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Sustainability after extinction: on last animals and future bison

Joshua Schuster

It has been well documented recently that there is a noticeable rise in the rate of extinction across all plant and animal kingdoms. Several conservation biologists have indicated that current extinction rates are now between 100 and 1,000 times expected or background rates of extinction.¹ The rise of extinction rates in the past few hundred years can be situated in parallel to the rise of scientific knowledge concerning the history of extinctions that stretch from recent times to the earliest flourishing of life 3.5 billion years ago. We know more than ever now about the history of life and death on the planet, but we are still witnessing a dramatic loss of species, largely due to human causes that include expansive pesticide use, habitat destruction and over-hunting and fishing. We are becoming terribly knowledgeable about the disappearance of life as it disappears. We are making a science and a culture out of coming to terms with extinction.

But this essay is not about why animals become extinct, nor is it about research done to document and catalogue the number of disappeared species. Rather, my focus here will be on understanding the lives of animals as they approach thresholds of unsustainable population sizes, which calls forth intense anxieties about their imminent loss, but also proves to be controversial grounds for maintaining animals in a diminished state after population collapse. Before animals reach the point of extinction, they often dwell in a prolonged, unsettled status of very small populations. An increasing extent of the world's biodiversity is heading in this direction of diminishing numbers. Alongside the increasing knowledge and care concerning lost animals, we are expanding rapidly the category of last animals – animals that are endangered or nearing extinction. This essay then is about how this nature-culture of last animals has developed, and what this condition means broadly for thinking about current tensions between concepts in animal studies and sustainability studies. Each plant and animal has a minimum number of members it must maintain, a minimum viable population threshold (for most animals, this means numbers between 250 and 500), which demarcates the final line between

sustainability and collapse of the species (Soulé 1987). While we know that the overall extinction rate is rising, there is a related phenomenon of many species approaching unviable populations. But because we live in a culture increasingly knowledgeable and self-aware about both extinction and biodiversity, there is now an intensifying scrutiny of how to stall or defer these last stages of animal life.

Indeed, there is so much attention to this critical stage of low animal numbers, fostered by conservation scientists, NGOs and local and international advocates, that it now seems that an endangered animal is just as likely to become extinct as it is to end up being saved from the precipice, only to remain stuck indefinitely in small population pools. With biodiversity increasingly seen as an economic, aesthetic, nationalistic and ecological good, no one wants to see an animal become extinct on one's watch. Yet, conservation budgets and public interest in protecting animal others can only be stretched so far. So, in order to forestall falling below minimal viable populations, one sees an expanding condition of minimal populations as such. The lives of last animals are now largely stuck in a holding pattern where the animal is maintained in small numbers that are deemed minimally sustainable but not much more expandable.

The stages of animal population decline as listed by the International Union for Conservation of Nature (IUCN) is just one way of accounting for the lives of last animals. The categories – least concern, near threatened, vulnerable, endangered, critically endangered, extinct in the wild, and extinct – index numerical crises but also each imply a culturally specific and even ontologically changed conditions.² Another example can be found in the proliferation of 'last' books on animals: *The Last Tiger*, *The Last Lions*, *The Last Panda*, *The Last Polar Bear*, *The Last of the Curlews*, *Last Chance to See*, *Last Animals at the Zoo*.

The depletion of animal populations has become such a global phenomenon that, as the journalist J. B. MacKinnon puts it, 'We live in a 10 Percent World' (2013: 38). To a striking degree, animal populations worldwide have been diminished to numbers that total 10 per cent or less of historical populations. MacKinnon cites how the world's biggest fish, including tuna, cod and sharks, have been reduced to 10 per cent of abundance compared to levels in the recent past. A similar percentage of depletions applies to nearly all mammals across the globe, and most bird populations have also seen precipitous declines. Indeed, in many cases, 10 per cent would be an optimistic number. Statistics provided in *The Atlas of Endangered Species* note that giant tortoises in the Galapagos went from 250,000 in the 1500s to 15,000 today; chimpanzees numbered 2 million as recently as 1900 but now number 150,000; the population of all tiger species was estimated around 100,000 in 1900 and now only 2–3,000 remain in the wild (quoted in Mackay 2009). A stunning report

issued by World Wide Fund for Nature (2014) calculated that up to 52 per cent of wild vertebrate animals have been lost since the 1970s. Not only population numbers but also the historical range of habitat for the vast majority of animals has been dramatically reduced. Tigers used to roam throughout nearly all of Asia and the Middle East, but are now found only in small pockets of territory, most notably in India, China and Russia, less than 10 per cent of their historical range. The wolf and grizzly bear used to range across almost all regions in Europe, Northern Asia and North America; almost no bears remain in Europe and the wolf has been eradicated in nearly all of its former territory in Europe and much of North America.

How do we understand the condition of animals now that low populations and drastically diminished habitat ranges are the new norms for much of the nonhuman life on the planet? What does the attempt to sustain low numbers of animals mean for both the lives of animals and the concept of sustainability? How do numbers of animals play a role in animal biopolitics, which in the vein of Foucault includes management aimed at the level of population and terms of life for a species? Ultimately, as we will see, the number of an animal plays a key role in the very ontology of the living.

For now, a series of paradoxes and tensions have been set into the landscape. In many cases, animals are allowed to thrive in protected zones but are practically powerless outside these parks and preserves. Indeed, for many animals it is deemed a success that they are able to be maintained in small but stable populations inside conservation enclaves. Sustainability for animals now mostly means existing in small, delimited and scrutinised habitats indefinitely. In this case, sustainability for humans and animals is practically inverted: humanity defines sustainability as a way to support consistently a peak population of around 7–9 billion, while for many animals, 10 per cent of peak population numbers would be seen as a triumph. Human sustainability is pitched at the level of the whole planet, while for most animals sustainability has shrunk to a very small area of historical habitat range. Sustainability for humans may mean limiting economic growth, while for most animals it means finding some way to stave off complete elimination.

The language of sustainability, beginning in its early adoption in the United Nations Brundtland Report, *Our Common Future* (1987), loudly tied anthropocentrism to developmentalism: 'Humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs' (World Commission 1987: 41). The sustainability of animal lives and species populations barely warranted mention in the report. The report raised alarms about increasing extinctions, but couched these in the context of narrow declarations of self-interest, stating that

we should be concerned about biodiversity loss because 'Species and natural ecosystems make many important contributions to human welfare' (World Commission 1987: 125). Subsequent to Brundtland, biological enclaves and hotspots have been imagined to be happy mediums for both animals and humans: here biodiversity can be concentrated for animal sustainability, while the rest of the planet is colonised for human sustainability.³ These enclaves are easier to visit because they are compact destinations and therefore support ecotourism and are more amenable to patrol against poachers. Condensed biodiversity hotspots, then, are able to make money to maintain themselves and provide for human economies near these areas. Animals agree somehow to remain in small numbers in their downsized ranges, while humans agree to leave them more or less unimpeded while paying for the privilege to observe contemporary ecology in action.

These enclaves (Myers et al. 2000: 853), which now largely describe the *de facto* habitats of the 10 per cent, offer a special kind of animal capital. Inside these zones, economics and animal population size reach a kind of collusion. For example, lions used to roam almost all of Africa, the Middle East, Asia and even much of Europe. Now that 40,000 or so lions remain, they can be kept in smaller, concentrated areas, which are easier to visit, manage and keep separate from humans. A limited number of permits can be allowed for hunters willing to pay up to \$30,000 (the current price to hunt a lion in Botswana), which provides the funds for further lion conservation and sustains local economies, which include the humans who have to face lion attacks from time to time and need a reason not simply to shoot the animals. If the lion population were larger, the permits would not be worth as much, there would be more attacks on humans, and, without the shadow of extinction looming, conservation groups would be less inclined to spend time and money on the animal's behalf. Last animals receive huge investments in research, conservation and public attention, but when numbers rebound, these resources often shift elsewhere according to a 'triage' logic, which in turn tends to result in the animals returning to lower population numbers as conflicts with humans recommence. Paradoxically, fewer animal numbers may be the pathway to more biodiversity preservation in general.

Outside of these enclaves, there seems to be no reliable formula for human–animal co-existence for most of these last animals today, even though as recently as just a few generations ago, humans regularly encountered these animals in their range and abundance across the globe. MacKinnon adapts a term from psychology to describe this phenomenon as 'shifting baseline syndrome' (2013: 16), in that the depletion of animals in number and range becomes the new norm or baseline for the next generation. Each generation thereby encounters fewer animals that occupy smaller ranges, and assumes that the current lay of the land represents

the standard population size and habitat for the animals. This is one way MacKinnon attempts to explain how most humans have become used to seeing a 10 world world as nothing all that alarming – they have lost the memory of past abundances, having only grown up with vastly diminished animal populations around themselves.⁴

A ‘shifting baseline’ makes the agency behind these shifts seem vaguely dispersed, if not intentional. It may be rather that many, perhaps most, humans have wanted a 10% world, especially in regards to carnivorous animals that would eat us or our animal property, or herbivores that eat our plant property. A 10 per cent world right now is very comfortable and convenient – more or less what we like to define as sustainable. In most parts of the world, we see animals when we want to and keep them apart at all other times, for their safety and ours. To reveal the brutality at the heart of this landscape of comfort, MacKinnon cites a phrase from the biologist Norman Myers, who called the rapid disappearance of animals in the past few centuries ‘the great dying’ (Myers et al. 2000: 35). But this is also the same period as the ‘great acceleration’ for humans and the development of technologies. Furthermore, there now are more protected parks and conservation areas than ever before. Hence one might suggest that animals have traded population numbers for taxonomic protection. Even though extinction rates are rising, a large portion of Earth’s biodiversity hotspots remain intact for the most part due to carefully planned conservation efforts, suggesting that it is possible to have a world full of species without being full of animals. In many cases, the planet remains biodiverse without much biomass.

Of course, the notion that animal populations will stabilise somehow at 10 per cent in plush, well-demarcated enclaves is another convenient fiction. Animal populations may continue to be depleted even if humans decide to stop bothering an animal once it passed into 10 per cent of population and range, as disruptions could be caused by other factors, including breakdowns in the food chain, disrupted migration corridors and newly introduced predators and competitors. It might also be the case that the genomes as well as the behaviour of animals change at these low levels – some crucial gene variations may have been lost, and learned hunting, navigating or reproduction skills may not be passed on consistently in smaller groups (Soulé and Scott Mills 2014: 189–211). It could even be the case that certain animals could not be scaled back up and returned to previous places given the changed genome or behaviour. The historical range of the animal might already been changed irreversibly into a new landscape; the animal might be a different animal now too. Also, enclaves are not as protected as one would hope, as habitat fragmentation has its own problems, while an enclave is also more vulnerable to suffer an extreme environmental event (burst of cold/hot weather, a massive toxin spill or a harmful insect or bacterial outbreak) that causes

localised ecological collapse in a preserve that was thought stabilised and sustainable. Down in the 10 per cent, squalls make for shaky conditions, ecosystems teeter this way and that, leaving windswept animals unsure of what is ahead and to what extent the past will be of any guide to the future.

How the buffalo roam

At this point, I would like to examine the above issues with an eye to a specific historical example of how life is lived below the 10 per cent: the near-extinction of the North American plains bison (*bison bison*) in the late nineteenth century, and the subsequent attempt to save the last remaining animals, and then to repopulate them in their former range of habitat in the twentieth century. I will only present the historical details of this event in brief outline, because I am interested primarily here in the broader cultural and scientific impact this animal has had on thinking the possible afterlives of animals in the wake of an extinction event, where the choices for the bison were eradication, remaining indefinitely in small numbers, or large-scale repopulation. Arguments for this last option have recently been gaining momentum, using the rhetoric of sustainability in support. A series of manifesto-like claims for repopulation of the bison appear in Ernest Callenbach's *Bring Back the Buffalo! A Sustainable Future for America's Great Plains* (1996). Callenbach, previously famed for *Ecotopia* (1975), declares in the title of his book his aim to hitch the return of the bison to its previous population size to a full-blown project for long-term human–animal sustainability in the North American plains.

The bison, also commonly called buffalo (although this is now considered a misnomer as the bison is not in the same genus as the African or Asian buffalo), is estimated to have numbered at least 30 million (and possibly as many as 60 million) at its peak population, which likely persisted until the early 1700s. Bison habitat once stretched across plains from Texas to northern Alberta, and from the Rockies to the Atlantic, but by the late eighteenth century, the animal was found only to the west of the Mississippi. Hunting by Native Americans over thousands of years had not much changed the overall animal numbers, while the bison provided Plains Indians with a bounty beyond meat, including bones used for tools, sinews for sewing, pelts used for clothing and housing, and bladders used to carry water. Interest in bison hunting by white settlers had been relatively limited until after the American Civil War concluded in 1865. The end of the war left a wave of men unemployed and skilled in shooting newly improved rifles. With freshly laid train tracks depositing hunters in the plains, teams of hunters and skinners had formed to pursue the bison in systematic fashion during their herding season in the autumn. Each group

of hunters was capable of killing a few thousand animals a year, stripping the animals of their hides and tongues, leaving the rest to rot. Several thousand of these teams covered the plains, shipping to the east by train hundreds of thousands robes per year. By the mid-1870s, the bison had been hunted to extirpation in the southern area of its range; in the northern area, the hunt continued up to 1883, collapsing the bison population entirely (Dary 1974; Isenberg 2000).

This extinction event gathered together many key inventions of modernity: fast-loading rifles with longer reach, convenient train depots, manufacturers in the east who needed tougher leather for complex belting systems, a popular press that documented the killings with articles, letters and cartoons, a rising commodities financial and corporate network, and ranchers and homesteaders ready to move into cleared areas and use new farming technology to get the plains to grow food. With this technological and social convergence aimed at harvesting the bison, it took about two decades to go from 30 million to approximately 1,000 bison left on the planet. These few animals remained in scattered pockets that included the protected area of Yellowstone National Park and the New York Zoological Society's Bronx Zoo, as well as being kept in small numbers on a few private ranches that held onto the animals.

Even as the animal was massacred *en masse* in the 1870s, a number of attempts to safeguard the bison were launched by members of animal protection societies, concerned ranchers, those sympathetic with the plight of Native Americans and those who protested against the notion of rendering an animal extinct on principle. On the other side, there were many who applauded the slaughter as a way to debilitate the remaining Plains Indians who skirmished periodically with frontier settlers. Quickly the animal took on different nationalistic characteristics: it was identified as a casualty of manifest destiny, as well as associated with the figure of the primitivised noble savage, a hardened, powerful survivor of a land with few trees, little rain and poor soil. Hunters and ranchers saw the animal as an object of American opportunity, first by rendering its body into capital, then later as useful in its absence for giving way to massive cattle ranching and monocultural farming. Its death, like the sweeping away of so much other life, was seen as necessary and inevitable for American expansionism. But also, arguably for the first time ever in the context of natural history, a burgeoning class of natural scientists and conservationists took a stand against the defeat of the animal, with the recent knowledge of the biology of extinction as added motivation. Led by William Hornaday, who established a small preserve for the animal in the National Zoo in Washington DC in the late 1880s, the American Bison Society formed to launch an organised preservation of the animal. Hornaday's group worked to track the remaining animals, manage a small herd, pass legislation that established no-hunting reserves, and develop research methods that would aid in growing the population back from

such radically small numbers. The group achieved dramatic success in the first intentional attempt to use conservation science to prevent extinction, with really no margin for error.⁵ By the 1930s, the bison population had grown to over 25,000 in number, spread in wild herds and some on ranches and in zoos, and the group declared their work a success and effectively disbanded. Within a few decades, the population would continue to grow, plateauing to over 300,000 by 2000, but most of the population increase would be on private ranches, with the animal destined for consumption.

Today, bison numbers are still well below 10 per cent of historic populations (actually they are much closer to 1 per cent – and of those remaining numbers, only about 10 per cent live on land protected from hunting and ranching), while most conservationists have moved on to concern for other endangered animals. But in the 1990s, the bison again caught the imagination of conservationists who wanted to propose something big, bold and captivating for the newly hatched idea of ‘rewilding,’ which involved reintroducing animals to past habitats in order to reconstruct fragmented and depleted ecosystems. Strong calls for various rewilding projects have been made by Gary Snyder (1990), Paul Martin (2005), Dave Foreman (2004), Emma Marris (2011), George Monbiot (2014) and Marc Bekoff (2014), among others. Rewilding is not just about bringing the animals physically back, but also includes advocating for a spiritual and cultural reclamation associated with the return of specific regional species and ecosystems. Further implied in rewilding is the notion that there would be a kind of literary and aesthetic reawakening with the return of such animals, involving a much-sought overlap of textuality and wildness.

Consider, for example, Snyder’s poem ‘Home on the Range,’ which appropriates the nationalist nostalgia of the American folk song to envision a wholly bison-enabled way of life. The poem begins: ‘Bison rumble-belly / Bison shag coat / Bison sniffing bison body’ (Snyder 1992: 356). The actual presence of bison on the range may be severely diminished, but this poem circumvents the missing animal by bringing the name of the bison up close and activating all the senses of both animal and reader. There is no subject, no ‘I’ to mediate experience, just the directness of the bison that can be heard, touched, smelled, tasted and everywhere seen. The most comprehensive rewilding would even change the power and purpose of our senses. Reader and bison seem to be in the same intimate space, as the poem does not distinguish between the ‘liver warm’ inside the bison and the same object being consumed by a human. The only thing that indicates mediation in the poem is the quotes around the folk song ‘Home on the Range,’ a cue to the reader that this song and title is being rewilded too. Certainly wilding the imagination is an important step in dislocating the imaginary from its settled ways, yet the transitions from textual rewilding to large-scale rewilding projects in widely developed

landscapes requires close attention for the kinds of claims made upon animality and sustainability together.

Callenbach's *Bring Back the Buffalo!* – with its exclamation point usage akin to the eco-defence group Earth First! – positions itself between speculative imagination and practical planning as it takes up the cause to repopulate the animal across the plains. Callenbach saw this project as a convergence of idealist activism and pragmatic conservation as a model for future ecological movements. The rewilding of the bison offered Callenbach a post-utopian agenda which would promise practical solutions that still held big ecological payoff.

The shift from a literary utopia to an actual landscape for Callenbach also meant rethinking the lives of animals from his previous work. Looking backwards at Callenbach's *Ecotopia* (1975) from the position of animal issues today, one notices immediately the problematic, simplistic focus on human-centred, ego-psychology portrayals of the urban–rural relationship. Across this utopian landscape one finds a curious lack of animals and animal activism. Early in the novel the journalist narrator William Weston encounters a group in downtown San Francisco coming back from a deer hunt with the animal carcass, and interprets this encounter as a 'throwback policy' (Callenbach 1975: 16) a prototype for a version of today's caveman diet movement. 'Ecotopians, both male and female, have a secure sense of themselves as animals,' so the reader is told (Callenbach 1975: 32). The novel is chock-full of examples of humans wanting to feel wild and loose, where the animal is read as sexual, spontaneous and meaty. At the same time, ecotopians have economic, social and ecological systems running at a purr. Human life is secured as animal, but ironically, animal life is made even more insecure by its role as 'absent referent', in Carol Adams's phrase (2010: 66). Citizens of ecotopia try to live a sentimentalised frontier lifestyle, happily playing cowboys and Indians at times, in combination with planned community principles and 'biological abundance' (Adams 2010: 65). The heterosexual politics of *Ecotopia* are deemed to be as important as the ecological politics, implying that a heteronormative libido would assume also a libido for greenness. The rhetoric of the wild is more frequently attached to women in the novel (especially Marissa, the narrator's love interest) than any other entity.

One of the rare moments apart from this anthropocentric utopia is the description of a 'steady-state' systems ecology seen from the point of view of a mouse. The journalist visiting Ecotopia is told that, from a wide lens view, ecosystems look stable and static, but Callenbach has one Ecotopian explain that there is plenty of niche dynamism, such as mice eating seeds and hawks eating mice. 'I begin to see what you mean,' says Weston. 'It may not look so static to the mouse' (Callenbach 1975: 34). But it is not that the life and cares of this particular mouse are of much importance, and the conflicts between human interests and animal interests

apparently melt away. The lush steadiness of the state of things, rather than biodiversity preservation or animal welfare, becomes the standard by which to measure sustainable modes of human dwelling. Ecotopia evidently superseded animal utopia. Anything redolent of animal liberation, promoted especially by Peter Singer in his book published in the same year as *Ecotopia*, is nowhere to be found. Moreover, the notion that a properly ecological community had to be stable and predictable made for a comforting fantasy in the face of rising extinction rates, biodiversity collapse, petroleum shocks and resource wars. This homeostatic ecological paradigm was further undermined with the introduction of chaos theory into ecology science in the late 1970s. Suddenly *Ecotopia* looked to be way too much about blissful eco-minded consumerism, social consensus and homogeneous self-organisation (remember that in the novel all the black people in California decided, of their own spontaneous accord it would seem, to relocate to 'Soul City'), as if these were the real ecotopian values. There are apparently no problems with any biological hazards such as invasive species, extinctions, pathogens or large-scale, confined animal industries, since ecology has been preset for steady-as-she-goes. Despite the celebration of the unwashed, waste-free hippy lifestyle as the greatest good, *Ecotopia* turns out to be way too clean, managed, heteronormative, pain-free and quiet (no electric guitars, please, and God help us from our unwashed rivals, the punks) to have to bother with including forms of otherness that would not abide by the steadiness consensus.

In *Bring Back the Buffalo!*, Callenbach ostensibly puts animals front and centre as a corrective in this vision for the future of ecology but, as we will see, many of the same problems of *Ecotopia* return, albeit in changed form. This book calls for a future ecology to be focused on the sustainable rather than the utopian, and Callenbach defines sustainable as 'an ecosystem that can endure stably over a long period' (1996: 4), at least several thousand years. The steps to bison repopulation outlined by Callenbach are not in themselves very radical or demanding of a whole new political outlook. The plan would be to coordinate government and private land purchasers into obtaining a wide swathe of the plains, land that is not particularly arable without a tremendous input of fertilisers, petroleum-based machines, excessive aquifer usage, and reliance on other subsidies. The huge tax revenues allotted by the US government to farmers, whether or not they grow, instead could be used to buy land back from farmers, presumably saving money in the long run and stemming the tendency of the government to prop up idle and unprofitable farms. The purchases would be strategic, with the idea of creating corridors between national parks and following the historical paths of bison migrations. Here 'we must learn to "think like bison"' in land usage (Callenbach 1996: 29) so that bison and grassland develop with each other. Bison chew only the tops of native grasses, letting them regrow, while cattle, currently numbering over 110 million in the US, rip grass from the roots (due to

the cost of feeding them native grasses, cattle today are largely fed corn and other grains as substitutes).

Callenbach projects that several million bison could be stocked on these lands, needing very little hands-on attention or fencing, as they live peacefully enough among human developments if left alone (people would be need to be taught to give the animals a wide berth because bison may attack if approached). The bison variously could be public or privately owned, or under the auspices of Native Americans, or in nature conservancy preserves or large ranches. Here is where Callenbach tries to piece together a version of sustainability in the contemporary economic parlance, as exemplified by Paul Hawken, Amory Lovins, and L. Hunter Lovins's *Natural Capitalism* (1999), where private enterprise and environmental benefit are seen as synergistic. Most controversially, Callenbach is ready and willing to see these animals as fully absorbed into capitalist systems of surplus value and the industrial animal-rendering empire. Effectively all the millions of bison would be available for rendering and consumption, and Callenbach envisions Native Americans and white settler ranchers having free run of the killing of these animals as long as they do it to maximise food and keep the population of the herd restocked.

This manifesto for sustainability on the plains is not a manifesto for animal rights or independent animal flourishing, and sustainability here really means, once again for Callenbach, a romanticised ecological stability that supports a slightly curtailed standard of human consumption. The bison would return in huge numbers, but their increased population would be a tacit consent to be animal capital in a world of highly organised ranchers, slaughterhouses and meat retailers. Callenbach supplies many pages of commentary extolling how tasty the bison is, how healthy and low fat the animal is for the hearty meat-eater, and how promising the animal would be in the hands of fast food operators. With no hint of irony, Callenbach suggests a 'McBuff' burger (1996: 197) as the next great food item. He happily details how to buy bison meat and have it shipped to your door, and he genially supplies recipes at the end of the book. His book is full of 'bison entrepreneurs' (Callenbach 1996: 190), from media mogul Ted Turner to small, one-person ranches, from big beef industries to mom-and-pop bison burger joints. Callenbach quotes Harold Danz, executive director of the National Bison Association, who states unabashedly that, 'To preserve buffalo, the best thing we can do is eat them. Animals that people eat do not become extinct' (1996: 186). Lest this shock the sheepish animal welfare reader, Callenbach offers a quote from the trusted environmentalist poet Gary Snyder on the next page, who says with equanimity, 'There is no death that is not somebody's food, no life that is not somebody's death ... Eating is a sacrament' (Callenbach 1996: 187). Along the lines of what Thom van Dooren calls 'killing for conservation' (2011: 286), here we have eating for conservation. Consuming and rendering is declared necessary in order to rewild. The logic of sacrifice and sacrament

is repurposed to make animal numbers grow. In the great American fantasy, eating more is the pathway to more abundance, while death is ever fecund.

It is fairly clear already that Callenbach hitches the notion of sustainable bison ranching to a discourse of settler nationalism that, he assumes, will cross-fertilise each other. Indeed, we are told from the outset, 'the fate of the bison may well prove emblematic of the future of our nation' (Callenbach 1996: 1). It helps that the bison is easily romanticised according to well-trodden tropes of America's nostalgia for itself. 'Strength, endurance, adaptability, and cooperation in the face of danger make the bison a striking emblem of America' (Callenbach 1996: 2). The masculine, no-nonsense, American football-sounding, cowboy rhetoric used here is something even a Reagan-ite could love (and appears as a patriarchal reversion in comparison to the examples of female empowerment in *Ecotopia*). 'Bison are quintessentially American animals: stalwart, noble symbols of wildness, freedom, and self-sufficiency' (Callenbach 1996: 9). And if they weren't? What does this kind of nationalistic conservation rhetoric say about the sustainability of other animals? Yet Callenbach only declares loudly what other rewilding proponents tacitly condone: harnessing nationalism and animal nativism appears to be an effective way of repopulating animals, since these two agendas are likely to prove supportive of each other. But one has to wonder if living in a world of repopulated animals would mean a return to biopolitical nationalism that eagerly employs animals as models for military strength (as one sees already with the long-standing use of animal names for military hardware). Also, in Callenbach's version of rewilding, the renationalised bison once again becomes a political animal, but not an autonomous citizen. Debates over animal rights cannot be reopened; this would spook away conservatives who might otherwise be sympathetic to the cause of repopulation. This 'buffalo commons' (Callenbach 1996: 199) is still a variation of enclosure.

At the same time, there is nothing intrinsically wrong with envisioning animals as noble and desirable to repopulate based on an affective and cultural longings. Callenbach is right to say that the bison's 'absence is our loss, psychologically, spiritually, and morally' (1996: 16). He also adds intriguingly that the bison, which can easily weigh 2,000 pounds, 'is the only large wild animal with whom there is any prospect of sustained coexistence on mass term' (Callenbach 1996: 16). (Some have even argued that North American ecosystems miss the mammoth and camel, and these too should be rewilded, with elephants as substitutes for mammoths). As in *Ecotopia*, if you look at the big picture, it is very satisfying. 'On the Plains we can transform current petroleum-based farming and ranching into an enduring, self-reliant system resisting on the perennial resources of the region: sun, grass, and wind. On the Plains, a deep planetary challenge of long-term human survival waits to be met' (Callenbach 1996: 3). Herds

can graze under giant windmills, people and bison can live together, and new technology can converge with the ancient, prosperous ways of animal–human co-existence. Perhaps even what it means to be American will change.

If we decide that it is fitting for these noble beasts to share our future, and make room for them on the continent again, we will be a different people. It is worth entertaining the possibility that we will be a more humble, less driven, less exploitative people, with a livelier sense of connection to the wild in ourselves as well as in bison. (Callenbach 1996: 258)

Rewilding is always this moral as well as biological project, intertwining species and spirit, yet both these aspects require imaginative and critical analysis. Rewilding aspires to bring back animal numbers and animal freedoms in order to let ecosystems be, even while welcoming large-scale conservation management and monitoring practices that constantly change what wildness means. To rewild means to manage the landscape without appearing to do so, buffing up the reappearance of the frontier with scientific approaches, nationalist projects and media-savvy displays in mind.

The post-sustainable bison

‘Americans love happy endings, and the story of bison puts one within our grasp,’ Callenbach proclaims (1996: 149). In recent decades, advocates of the managerial kind of sustainability have sought to incorporate such positive and heart-warming messages, to varying effect and criticism. It is not that negative or apocalyptic warnings would improve things for the bison, but instead of promising ‘happy endings,’ more honesty and awareness about the history, politics and ecological reality of the animal would be a gain for all involved. Dave Foreman repeatedly points to acknowledging ‘wounds’ in the landscape as a necessary step to rewilding (2004: 3). Callenbach is certainly aware of the longer traumatic history of white settler treatment of bison and the Native Americans dependent on the animal, but he acutely avoids any emphasis on this brutal legacy and offers little evidence that the traumas of the animal informs his current thinking of how to rewild it. The palpability of the return of bison has become a recurrent theme in essays and cultural works by many Native American and Canadian First Nations peoples in recent years. In comparison to Callenbach’s boosterism, what stands out noticeably in indigenous artworks supporting bison repopulation is the importance of thinking through trauma, a critique of American nationalism and desire for the animal at the same time. Winona LaDuke has written of the need to connect the history of radically curtailing where the bison roam and the

many cases of US government reduction of the size of reservation land previously allotted to Native American tribes (1999: 139–66). The figure of the bison depicted in literature and visual works by recent First Nations artists – for example Thomas King’s novel *Truth and Bright Water* (1999) and Tasha Hubbard’s short animated film *Buffalo Calling* (2013) – draw attention to how the return of the animal links past and present in a landscape that is tense, violent and politicised, but also musky, drenched in symbolism and ripe for new human–animal relations. Further examples of a vision of the fraught renewal of the bison can be found in drawings by Adrian Stimson, Blackfoot, and paintings by Kent Monkmon, Cree, as both see the bison in its post-extinction phase caught between a haunting and passionate existence.

Stimson’s series of acrylic paintings, *Bison Fission* (2010) and *Fuse* (2010) (Figure 5.1) show bison grazing in front of a nuclear explosion, each image depicting the mushroom cloud in a different phase. The bison appear to stroll and munch calmly as the ultraviolet nuclear fission bomb detonates in the near-distant horizon. The quiet gathering of the animals is engulfed by the explosion that exceeds the scales of sound. In this atomic flash, we see a bison-military-energy complex. Whereas Callenbach also saw an energy–bison connection in which one would sustain the other, in Stimson’s works the viewer is about to see both the landscape and the bison wiped out. The two series stage scenes of annihilation but also a recognition of how bison lives and Native American lands form



Figure 5.1 Adrian Stimson, *Fuse 2* (2010)

the larger backdrop to the black-and-white colours of early nuclear test photos (although almost all continental nuclear tests were in Nevada, where bison did not roam). These paintings do bring the bison back, but show how the landscape is no longer the same in a post-nuclear age. By capturing the split-second time of the mushroom cloud emerging, we see juxtaposed the placid repose of the bison and the radical violence and militarisation visited on the land. Instead of a rewilding that longs to turn back the clock of history, we get a sense how both animals and nuclear science have contributed to the current ecology of the southwest and plains.

In another visualisation of bringing back the buffalo, Monkman's oil painting *The Chase* (2014) (Figure 5.2) shows a herd of bison and a few bulls stampeding through a non-descript, run-down city street. The animals are pursued by an American Indian hunter, riding a rocket motorcycle, clad in sexy boots and carrying a Louis Vuitton-inspired arrow holder. Most of the running bison and bulls are depicted naturalistically, but some are cubist and some are in the style of paleolithic cave art. In some unknown city, an unusual combination of animal, technology, sex, art, primitivism, queerness and Native cultural revival come together in this image. The bison is brought back not in support of a nationalism–sustainability consensus, but as a queer object crashing through the streets, pursued by a transgender hunter–artist. Monkman – who has painted many scenes of bison in the setting of nineteenth-century-styled North American landscapes, often incorporating subtle expressions of non-heteronormative sexual activity

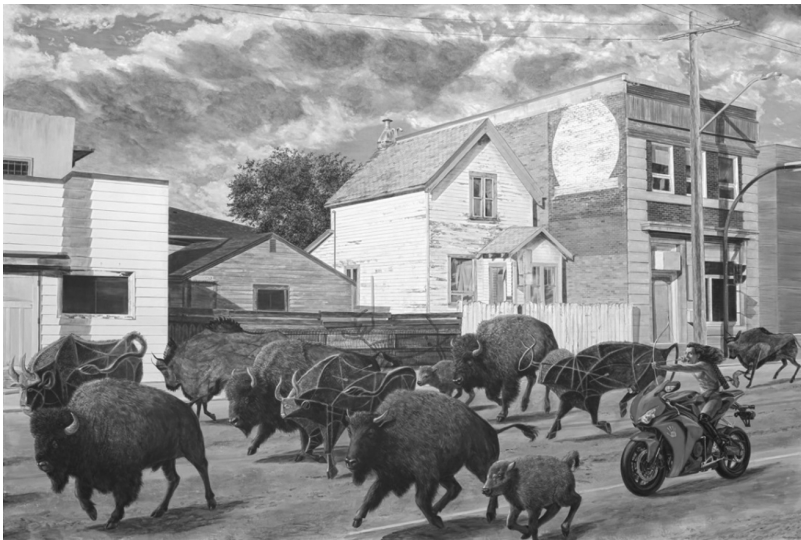


Figure 5.2 Kent Monkman, *The Chase* (2014)

– here depicts the bison as spilling into the city and bringing together 30,000 years of bison art. The return of the bison today shows the animal embedded in a world caught up in fetishising the animal body, comfortable with seeing the bison amidst other luxury goods and sensual consumer items. With bison running in paved streets and an Indian shooting a bow while riding a motorcycle, everything seems a bit out of place and time, yet the painting embraces living in a world full of anachronisms, inviting rewilding to add more. But if the bison were to be brought back today, they would be joining a world where queerness and wildness mix, rather than entering the streamlined masculine bison–rancher bonds that Callenbach fantasised.⁶

These contemporary works do not foretell a world where rewilding would be outright dismissed, but neither do they suggest that animals will come back or promise a ‘happy ending’ where energy, meat and nationalistic unity will be forever bountiful. Instead, these artists connect an intense longing for the wildness of the bison as inseparable from critiques of settler colonialism and the attachment of the animal to some of the utmost forms of violence imaginable. Bringing back the bison also means bringing back ghosts, whatever their nature. Furthermore, the point of bringing back the bison is not to institute a managerial form of bison capitalism, but to queer sustainability itself in order to welcome new and various ways to desire and live with the animal. An indigenous-led return of the bison could certainly be sustainable as Callenbach defines it, but the return of the animal comes in the context of a changing, ongoing relation of Native Americans to indigeneity. After a deeply traumatic extinction event, the bison does not return simply as before, rather the history of that extinction event remains in the very being of the animal. To borrow a term from Allan Stoekl, the bison is ‘post-sustainable’ (2007), coming after the illusory dream of steady-states and closed environmental circuits that disregard ecological realities of loss, disruption, extinction, excess, joy, violence, queerness and waste. The masculine, nationalist project of rewilding instead would become more diversely wilded in this queering of bison, sustainability and indigeneity together. It would mean imagining a future for animals without necessarily tying them to some version of animal capital. Ecotopia cannot circumvent ecological trauma, and sustainability does not erase extinction, but creates amidst it. The desire for the return of the bison, and a wilder biodiversity, takes us into uncharted pungent ecologies and musky ways.

Notes

- 1 In *Extinction Rates*, one of the first collections of statistical analyses of extinction rates, the editors summarised the rise in current extinction rates according

to orders of magnitude. The editors also used the phrase 'sixth mass extinction' (Lawton and May 1995: 20) once, an early example of this now widespread descriptor to account for the collapse in both population size and the rising rate of extinctions of plants and animals. Further discussion of the recent rise of rates of extinction is featured in Richard Leakey and Roger Lewin (1996), E. O. Wilson (2003) and Elizabeth Kolbert (2014).

- 2 The IUCN primarily uses population numbers to define these categories. For example, 'critically endangered' can mean reduction in population size to 10 per cent of numbers over the last ten years, or a population size of 250 or fewer mature individuals (IUCN 2012).
- 3 An influential article that appeared in 2000 in *Nature* identified twenty-five primary hotspots that occupy just 1.4 per cent of the land surface of the earth (Myers et al. 2000: 853). The authors of this study argued that focusing on these hotspots, which contain a concentrated diversity of species (but not necessarily supporting large population numbers), would be a more cost-effective way to pursue conservation.
- 4 The initial emphasis on identifying how 'shifting baselines' become the new normal was developed in 2002 by several marine biologists, divers and filmmakers, who set up a media and research campaign at www.shiftingbaselines.org. Further discussion of the issue of massively reduced populations now taken as the norm can be found in Caroline Fraser (2009: 294–9).
- 5 For a detailed history of the work to repopulate the few remaining bison, see Mark V. Barrow, Jr. (2009).
- 6 The linking of queer and wild made here owes much to the recent work of Jack Halberstam, who has a forthcoming book on the subject. See also Jack Halberstam (2013).

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