazingly, the pathway to a reduced human population, also educated to eat far fewer animal products, is simultaneously the pathway to securing fundamental human rights for all (family planning, gender equality, and education), and to securing healthier and longer human lives that a well-balanced, mostly plant-based diet all but guarantees (Engelman 2016; Machovina et al. 2015; Crist 2019). Freeing Earth and elevating humanity go hand in hand. This alignment should give us pause and joy in equal measure.

Protecting land and ocean on vast scales—thereby liberating Earth from the blueprint of human ownership and the ironclad grip of the grid—must be complimented with big social changes. As mentioned, paramount among them is to fast-track policies that will humanely lower the global population to where an organic and ethical agriculture—as a modest subsystem of the Earth—can support it (Crist 2019). Teaching humanity to gravitate toward a plant-based and closer-to-home sourced diet is also vital for biodiversity preservation, climate-change moderation, and the attainment of food sovereignty and human wellness. Needed as well is the overdue transition away from fossil fuels toward distributed (primarily) solar and wind renewables along with making energy conservation a commonplace social norm (Delucchi and Jacobsen 2013; McKibben 2016).

Still, there is more to be done. We must stop making and trading junk—the cheap, the throwaway, and the luxury variants of junk (Dietz and O'Neill 2013). Global trade needs to be scaled down by means of strengthening local economies and de-emphasizing the procurement of goods (especially basic goods like staple foods) from far-flung places (Kloppenburg et al. 1996; Patel 2009; Lenzen et al. 2012; Otero et al. 2013). Global trade today—the main engine and "central dogma" of the global economy—is driving the triple whammy of extinctions, infrastructural sprawl,

and greenhouse gas emissions. Intractable human food insecurity may not be that far behind (Lang 2010; Brown 2011; Ehrlich and Harte 2015).

These reversals of pulling back humanity from the natural world while downsizing the human presence are unlikely to be spearheaded by a large-scale, grassroots social movement. To recognize the mandate of this two-pronged historical redirection (of freeing Earth and downscaling the human factor) requires a configuration of sight, which, in this age of Babylon, is not yet available to the human majority. In a nutshell: devotion to our home planet, commitment to the possibility of a future ecological and equitable global civilization, and clear-headed understanding of our moribund (whether with a bang or a whimper) course. Many have yet to realize the validity of any one of these discernments—let alone all three combined.

Historical redirection is more likely to originate (at least for the foreseeable future) from two sources. One, enlightened leadership in educational, faith-based, political, media, entertainment, legal, and business circles. We are already seeing hopeful signs of this kind of leadership working, on many fronts, to shift the human enterprise (both ideologically and in practice) out of its nature-domination box and toward a downsized, ecological civilization. And two, from minority enclaves of ordinary folk who have (and increasingly will) come to recognize this life-destroying civilization for the socio-historical construct gone-haywire that it is: politically and economically largely corrupt, militarily dangerous, indifferent and cruel to nonhumans, mostly indifferent to disempowered people and future generations, and utterly blind to Earth's grandeur.

Such enclaves of awakened people will organize themselves into alternative communities—especially around agroecological food production while also fostering other forms of energy and economic self-reliance—thus seeding a future bioregional way of life within a global civilization (Kloppenburg et al. 1996; Hannum 1997; Crist 2019). In this century, all around the globe, people can embark on forming such new communities, performing harmonious relations within their ecoregions, undertaking ecological restoration projects, learning from indigenous life-ways, deploying tools of citizen science, creating and rediscovering ceremonies to honor all earthlings, and honing deep love in practices of loyalty, courage, hospitality, and compassion that are (will be) demanded. Within such alternative communities—globally networked and mutually supportive—we will discover who we must become to live integrally within this majestic planet. It will be long-term work, but for starters, it will have us turning our backside to the human-supremacist establishment that is heading the world to ruin.

The Restoration Baseline

A frequent refrain nowadays is that in recent decades "the challenge of accommodating people and biodiversity has accelerated enormously" (Kareiva and Marvier 2012: 964). This is surely the case and that particular challenge is poised to accelerate even faster. The resolution of the "people versus nature" quandary, however, does not call

for the final merger of the two, wherein humanity bequeaths full Earth colonization (along with the cheap mantra "Be Resilient") to the future. To resolve the growing tension between people's demands and nature's integrity means we work to massively scale down the human enterprise, safeguard the seas and land on "continental" scales, and instigate social transformations toward a global ecocentric civilization that understands *real wealth*—irreplaceable, cosmic wealth that is unassignable a dollar figure (see Chap. 11 by Gray and Curry in this volume). Taking this historical turn will not simply allow "accommodating people and biodiversity," but also build the foundation for a coming world in which both thrive.

There has been much talk of "no going back"—no self-evident ecological restoration baselines to implement in conservation (Hobbs et al. 2014). Earth in the "Anthropocene" has been diagnosed as a "planet of no return" and a "used planet" (Ellis 2012; Ellis et al. 2012). To be sure, we will not (any time soon) retrieve a Holocene-like world of 250 or 500 years ago, let alone of bygone millennia. The Dodo is gone and so is the Steller's sea cow and the uncountable species of half the world's rainforests razed, well over half of the world's wetlands drained, and most of the world's rivers dammed. We will not recover extinguished species, nor will we ever know anything but the tip of the iceberg of what life forms have been mindlessly obliterated.

Yet the principal historical lesson of the grim panorama of human impact is not that "we cannot go back," but that in moving forward we must reinvent ourselves, our way of life, our scale of occupation, as well as civilization itself from the ground up. It is critical that we eradicate the human superiority-and-entitlement complex that breathes inane, but seemingly compelling meaning into treating the world as human real estate. History has delivered the reckoning of a planet-colonizing enterprise. Heeding this with clear sight, we are invited to break resolutely with past ways: to downscale the human project for the sake of the wellness of our nonhuman and human kin (present and future), for the endless delights of diverse earthly coexistence, and for the honor of belonging with Earth over the debased and benighted condition of domineering.

Regarding the question of the restoration baseline for Earth's places, far from being elusive it is transparent: Freedom! Freedom is the ultimate ecological baseline, the one that Earth itself created. Let Earth rebound! Let rehabilitated wilderness as idea, reality, and protagonist rule the biosphere. It has oft been remarked that many languages do not have a word for "wilderness." I would wager, however, that all languages have a word for freedom and a word for nature—and thus all languages have a composite concept for wilderness. "Free nature" is wilderness universal. To free nature is to rewild. Rewilding involves enlarging protected terrestrial and marine areas (toward strict protection of at least 50 percent of every ecoregion type), repatriating the big carnivore, herbivore, and other keystone players, and forging corridor linkages to achieve landscape connectivity (Soulé and Noss 1998; Noss 2013; Monbiot 2013; Locke 2013; Hiss 2014; Benz et al. 2016; Wilson 2016; Tompkins and Butler 2016; Johns 2019). Current official policy targets to protect 17 percent of the land and 10 percent of the ocean are "woefully below" what is needed to stem biodiversity's "downward slide" (Noss et al. 2011: 1; see also Pauly and Zeller 2016; Belote et al. 2017; Chap. 12 by Noss in this volume).

An Earth-wide network of large-scale terrestrial and marine protected areas will serve ambitious and visionary aims, enabling restoration achievements that disconnected reserves cannot deliver. Big carnivores, big herbivores, and all marine animals are in dire straits, with their numbers globally decimated and declining and many on the brink of extinction (Dirzo et al. 2014; Ripple et al. 2015, 2016; McCauley et al. 2015). Only large, networked reserves can support the resurgence of these species. More generally, large-scale networked reserves can maintain not just viable but ecologically and evolutionarily abundant populations by enabling movement, migrations, founder effects, and escape from disturbances or encroachment. While rewilding places may initially need a helping hand via active restoration, removal of infrastructures, and reintroduction of life forms, the ultimate goal of rewilding is to return self-mastery—freedom—to the natural world (Monbiot 2013).

Freedom for Earth and all its beings and ecologies means restoring the conditions for living beings to express their natures, to support their flourishing and enjoyment of life, and to allow their potential becomings (as individuals), evolutionary destinies (as species), and integrity and complexity (as ecosystems). It means letting fish and trees grow old—very old—and to become abundant. (As fish age, they grow bigger and bigger and lay orders of magnitude more eggs than the younger ones. Big trees, known as mother or hub trees, nourish the entire forest and become habitats in their own right.) Freedom for wolves, sharks, whales, gorillas, giraffes, elephants, rhinos, bison, cougars, orangutans, saiga, snow leopards, and countless others means for them to live as denizens of spacious worlds, not as starving and cowering refugees of dilapidated, stolen, and turned-dangerous homes. Freedom for wild beings means mobility without constriction, persecution, and the lethal booby-traps of plastics, poisons, nets, snares, guns, dams, fences, and walls.

What's more, the emergency of preserving animal migrations as phenomena of "abundance and freedom" is an under-recognized, critical ingredient of celebrating freedom on this planet (Wilcove 2008). If ever there was a canary in the coalmine of how rapidly Earth is being human-gridded—and made hostile to so many—it is the freefall in numbers of migrating beings and the endangerment of the phenomenon of migration as such (Wilcove 2008; Quammen 2010). Earth-wide conservation will aim to preserve and restore these ecosphere-enriching, spectacular peregrinations. Freedom is also for places. For rivers, for example, freedom is to flow as they will, nourishing environs and beings with nutrient loads and life-giving waters, connecting land and seas and their two-way traffic of life forms, being home to so many organisms, and being the singularly biotic-abiotic hybrid entities they themselves are (Chap. 8 by Strang in this volume). Finally, freedom is not just for the wild ones and wild places, but also for the farm animals. We should liberate them from the objectifying tag of "livestock," and let them live long, good lives in the environments they are adapted to, able to sunbathe and dustbathe, mate and chatter, rest and root, and just noodle around as they like to do.

Freedom is a big word. It is not only for humanity, nor even invented by humans. Freedom is an elevated state that people first experienced as earthlings, then crystallized into language, and finally celebrated as among the highest ideals—if not, indeed, the highest of all.

People Versus Nature?

Some analysts have objected to strictly protecting vast portions of the natural world, arguing that this will deprive people of the freedom to use those places for their livelihood. Such critics are especially concerned that poor people will pay a heavy price when excluded from accessing parts of the natural world (Fairhead et al. 2012; Duffy 2014; Büscher et al. 2016). To be sure, concerns for how people will be affected must inform how conservation is designed and implemented. Within the conservation arena, all agree that conservation projects should involve the engagement, input, and participation of nearby communities (Wuerthner et al. 2015; Chan et al. 2016). Jane Goodall's organization Roots & Shoots is a model of rights-based conservation philosophy and practice, working simultaneously on the levels of nature protection, ecological restoration, agroecological food production, local employment, family planning, as well as education and schooling for all (Goodall 2015). The present historical moment demands this kind of comprehensive approach, and can inspire and incite us to drop the interminably wearying dichotomy of "people versus nature."

The question of "how to weigh the inviolability of nature against the rights of people in need or starving" (Max 2014) cannot be answered, *yet again*, by affirming the violability of nature, for two fundamental reasons. First, history teaches that this approach will lead to more people in poverty and/or food insecurity in the future (and a far more precarious future, the one coming). Second, rallying for the rights of disempowered people is incoherent when the recommended tactics involve brushing aside and trampling on the most disempowered of all—the nonhumans, ever deemed dispensable and displaceable. We must do things entirely differently at this historical juncture: restoring Earth's ecological wholeness (Earth-wide conservation) and changing ourselves (scaling down our numbers and economies), so that we give humanity a fighting chance to find the path toward living equitably and well within Earth's vibrant expanse.

The critique that nature protection violates human freedom discounts the fact that authentic human freedom can never be founded on annihilating, constricting, and enslaving nonhumans nor can it blossom in the bleak landscape of Earth bondage and ruins. Critics of large-scale conservation seem incapable of thinking of human well-being with the depth and vision demanded at this unprecedented time: If anthropogenic mass extinction is left to run its course unchecked, how will the human psyche bear the onus of having massively extinguished our fellow earthlings? Conservation critics have zero insight into the unthinkable existential burden we are bequeathing humanity, and the imperative to put a stop to this Earth catastrophe *now*.

The way to real human freedom—freedom from material want and toward self-realization—does not lie in perpetuating incursions into the natural world (including incursions labelled "sustainable"), but exactly elsewhere: in busting the (often non-conscious) human allegiance to nature-domination, which is the very source from which human hierarchies and inequalities spring. The source of the disparity between the haves and the have-nots, between the powerful and the powerless, lies in constituting Earth's beings and places as "resources" for amassing wealth, power, and

privilege. Wealth, power, and privilege (as currently understood concepts and realities) are actualized through sucking out the marrow of the Earth. This onslaught on the planet would have no ground to stand on—anymore than Hitler's *Lebensraum* found any ground to stand on—without a conception-and-treatment of nonhumans and ecologies as legitimately displaceable, killable, and for the taking. Even that bane of neoliberalism—the academic buzzword and scarecrow de jour—draws its tacit, sturdiest legitimation from the shared image of Earth as human turf for using.

Without shining light on and ending nature's long-standing domination—the root cause of human inequity—inequity can never be resolved. Striving for social justice in a colonized ecosphere is like trying to create a beautiful garden in a vandalized landscape. As long as a human-supremacist mindset reigns toward Earth and earthlings, the realization (and even the deep idea) of justice will elude humanity (Chap. 2 in this volume). A planet regarded as container of "natural resources"—to vie and militarize over, to exploit, steal, and kill to procure—is a planet rife with human (and of course nonhuman) misery. But by enlarging the conceptual-pragmatic understanding of freedom beyond human exclusivity, the ecological and social justice platforms can join forces—as they should and must (Chap. 1 in this volume; Chap. 4 by Washington in this volume; Chap. 11 by Gray and Curry in this volume). All beings love freedom—freedom from want and toward becomings. The prerequisite for realizing authentic human freedom is to free humans from the debasing shackles of human supremacy, lifting humanity into the infinite sight of the fundamental goodness of all life freed.

Unsurprisingly, those who resolve the (vacuous) conundrum of "people versus nature" in favor of *people*—claiming, for example, that "the only reason we should conserve biodiversity is for ourselves, to create a stable future for human beings" (quoted in Safina 2018)—also peddle a dismissive position toward the destruction of species and even the eventuality of an anthropogenic mass extinction (see for example, Kareiva et al. 2012; Thomas 2017; and critical responses, Ceballos and Ehrlich 2018; Safina 2018). As Peter Kareiva and his colleagues notoriously opined, the passenger pigeon's demise (by the offensive of a human-supremacist culture) yielded "no measurable results" (Kareiva et al. 2012). Such cavalier attitudes (sprouting here and there) toward the annihilation of our nonhuman family and toward the siege on Earth's exquisite being should fill us with dread: They foreshadow the moral decay and deep slumber that human totalitarianism holds in store.

We need to "look and see," as Ludwig Wittgenstein once quipped (1968). *Look and see* the shining dervish of planet Earth, whose reality—even as its luster recedes before our eyes—is as close to the eternal and the magical as our limited, all-too-brief mortal being can witness. Conservation is not, and never has been, about "saving the planet." It always has been, and is most urgently now, about giving back to the planet so that the planet might save us—body and soul. Before the extinction and climate crises become irreversible disasters, we can still fight for *the turning of history*. We must become willing to give back generously to the planet and concurrently to diminish the scale and scope of humanity's presence. We can agitate to jettison the blueprint of human planetary ownership and free most Earth from the human grid. We will then look toward how to gracefully cohabit with all earthlings, for we are

all, nonhuman and human, world citizens. Co-creating the ecosphere through the symphonic harmonies of diverse life beckons as the inexhaustible source of material and spiritual abundance for all.

References

Alamgir, M., Campbell, M. J., Sloan, S., et al. (2017). Economic, socio-political and environmental risks of road development in the tropics. *Current Biology Review, 27,* R1130–R1140.

Belote, R. T., Dietz, M. S., Jenkins, C. N., et al. (2017). Wild, connected, and diverse: building a more resilient system of protected areas. *Ecological Applications, 27*(4), 1050–1056.

Benz, R., Boyce, M. S., & Thurfjell, H., et al. (2016). Dispersal ecology informs design of large-scale wildlife corridors. *PLOS One*. https://doi.org/10.1371/journal.pone.0162989, 1–20.

Bongaarts, J. (2016). Slow down population growth. *Nature, 530,* 409–412.

Brown, L. (2011). The new geopolitics of food. *Foreign Policy* May/June.

Büscher, B., Fletcher, R., & Brockington, D., et al. (2016). Whole earth or half earth? Radical ideas for conservation, and their Implications. *Oryx* (December), 1–4. https://doi.org/10.1017/s0030605316001228.

Butler, R. (2008). *Destruction of wetlands worsens global warming*. Mongabay.com. https://news.mongabay.com/2008/07/destruction-of-wetlands-worsens-global-warming/.

Butler, T. (Ed.). (2015). *Overdevelopment, overpopulation*. Overshoot: Goff Books.

Butler, T., & Lubarsky, S. (2017). *For beauty: Douglas R. Tompkins—aesthetics and activism*. Berkeley: David Brower Center.

Ceballos, G., & Ehrlich, P. (2018). The misunderstood sixth extinction. *Science, 360,* 1080–1081.

Ceballos, G., Ehrlich, A. H., & Ehrlich, P. R. (2015). *The annihilation of nature: human extinction of birds and mammals*. Baltimore: Johns Hopkins University Press.

Chan, K., Balvanera, P., Benessaiah, K., et al. (2016). Why protect nature? Rethinking values and the environment. *PNAS, 113*(6), 1462–1465.

Crist, E. (2019). *Abundant earth: Toward an ecological civilization*. Chicago: University of Chicago Press.

Crist, E., Mora, C., & Engelman, R. (2017). The interaction of human population, food production, and biodiversity protection. *Science, 356,* 260–264.

Delucchi, M., & Jacobsen, M. (2013). Meeting the world's energy needs entirely with wind, water, and solar power. *Bulletin of Atomic Scientists, 69*(4), 30–40.

Dietz, R., & O'Neill, D. (2013). *Enough is enough: Building a sustainable economy in a world of finite resources*. San Francisco: Berrett-Koehler Publishers.

Dinerstein, E., Olson, D., Joshi, A., et al. (2017). An ecoregion-based approach to protecting half the terrestrial realm. *BioScience, 67*(6), 534–545.

Diop, A., Palola, E., Staudt, A., & Stein, B. A. (2009). *Standing tall: How restoring longleaf pine can help prepare the southeast for global warming* (National wildlife federation report). https://www.nwf.org/~/media/PDFs/Global-Warming/Reports/LongleafPineReport.ashx.

Dirzo, R., Young, H. S., Galetti, M., et al. (2014). Defaunation in the anthropocene. *Science, 345,* 401–406.

Duffy, R. (2014). Waging a war to save biodiversity: The rise of militarized conservation. *International Affairs, 90*(4), 819–834.

Ehrlich, P., & Harte, J. (2015). Food security requires a new revolution. *International Journal of Environmental Studies, 72*(6), 908–920.

Ellis, E. (2012). *The planet of no return: Human resilience on an artificial earth*. The Breakthrough Institute. http://thebreakthrough.org/index.php/journal/past-issues/issue-2/the-planet-of-no-return.

Ellis, E., Kaplan, J. O., Fuller, D. Q., et al. (2012). Used planet: A global history. *PNAS, 110*(20), 7978–7985.

Engelman, R. (2016). Nine population strategies to stop short of 9 billion. In H. Washington & P. Twomey (Eds.), *A future beyond growth: Toward a steady state economy* (pp. 32–42). London: Routledge.

Fairhead, J., Leach, M., & Scoones, I. (2012). Green grabbing: A new appropriation of nature? *The Journal of Peasant Studies, 39*(2), 237–261.

Finlayson, C., Davies, G. T., & Moomaw, W. R., et al. (2017). The second warning to humanity—providing a context for wetland management and policy. *Wetland Science & Practice*. https://doi.org/10.1007/s13157-018-1064-z.

Goodall, J. (2015). Caring for people and valuing forests in Africa. In G. Wuerthner, et al. (Eds.), *Protecting the wild: Parks and wilderness, the foundation for conservation* (pp. 21–26). Washington, DC: Island Press.

Griscom, B., Adams, J., Ellis, P. W., et al. (2017). Natural climate solutions. *PNAS, 114*(44), 11645–11650.

Hance, J., 2017. Failing our forests: In *Two years we've lost enough forests to cover Spain*. The Guardian. https://www.theguardian.com/environment/radical-conservation/2017/dec/22/failing-our-forests-in-two-years-weve-lost-enough-trees-to-cover-spain.

Hannum, H. (Ed.). (1997). *People, land, and community: Collected E. F. Schumacher society lectures*. New Haven: Yale University Press.

Hiss, T. (2014). Can the world really set aside half of the planet for wildlife? Smithsonian September. http://www.smithsonianmag.com/science-nature/can-world-really-set-aside-half-planet-wildlife-180952379/?no-ist.

Hobbs, R., Higgs, E., Hall, C. M., et al. (2014). Managing the whole landscape: Historical, hybrid, and novel ecosystems. *Frontiers in Ecology and the Environment, 12*(10), 557–564.

Jackson, J. (2008). Ecological extinction and evolution in the brave new ocean. *PNAS, 105*(1), 11458–11465.

Jackson, W. (2010). *Consulting the genius of place: An ecological approach to a new agriculture*. Berkeley: Counterpoint.

Jackson, W., Krug, A. S., Vitek, B., & Jensen, R. (2018). Transforming human life on our home planet, perennially. *The Ecological Citizen, 2*(1), 3–46.

Johns, D. (2010). Adapting human societies to conservation. *Conservation Biology, 24*(3), 641–643.

Johns, D. (2019). History of rewilding: Ideas and practice. In N. Pettorelli, S. M. Durant, & J. T. du Toit (Eds.), *Rewilding*. Cambridge: Cambridge University Press (in press). More information on the book can be found here https://www.cambridge.org/core/books/rewilding/2D3CFD33718F14F641AEF83FA1DB21AE.

Jones, K. R., Klein, C. J., Halpern, B. S., et al. (2018). The location and protection status of Earth's diminishing marine wilderness. *Current Biology, 28,* 2506–2512.

Kareiva, P., & Marvier, M. (2012). What is conservation science? *BioScience, 62,* 962–969.

Kareiva, P., Marvier, M., & Lalasz, R. (2012). Conservation in the anthropocene: Beyond solitude and fragility. *Breakthrough Journal,* Fall, 29–37.

Kloppenburg, J., Hendrickson, J., & Stevenson, G. W. (1996). Coming into the foodshed. *Agriculture and Human Values, 13*(3), 33–42.

Kopnina, H., Washington, H., Gray, J., & Taylor, B. (2018). The "Future of Conservation" debate: Defending ecocentrism and the nature needs half movement. *Biological Conservation, 217,* 140–148.

Lang, T. (2010). Crisis? What crisis? The normality of the current food crisis. *Journal of Agrarian Change, 10*(1), 87–97.

Laurance, W. (2015). *Roads to ruin*. New York Times April 12.

Laurance, W. (2018a). Is the global era of massive infrastructure projects coming to an end? Yale Environment 360. https://e360.yale.edu/features/is-the-global-era-of-massive-infrastructure-projects-coming-to-an-end.

Laurance, W. (2018b). Conservation and the global infrastructure tsunami: disclose, debate, delay! *Trends in Ecology & Evolution, 33*(8), 568–571.
Lenzen, M., Moran, D., Kanemoto, K., et al. (2012). International trade drives biodiversity threats in developing nations. *Nature, 486,* 109–112.
Locke, H. (2013). Nature needs (at least) half: A necessary and hopeful new agenda for protected areas. In G. Wuerthner, E. Crist, & T. Butler (Eds.), 2015. *Protecting the wild: Parks and wilderness, the foundation for conservation* (pp. 3–15). Washington, DC: Island Press.
Lulka, D. (2004). Stabilizing the herd: Fixing the identity of nonhumans. *Environment and Planning D; Society and Space, 22,* 439–463.
Machovina, B., Feeley, K. J., & Ripple, W. J. (2015). Biodiversity conservation: The key is reducing meat consumption. *Science of the Total Environment, 536,* 419–431.
Mander, J. (2012). *The capitalism papers: Fatal flaws of an obsolete system.* Berkeley: Counterpoint.
Manning, R. (2009). *Rewilding the west: Restoration in a prairie landscape.* Berkeley: University of California Press.
Mathews, F. (2016). From biodiversity-based conservation to an ethic of bio-proportionality. *Biological Conservation, 200,* 140–148.
Max, D. T. (2014). *Green is good.* The New Yorker. https://www.newyorker.com/magazine/2014/05/12/green-is-good.
Maxwell, S., Fuller, R. A., Brooks, T. M., & Watson, J. E. M. (2016). The ravages of guns, nets and bulldozers. *Nature, 536,* 143–145.
McCauley, D., Pinsky, M. L., & Palumbi, S. R., et al. (2015). Marine defaunation: Animal loss in the global ocean. *Science, 347*(6219), 247, 1255641-1.
McKibben, B. (2016). *Recalculating the climate math.* New Republic September 22. https://newrepublic.com/article/136987/recalculating-climate-math Accessed 9 June 2017.
Monbiot, G. (2013). *Feral: Searching for enchantment on the frontiers of rewilding.* London: Allen Lane Books.
Monbiot, G. (2016). I've converted to veganism to reduce my impact on the living world. The Guardian. https://www.theguardian.com/commentisfree/2016/aug/09/vegan-corrupt-food-system-meat-dairy.
Mora, C., & Sale, P. (2011). Ongoing global biodiversity loss and the need to move beyond protected areas: A review of the technical and practical shortcomings of protected areas on land and sea. *Marine Ecology Progress Series, 434,* 251–266.
Noss, R. (2013). Wilderness, wildness, and biodiversity: We need all three. Lecture presented by the University of Montana Wilderness Institute. https://archive.org/details/Wilderness_Issues_Lecture_Series_2013_-_7.
Noss, R., & Cooperrider, A. (1994). *Saving nature's legacy.* Washington, DC: Island Press.
Noss, R., Dobson, A. P., Baldwin, R., et al. (2011). Bolder thinking for conservation. *Conservation Biology, 26*(1), 1–4.
Otero, G., Pechlaner, G., & Gürcan, E. C. (2013). The political economy of "Food Security" and trade: Uneven and combined dependency. *Rural Sociology, 78*(3), 263–289.
Palmer, B. (2015). There goes the neighborhood: How humans use land is dramatically decreasing biodiversity worldwide. NRDC. https://www.nrdc.org/onearth/there-goes-neighborhood.
Patel, R. (2009). What does food sovereignty look like? *The Journal of Peasant Studies, 36*(3), 663–706.
Pauly, D., & Zeller, D. (2016). Catch reconstructions reveal that global marine fisheries catches are higher than reported and declining. *Nature Communications, 7,* 10244. https://doi.org/10.1038/ncomms10244.
Pimm, S., Jenkins, C. N., Abell, R., et al. (2014). The biodiversity of species and their rates of extinction, distribution, and protection. *Science, 344,* 1246752-1–1246752-10.
Pitcher, T., & Chang, W. (2013). Fisheries: Hope or despair? *Marine Pollution Bulletin, 74,* 506–516.
Quammen, D. (2010). *Great migrations.* National Geographic, November. http://ngm.nationalgeographic.com/2010/11/great-migrations/quammen-text.

Rahman, K. (2018). Yellowstone's beloved Wild Wolf "Spitfire" is killed by a trophy hunter after wandering outside the national park. Daily News, 3 December. https://www.dailymail.co.uk/news/article-6454433/Beloved-wild-wolf-nicknamed-Spitfire-killed-trophy-hunter.html.
Ripple, W., Newsome, T. M., Wolf, C., et al. (2015). Collapse of the world's largest herbivores. *Scientific Advances, 1*(e1400103), 1–12.
Ripple, W., Abernethy, K., & Betts, M. G., et al. (2016). Bushmeat hunting and extinction risk to the world's mammals. www.pnas.org/cgi/doi/10.1073/pnas.1702078114.
Roberts, C., O'Leary, B. C., & McCauley, D. J., et al. (2017). Marine reserves can mitigate and promote adaptation to climate change. *PNAS.* http://www.pnas.org/content/pnas/early/2017/05/31/1701262114.full.pdf.
Rodale Institute. (2014). Regenerative organic agriculture and climate change. White Paper. https://rodaleinstitute.org/assets/WhitePaper.pdf.
Safina, C. (2018). In defense of biodiversity: Why protecting species from extinction matters. Yale Environment 360. https://e360.yale.edu/features/in-defense-of-biodiversity-why-protecting-species-from-extinction-matters.
Scheffers, B., Meester, L., & de Bridge, T. C. L., et al. (2016). The broad footprint of climate change from genes to biomes to people. *Science, 354*(6313), 719, aaf7671-1-11.
Soulé, M., & Noss, R. (1998). Rewilding and biodiversity: Complimentary goals for continental conservation (pp. 19–28). Wild Earth Fall.
Steffen, W., Rockström, J, & Richardson, K., et al. (2018). Trajectories of the earth system in the anthropocene. *PNAS.* http://www.pnas.org/content/pnas/early/2018/07/31/1810141115.full.pdf.
The Economist. (2011). Welcome to the anthropocene. https://www.economist.com/node/21521911.
Thomas, C. (2017). *Inheritors of the earth: How nature is thriving in an age of extinction.* New York: PublicAffairs.
Tompkins, K., & Butler, T. (2016). Expanding parks. *Outside* October 10.
Urban, M. (2015). Accelerating extinction risk from climate change. *Science, 348*(6234), 571–573.
Washington, H. (2018). *A sense of wonder towards nature: Healing the planet through belonging.* London: Routledge.
Washington, H., & Twomey, P. (Eds.). (2016). *A future beyond growth: Toward a steady state economy.* London: Routledge.
Weis, T. (2013). The meat of the global food crisis. *The Journal of Peasant Studies, 40*(1), 65–85.
Wilcove, D. (2008). *No way home: The decline of the world's great animal migrations.* Washington, D.C.: Island Press.
Wilson, E. O. (2002). *The future of life.* New York: Alfred A. Knopf.
Wilson, E. O. (2016). *Half earth: Our planet's fight for life.* New York: W.W. Norton.
Wittgenstein, L. (1953/1968). *Philosophical investigations.* New York: Macmillan.
Wuerthner, G., Crist., E., & Butler, T (Eds.). (2014). *Keeping the wild: Against the domestication of earth.* Washington, DC: Island Press.
Wuerthner, G., Crist., E., & Butler, T., et al. (Eds.). (2015). *Protecting the wild: Parks and wilderness, the foundation for conservation.* Washington, DC: Island Press.