

FRAMING  
NATURE

conservation  
and culture

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## THEMES



### *Loss and recovery*

I have never seen a free-born Scottish wildcat and I am never likely to. Negligently and knowingly, we have allowed the Highland Tiger to wane to the point of being 'functionally extinct', as ecologists say, meaning that its small population is unsustainable. Highland Tiger is a new name, coined by conservationists desperate to muster public support for an animal that has been pushed far closer to the brink of extinction than the real tiger ever was. The real tiger came close enough, but when its main populations – in the Indian Subcontinent, Sumatra and Siberia – reached critically low points in the 1970s, governments intervened with hunting and trade bans and dedicated tiger reserves. It hasn't worked perfectly, but it has worked. At that same time, in the UK the last refuges of the wildcat were being desecrated with government support. Long absent from the great expanse

of moorland above the treeline, they were confined to the narrow, steep, forested glen sides. By then the government policy<sup>1</sup> of eradicating the wildcat had long been revoked; but the subsidised planting of dense monocultures of Sitka spruce proved more effective anyway. We watched an avoidable environmental disaster unfold and continue for decades in full knowledge of its impact. The wildcat was squeezed into ever-smaller fragments of mixed forest, or pushed closer to the farmland fringe, where successive generations acquired a proportion of farm cat genes, rendering them both impure and less fit for forest life. Today the wildcat, which is not in fact Scottish, but once roamed across Great Britain, is represented by a few hundred wild hybrids and a captive population of animals with a variable genetic heritage.

I write about the wildlife I know, or have at least had the chance to observe at close quarters. Others will write the story of the wildcat, and it will challenge our credentials as a nation of animal lovers and as world leaders in conserving our natural environment. It may have been government and forestry industry incompetence and apathy that finally consigned the wildcat to history, but it is a species with which we have coexisted uneasily for centuries. We persecuted it as vermin from Tudor times and on into living memory, with a Tudor zeal and a Tudor propensity for extreme prejudice. If today's are more enlightened times, then only apathy or negligence can explain how we have come to fail the wildcat. This book is my attempt to understand how and why such tragedies come about, even to this day, and what we can do about it.



More than four thousand years ago, in Neolithic Orkney there was a community of people about whom we know – unsurprisingly – almost nothing. We can reasonably surmise

two things, though: that when they died, their families did not bury them straightaway, but left them in some exposed place where certain birds would be allowed to feed on their flesh; and that of the birds enlisted to the task, the white-tailed eagle was the most important. It was the bird whose wings were broadest in span and whose soaring swept it to the greatest heights. Perhaps they believed that the eagles could consume a person's soul and carry it into the heavens, communicating effortlessly between the realm of the Earth and the realm of the sky.

The white-tailed eagle appears to have been talismanic, maybe totemic, but that relationship has been decisively lost to history and to daily reality. 'Totem' is a word loaned from native North America, where the Ojibwe people usually write *doodem*. I think of *Baswenaazhi*, the North American bird whose voice resonates across the plains of the mid-West. It has no words, but it does have a human voice, and a human stance and stature. It will dance like a human when the occasion presents itself. It is a real bird, known in English as the sandhill crane; or if translated from the Ojibwe, the echo-maker, which is also the name of an Ojibwe clan. The Baswenaazhi are renowned for their loud, far-carrying voices, used for transmitting instruction and news as befits their designated role as the chief clan of their people. Fundamental to the North American First Peoples' view of themselves in the world is the power of the totem identity to cement a people to place, and thence to the natural resources and relationships that sustain life.<sup>2</sup>

Both examples are remote from contemporary western understanding. They point to the existence of a deeper connection to the rest of nature than anything our teachings, values or lived experience can equip us to understand. Conversely, as we in the developed West see both our feelings of connection to nature and our direct experience of it thinning out, so we are losing our sensitivity to its loss.



In Orkney I saw with my own eyes the evidence of this deep connection between past human inhabitants and white-tailed eagles, and started to write what was to be the first chapter of this book as soon as I returned. That relationship seems to have lasted for perhaps 120 human generations and been by no means confined to remote pagan societies. Yet still the species was exterminated by the deliberate efforts of later generations who laboured at the task for as long as 800 years. It was a goal that was eventually codified in the laws of Elizabeth I and finally achieved with the shooting of the last eagle in 1918 amid objections and laments that came too late. Later in the 20<sup>th</sup> century a second 180-degree turn in society's attitude to eagles, albeit with loud voices of dissent raised by a small but influential minority, provided a platform for their reintroduction.



As predators, the white-tailed eagle and the wildcat have seen their place in cultural life shift decisively. The subject of this book's second essay, the corncrake, is different. Although famously elusive, it was known to all country folk from its characteristic call. It was probably one of those species that was widely liked and welcomed as a sign of summer but was just too ordinary to inspire feelings as strong as love, reverence or awe. Its loss was an unforeseen and unintended consequence of the early agricultural revolution. It owes its place in conservation history to its being the first casualty of mechanisation, the first subject of widespread conservation concern, the first conservation-driven target of amateur data-gathering, and the



harbinger of the general devastation of wildlife wrought by further agricultural change half a century later.

What farmland birds and the wildcat have in common is the slow and half-hearted response of the deeply conservative and heavily policy-driven industries of farming and forestry to their impacts on the natural environment. The impoverishment of wildlife was for decades treated as unavoidable collateral damage, part of the price of necessary change. This is still the dominant culture of the UK countryside today, actively promoted by global commercial interests from agri-chemicals to supermarkets, perpetuated by government policies and unopposed by the majority of consumers. The rest of us have failed, so far, to make more than token inroads into the default culture of meekly accepting catastrophic loss.

### *Conflict and Coexistence*

As I began to explore this theme through other species' stories I realised I had to include two animals that, according to the conventional systematics of conservation, would not rank highly in our list of priorities. One of them, the fox, is common, widespread and unthreatened. It is of great interest, though, to a cultural historian exploring the attitudes and values that govern our past and future relationship with the rest of the natural world. For different reasons, the badger is, too, but my search for understanding hit a brick wall when it came to this animal. While the fox is an animal I love and admire, nevertheless I understand that others may hate it for its depredations on their poultry and out of fear (usually unfounded) for their lambs. That it has been killed for sport and regarded for centuries as a fine adversary is a matter of fact, for all that I cannot remotely condone the behaviour. As a character in the story of the entwined lives of the human and non-human inhabitants of Britain, the fox is indispensable.

Both the fox and the badger have adapted to the world we created around them and continue to adapt as we continually reconfigure it. We, on the other hand, struggle to adapt to worlds of our own making. Crowding into vast insanitary cities, people became susceptible to disease at a scale never previously known. We developed medical technologies with great ingenuity, only for some diseases, like influenza, to outpace us in a pathological arms race. Many of the dairy herds that were kept in and around the cities were infected with bovine tuberculosis (bTB) which passed lethally into the human population. We solved that problem by pasteurising milk, but the experience left us with a collective fear of bTB in cattle.

Because it is the cattle that are continually moved about the landscape and the badgers that stay in their ancestral domain, the badgers are described as a reservoir for the disease, immediately and by a simple choice of language defining them as the problem. The consequence of this scapegoating has been for the government to focus almost all financial, scientific and political resources onto dealing with the badger, and relatively little on promoting farm-level and industry-level solutions. The result has been described as the greatest destruction of a protected species on record.<sup>3</sup> This seemed to me to be an act of war on wildlife and on the supporters of wildlife.



This must have been on my mind when one evening I was watching astonishing footage of leopards roaming the streets of Mumbai at night. The Scottish filmmaker Gordon Buchanan had captured the thermal images for a programme on the BBC. I found myself pondering something that Buchanan's films had merely hinted at: that despite the obvious potential for conflict and danger, the presence of leopards on the streets

of the world's most densely populated city had not, by and large, led to calls for their eradication.

“On the contrary,” suggested my friend Sujan Chatterjee, “it’s basically a story of tolerance.” The word seemed to ricochet off the walls: such an obvious value to espouse, but not one that features often in the western conservation lexicon. I was thinking of following up the leopard story when Sujan made another suggestion.

“If you decide to go researching leopards in Mumbai, you should also go to Gujarat. There are villages there where Asiatic lions walk in and out, ignoring the people, and people walk around ignoring the lions.” Ten months later, I was in Mumbai and with a ticket for an onward flight to Rajkot in Gujarat. My visits were facilitated by activists, but the stories that I heard of the urban leopard and the rural lion were told to me through the voices of the forest-dwelling tribal people who live in daily harmonious contact with potentially dangerous animals. They helped me to realise that I needed to rethink nature, and that miniscule fragment of it that is me.



As Eli Enns, a Nuu-chah-nulth Canadian political scientist has said: “western scientists and indigenous peoples come with very different world views. Western science is more utilitarian and sees the world in pieces, indigenous knowledge is more about understanding the interconnectedness of things.” I was writing about contemporary conservation challenges, the unfinished business of nearly four decades of my life and I had begun questioning some basic tenets of our stewardship of the natural world. These include the rigorous application of law, policy, science, economics and land management practice towards equally rigorously-determined conservation priorities.

They are the foundation stones of the western conservation model, the fundamental precepts from which all advocacy stems; the source of an almost unshakeable confidence in the rightness of our arguments, and of our evangelical zeal. As a child of this faith, my questioning stops just short of heresy, but extends to wondering: if the model is correct, why isn't it working? The conclusion must be that these technocratic devices are necessary but insufficient in themselves. There is something missing, or something blocking; either way, it must be something cultural.

I returned from India with a notebook full of stories proving tribal people's deep-rooted affection for all the lifeforms with which they shared their environments. The contrast with the institutionalised intolerance of our native wildlife was laid bare when it was revealed that 30,000 badgers had been killed that year – 2018 – alone, on politically expedient but scientifically spurious grounds. At the same time, plans were laid down for another protected species, the hen harrier, to be removed from its natural habitat in northern England, where their natural diet includes red grouse chicks. Gamekeepers managing the heather moors have killed harriers as a matter of routine for at least 150 years, but for nearly half that time the species has been fully protected by law. Conservation bodies led by the RSPB, alarmed at the near-extinction of the hen harrier from England and its continued intense persecution in Scotland, have fought longer and harder for the survival of this species than almost any other. They have waged a long campaign to persuade grouse moor owners to stay within the law, and with cooperation unforthcoming, turned their attention to calling for stronger enforcement, tougher penalties and vicarious liability on the part of the owners for crimes committed by their staff and contractors. The red grouse industry body, the Moorland Association, has successfully resisted calls for restraint and control and instead has persuaded the government to move the problem away. The so-called Brood Management Scheme,

where chicks are removed from moorland nests, reared in captivity and released later as adults, got underway in 2019 despite the RSPB's protests and its questionable legality under international law.

The badger and the hen harrier may not have much in common at first sight. The impact of government-led control is likely to be different in each case: badgers may continue to be relatively common in some areas and stabilise at reduced population levels in others; hen harriers seem unlikely to recover to satisfactory and sustainable levels in any of their preferred haunts. But in some fundamental way they are alike. They are both legally protected species officially blamed for problems not of their making. Whereas predators were once routinely vilified throughout the land by an ignorant and prejudiced populace, there has been a transformation in interest, concern and acceptance among the general public. But reservoirs of prejudice persist, and building public policy around the goals of tolerance and coexistence seems just too difficult.

### *Small matters*

Of all the species on earth, ten are depicted here in some detail and to nine of them, I have devoted a chapter each. The tenth has no essay of its own – all of world literature is devoted to it after all; but the story of our own species winds around and through all the others. Many of the nine have some long-understood or easily-revealed special connection to us, but a more balanced account of the worldwide web of life would see this book devoted mainly to fungi and invertebrates, with perhaps an essay on the nightingale to remind us that the provision of joy is one of nature's daily services.

Our relationship with insects can be distilled into the two sentences of E.O. Wilson's apothegmatic assertion that *if all mankind were to disappear, the world would regenerate back to*

*the rich state of equilibrium that existed ten thousand years ago. If insects were to vanish, the environment would collapse into chaos.* Wilson is a renowned American research entomologist who has built upon his academic credentials by dispensing a steady stream of aphorisms like an ecological Dalai Lama. In late 2019 UK entomologist Dave Goulson published a report<sup>4</sup> with its own variation on the same theme: *For many insects, we simply do not know what they do. We have not even given a name to perhaps four-fifths of the perhaps five million insect species that are thought to exist, let alone studied what ecological roles they might perform.* Goulson went on to quote Aldo Leopold: *The first rule of intelligent tinkering is to keep all the parts.*<sup>5</sup>

When it comes to insects, the anguish that conservationists feel about the eroding diversity of life caused by waves of local or global extinction is matched by a concern for the loss of bio-abundance. Individually, each insect species has its ecological role. In many cases, this will be highly specific – the four closely-related *Andrena* bees in Mallorca that are each solely capable of pollinating one of four closely-related bee orchids, for example. Collectively, insects are the fuel supply for thousands of different species of birds, reptiles, amphibians and mammals, for whom quantity may be more important than specificity. Only in huge numbers can insects pollinate large acreages of crops. Only vast armies of invertebrates can recycle leaf-litter nutrients, aerate soil and process animal dung, or indeed the animals themselves at the end of life.

In the modern West, with the possible exception of the domestic honeybee, no insect has attracted a sufficient degree of respect, fascination or gratitude to have acquired any cultural significance. Their absence, on the other hand, is having profound impacts on millions of lives. In large areas of Sichuan, China, a million people are engaged in pollinating apple trees by hand, insects having disappeared

from the surrounding intensively-farmed, pesticide-drenched countryside. The impact on the human community, affecting employment patterns, family life and schooling, has been dramatic.



In early 2017 I postponed my decision to retire from a career in the conservation mainstream to join a team drawn from eight organisations<sup>6</sup> who had come together to create *Back from the Brink*, a collaborative programme dedicated to restoring the health of threatened species of all kinds, from bumblebees to birds. While some of the species are conventionally charismatic, like the pine marten and the black-tailed godwit, the programme pays equal attention to the lichens, fungi, beetles and mosses that rarely make the headlines. I devote three of these essays to small, little-known and usually overlooked beings that feature in the programme, and to which I have somehow developed a close personal attachment.

One is a bird so understated in personality and plumage as to have been unknown as a British species until 1897, despite its distinct British form having evolved here, been widespread and, in places, not uncommon. The willow tit is now our fastest declining resident bird, and could end up having flitted in and out of the ornithological record making no impression on the wider public consciousness. Its decline has, however, given it a unique place. For reasons that are not fully understood, it is now intimately associated with post-industrial areas such as closed-down collieries re-purposed for natural and economic regeneration. Such places are transitional habitats for humans, too, as the strong traditions of the pit village communities adapt and evolve. I discover that the unpretentious willow tit

is set to become an unlikely emblem for life in the greener valleys of a new industrial reality.

Gilbert White did not know the willow tit, but it is tempting to think that if they had been found in Selborne, he would eventually have noticed the subtle differences between it and the marsh tit, which seemed common there on my own visits. He was, after all, the first person to describe in detail the differences between those other notoriously inseparable birds, the chiffchaff and the willow warbler. He was also one of the first, and for centuries one of the few, naturalists to study insects with scientific dispassion, while allowing his enthusiasm and sense of wonder to remain undisguised. Writing this at the start of his tercentenary year, I reflect on the unwitting contribution he made to my profession of conservation, the very notion of which would probably have been unintelligible to White. My essay on the field cricket, a now-threatened species that he appears to have studied with childlike glee, is a conscious homage.

I have come late to entomology, inspired by reading Gilbert White afresh and E.O. Wilson belatedly; and also alarmed by headlines that in recent years have included terms like ‘apocalypse’ to describe the state of the insect world. Alongside the field cricket I write about the narrow-headed ant, a species that is found in few countries, and is at risk of extinction from Britain. In common with almost everyone who isn’t a myrmecologist, I had never heard of it until it was adopted as one of the Back from the Brink target species. To include it in a book that opens with an essay on the deep history and fragile future of the place of eagles in our lives is to strike an extreme, perhaps preposterous, contrast. The narrow-headed ant is an insect that conforms to Goulson’s observation that *we simply do not know what they do*. Ants in general, though, have acquired some unlikely admirers, and inspired one of the most important recent technological developments.



From their invention in the 1940s computer systems were conceived as centralised data processing units, modelled on the best living example, the human brain. Then in 1992, PhD student Marco Dorigo realised that ant colonies were able to perform certain computational tasks, such as finding the optimum route to a food source, more efficiently than any centralised intelligence system. The similarity to certain human problems, such as vehicle navigation and information network routing, struck Dorigo as significant. Solving the problem did not require lots of information to be processed by one hugely capable brain, but small quantities of information to be held by and shared between huge numbers of brains with a limited number of simple decisions to make. The mathematics behind this is called the Ant Colony Optimization algorithm and its application requires the creation of virtual ant-like entities communicating information via virtual pheromone-like signals. Both the ‘ants’ and the ‘pheromones’ are developed and marketed commercially by companies set up to serve this burgeoning field and its hundreds of profitable applications.

### *Hope*

At the age of fourteen I was taken on holiday to Wales to look for red kites, and after a week we finally enjoyed a distant view of a single bird over Tregaron Bog. Now, I sometimes see them over my garden in West Yorkshire. I moved there to take up a post as the RSPB’s Regional Director for Northern England and was present in 1999 at the first release of red kites into the freedom of the Yorkshire skies. In truth, all the planning and negotiation had been done before I started in the role, but I felt a vicarious satisfaction at our having restored the bird whose Old English name *gled* had long gone extinct except in the names of nearby places like Gledhill. It was a bird that our ancestors had set about removing from Britain and had come to within a single Welsh pair of succeeding.

By 1999 I already knew that the symbolism of restoring the kite to Britain was at least as important as the fact of it. It was not a universally popular decision, and in recent years red kites have again become the victims of a persistent strain of cultural backwardness that seethes with a hatred towards raptors. When once it was official policy, incentivised by a bounty scheme, to exterminate the red kite, today it is a crime. The majority of kites fly freely across Yorkshire and the rest of Britain, but over shooting estates in North Yorkshire in particular, there remains a criminal few who take it upon themselves to deny the overwhelming rest of us the thrill of watching one of nature's finest sights.

At some point I understood that we are a society divided culturally between a majority who are ready for a new relationship with the rest of nature, a 21<sup>st</sup> century relationship in which people and wildlife bring each other mutual benefit; and a minority who are prepared to shift wildlife out of the way when they perceive it to clash with their narrow interests. Recognising it as a cultural challenge was one of two turning points in my own understanding of what wildlife conservation was, is and will be.



The other turning point had come early in my career. Suddenly in the mid-1980s the plight of common farmland birds rose to the top of the conservation agenda. There had long been early warnings of an apparent clash of interests between agriculture and conservation. In the UK, there was the plight of the corncrake itself, evident to all rural communities by the inter-war years. Within another three decades, and more widely across the developed world, came a Silent Spring occasioned by the drenching of the farmed landscape with pesticides that soaked into the food-chain as through a sponge, killing

insectivorous birds in their millions. Later attention turned to the physicality of farming: starting with the ripping-out of hedgerows, then the ploughing-in of flower-rich grassland, the loss of mixed farming, and ever-increasing animal stocking densities.

For me, seeing the effect of wholesale agricultural change on widespread and common species changed the very nature of conservation: what it was, who it was for, what was its purpose; and changed it in two ways. The birds affected by the intensification of farming were part of our everyday experience, from skylarks to lapwings. These were not the avocets and bitterns known to most people only from books and TV pictures. They were not the eagles and ospreys of legend and of summer holidays. They were the birds (and, as we later came to realise, the wild flowers and many of the butterflies and other insects) that in some way shaped our lives.

I also realised that until that point, conservation was mainly about correcting the failings of the past. We had allowed our heathlands to dwindle in acreage and shatter into no-longer viable fragments, so the best of what remained we designated as protected areas and managed as nature reserves. Similarly reedbeds, wild flower meadows, wet grasslands, peatlands and other habitats that had been dismissed as underexploited wastes. We had allowed species associated with those habitats to decline to extreme rarity and in some cases to disappear completely from Britain. So we corrected that by nurturing those that found their own way back, like the avocet and osprey, reintroducing others like the white-tailed eagle and large blue butterfly, and for those that had hung on, like bitterns, rebuilding lost habitats for remnant populations to expand into. In many cases, these were measures that enlisted the support and cooperation of farmers and crofters, eager to play their part in resettling the account.

But that is just one, more-or-less traditional view of conservation. What I also realised was that as wildlife in the human

landscape continues to decline, we are no longer just seeking to patch up the losses of the past. We also have to slow, halt and reverse losses that are taking place now, and that we know will continue into the future, for an unknown period of time. This book asks the question – is that even possible? For it to be so, something profound has to change.



At the start of this introduction I described the wildcat as functionally extinct. It was intended rhetorically, because at the time of drafting, it had not been so declared officially, perhaps because conservation is founded on hope and optimism and there is always the chance that such an assessment may be premature. Sadly, the formal announcement has since been made.<sup>7</sup> In any case, the wildcat is the exception among Britain’s predatory mammals. New research confirms that otters – the subject of the eighth essay – have almost completely recolonised Great Britain, polecats have extended their range in southern Britain from Wales, and pine martens have expanded from the Scottish Highlands into the lowlands and on into England.<sup>8</sup>

“Unlike most carnivores across the world, which are declining rapidly, British carnivores declined to their low points decades ago and are now bouncing back,” said Katie Sainsbury whose PhD research at the Environment and Sustainability Institute at the University of Exeter forms the basis of the report. “Carnivores have recovered in a way that would have seemed incredibly unlikely in the 1970s, when extinction of some species looked like a real possibility.”



The first part of this collection of essay subjects is completed by a *thing with feathers*, in the words of Emily Dickinson's most enduringly popular poem.<sup>9</sup> Moreover, it is a bird that epitomises the remaining lines of that first stanza, *that perches in the soul – and sings the tune without the words – and never stops – at all*. In Britain at least, the rapidly-declining nightingale would seem to be a bird without hope, and as one that has itself inspired hundreds of thousands of lines of poetry, were we to lose it, it would constitute an immeasurable cultural bereavement. Yet hope there is, and it comes not from the long, patient, resolute application of orthodox conservation principles. Indeed, the contemporary story of the nightingale confirms the inadequacy of our established conservation model in saving species that dwell primarily in the human landscapes of farmland and traditional forestry. New conservation thinking coming largely from outside the mainstream organisations (and well outside government) has led to a return of many previously declining species into tracts of land not conventionally designated and managed for nature. So-called wilding or rewilding initiatives are challenging the precepts of formula conservation and offering an exciting – because unpredictable – new relationship with the nation's core natural asset, the land itself.



In a short collection of three further essays, I explore alternative ways of thinking about that relationship, and of our place in nature generally. There is a sentence, on page 250, that reads: “Over nearly a thousand years – since 1066 in fact – land-based prerogatives have relentlessly narrowed in scope until barely any of the private privileges of land ownership are subordinate to any of the shared benefits of good land management.” While that is true, the trajectory has not

been wholly without check. In 1348–1350 pandemic plague hastened the end of feudalism and introduced new ways of engaging farm labour. Exactly six hundred years later the pandemonium of global conflict led to Acts of Parliament that both enshrined the right of ordinary people to enjoy access to the natural environment, and introduced a basic presumption of protection for wildlife and its most important haunts. In our own time, pandemic has visited us again and brought with it the same strange brew of tragedy and hope. For many in locked-down Britain, the unfamiliar quiet has been filled with previously unnoticed birdsong. Children in Indian cities have learned to their astonishment that the sky is a beautiful blue; those in the north have seen the Himalayas for the first time. The death toll is almost certainly lower than might have been the case, when the beneficial effects of dramatically reduced air pollution are taken into account. Everyone seems to agree that an eventual return to normality must not mean a return to normal. Has there ever been a better time to rethink the many meanings of life?