

Is anyone listening?

by John Feltwell FLS

Much has been written on the decline of wildlife, particularly the insect apocalypse, with the decline likely to continue. Here, John Feltwell FLS reviews the works of several authors who have spoken out, but how much of their advice has been heeded? A number of the books selected are about the declining fortunes of UK wildlife—but the Anthropocene is a global event. Some of the proposed remedies are not a panacea for bringing back biodiversity.

The 'Anthropocene' is upon us—the (highly-debated) geological epoch characterised by rapid, anthropogenically-driven climate change—but how did we get here so quickly? A spate of books and pronouncements from royalty, academics and conservation bodies, have all basically said the same thing; we are into the *Sixth Extinction* (Kolbert 2014) with disappearing habitats and impacted biodiversity. It has been 59 years between *Silent Spring* (Carson 1962) and *Silent Earth* (Goulson 2021). So what is really being done to stop or slow the decline? Strangely, none of the following books are by Fellows of the Linnean Society.

Main drivers in the decline

As we know, the main driver of species loss is the destruction of habitats; climate change comes a close second. When Sir David Attenborough HonMLS says 'It's too late to avoid climate change', he really means it.¹ But NASA says it 'may not be too late to avoid or limit some of the worst effects' of climate change.² We can all hope.

1 Attenborough, D., (2022). <https://news.sky.com/story/attenboroughs-stark-warning-on-climate-change-its-already-too-late-12226694> (accessed 21 June 2022)

2 Is it too late to prevent climate change? (2022). <https://climate.nasa.gov/faq/16/is-it-too-late-to-prevent-climate-change/> (accessed 21 June 2022)



Those who have witnessed a decline in species are often moved to write about it. Such was the inspiration of Rachel Carson in the early 1960s, with her classic *Silent Spring* particularly focussing on the use of synthetic pesticides found everywhere in the environment, from mothers' milk up to pristine mountain lakes. If she were here to update her chapter on 'Elixirs of Death' she would no doubt have included the same story with regard to the proliferation of the use of microplastics.

It would be another 20 years before Norman Moore, the retiring chairman of the Nature Conservancy Council (NCC), would write his personal account of what was actually happening under his watch.³ In the innocuously titled *The Bird of Time* (1987), he did not mince his words, with chapters on the 'Disappearing Heathlands', 'Disappearing Hedges and Ponds', 'The Loss of Special Places' and a chapter on the 'Habitat Crisis—and the Involvement of Government'. That says it all really—the massive decline had already started. In his postscript, he wonders whether 'the problems of maintaining genetic diversity' will be sustained and whether we would have 'the foresight [...] to put conservation [...] at the top of the agenda'. I will leave it to you to decide whether this has happened.

Moore would be delighted that his thesis has been corroborated by a more recent commentator, biologist Trevor Beebe with his *Climate Change and British Wildlife* (2018) in which he says:

We cannot escape the fact that most species in all taxonomic groups are declining in the UK primarily as a result of the unrelenting efforts of the agrochemical industry and habitat destruction.

In 2022, the UK government is attempting to improve nature conservation via its Environment Act 2021.⁴ Biodiversity on new developments will be calculated using a software-driven biodiversity metric to maintain biodiversity levels.⁵ However,



ABOVE: Sunset in the Amazon Basin—an important biodiversity hotspot that continues to be under pressure.

LEFT: Some interesting titles that discuss species decline, in order of publication from the bottom up. Sadly, of the books shown, only the author of this article is a Fellow.

this has been difficult to calculate when major infrastructures such as HS2—a high-speed railway line developed to link London to Birmingham—have cut through 14 biodiverse SSSIs (Site of Special Scientific Interest) and ancient woodlands. On their website, the HS2 authorities state that an area the size of Manchester (c. 600 km²) will be covered in concrete, but two million trees will be planted by way of compensation.⁶ I feel positive that Moore would have had a whole chapter on the impact on SSSIs. Planting trees is not the simple cure-all for conservation catastrophes.

However, the 'best' book outlining the mistreatment of the British countryside is arguably campaigner Marion Shoard's *The Theft of the Countryside*, a complete exposé of the gross, unsustainable, irreplaceable loss of habitats, with chapters such as 'Subsidies for Destruction' and 'Paradise Threatened' (1980). It has not been surpassed and stands as a sad historical record of the assault on the ecological fabric of the UK.

In his more recent book *Hope in Hell: A decade to confront the climate emergency* (2020), environmentalist Jonathan Porritt argues for the phrase 'mass extermination' as a more appropriate term than 'mass extinction' for this man-made Anthropocene. And who would think

3 Interestingly, in *The Times* (22 June 2022) it was reported that HRH Prince William has admitted he has been reluctant to tell Prince George that so many elephants have disappeared under his watch.

4 Gov.uk (2022) The Environment Act 2021. <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted> (accessed 22 June 2022). Not to be confused with the earlier The Environment Act 1995.

5 It is currently on Version 3.0 (previous versions were not fit for purpose) and will possibly be applicable in November 2023.

6 HS2: The Facts <http://www.rail.co.uk/hs2-the-facts/> (accessed 22 June 2022)



ABOVE: Cleared virgin rainforest being worked for crops in Sulawesi, Indonesia.

that trees *per se* would be at risk, but Peter A. Thomas's new *Trees* (2022) expounds that:

Over 15,500 (30%) of the world's estimated 60,065 species of tree are now threatened with extinction, due to agriculture, livestock farming and forest degradation.

With 142 species becoming extinct in the last five years (to 2021), the UK now has 15 endangered tree species.

Biodiversity quantum lost

How do we know exactly how much we're losing, if we are not currently aware of all species on Earth? It has always been clear that we are losing species before they are discovered, especially with the loss of virgin rainforest. One 1980 study of 19 trees in Panama revealed a staggering 1,200 insect species, 80% of which were new to science. As the World Wildlife Fund (WWF) states: 'If there are 100m different species on earth, and the extinction rate is 0.01% a year, then at least 10,000 species go extinct every year.'⁷

In 2019, the National Biodiversity Network's (NBN) State of Nature report indicated that 60% of all species were in decline.⁸ It also stated that 15% of species in Great Britain were threatened

with extinction, and that 8,431 species were already extinct. However, while much decline has been due to the changing climate; the 'biggest single impact upon nature in the UK over recent decades was changing agricultural management'. Decline is not entirely down to climate change.

Although declines in wildlife are found across all animals, it is ironic that insects, the largest group on earth, with many not even identified, has been particularly hit. In *The Insect Crisis* (2022), Oliver Milman sets out the parameters for the decline, including the loss of bees. This was corroborated by Rothamsted Research's array of moth traps set across the UK that showed a decline in moths in southeast England (between 1968–2007), from 25% to a maximum of 40% (Milman 2022).

Young scientists may be amazed to hear that windscreens used to be covered with a pâté of insects. A team of researchers with Buglife, the Invertebrate Conservation Trust working in association with the Kent Wildlife Trust, endeavoured to count flying insect numbers in the UK with citizen scientists. Participants cleaned their license plates, then counted any bug splatter at the end of their journey, uploading their findings to the Bugs Matter app. Using data from 2004–2021, researchers found that there had been a 58.5% decline in total flying bug numbers within the study's timeframe (Yirka 2022).

Fifteen of the 25 hotspots for biodiversity are in tropical Latin American rainforests, and Tony Juniper CBE, Chair of Natural England, says that the large-scale loss of rainforest in Ecuador 'has already led to one of the largest man-made mass extinctions' (Juniper 2018). For some balance, one could turn to the opinion of statistician Bjørn Lomborg, who wrote *The Skeptical Environmentalist* (1998). He says in his work *False Alarm* (2021) that: 'Global warming is causing an unprecedented greening of the world.' He backs this up by referencing satellite imagery. However, we all know, as Lomborg knows, that 'green' on a satellite map does not clarify what sort of vegetation is present. When rainforest is removed, other species can thrive, and though by satellite it may look full and rich, in reality it is species-poor, often with invasive species.

⁷ World Wildlife Fund (2022). https://wwf.panda.org/discover/our_focus/biodiversity/biodiversity/ (accessed 20 June 2022)

⁸ The State of Nature (2019) <https://nbn.org.uk/stateofnature2019/> (accessed 20 June 2022)

The importance of biodiversity

Biodiversity is at the nub of the equation for reversing declines. The Linnean Society poses the question: 'How do we make sense of biodiversity? The answer is classification.'⁹ Carl Linnaeus (1707–1778) named 12,000 species of plants and animals with the assistance of his 'apostles' in far flung places. His was a recognition of great abundance; just a start, but a landmark one. Two hundred and forty-four years later and we continue to explore, collecting and discovering more species, and museums globally hold millions of specimens of insects that still await categorising and sorting.

Buglife estimates that there are 40,000 invertebrate species in Britain, 27,000 of which are insect species.¹⁰ It is a herculean task for any entomologist to get their head around that many. Unlike plants, where seeds can lurk in the soil and potentially 'repopulate' an area, there is no 'catch-up' with invertebrates. In a sense, re-wilding, or *Wilding* (Tree 2018), could be construed as a diversion from the main issue of habitat loss. Conservation often depends on very focused conservation criteria, whether for mammals, birds or insects (i.e. reserves, etc.), rather than whole habitat conservation, in Britain particularly. In my own view, how can any remedial measure such as rewilding replace lost ancient woodlands, or the 97% of lost *Meadows* (Feltwell 1992) or lost *Rainforests* (Feltwell, 2008)? Small steps can make a local difference, but not on a global level—rewilding will not go anywhere to replace the rainforest, or UK habitats, lost over the last 30 years.

The balance of nature

When I was lecturing in the 1980s I spoke about acres of rainforests being lost every hour. I think everyone listened, but few did anything, or felt they could do anything. Nothing seems to have changed. *The Guardian*, which (unique in the British press) keeps tabs on rainforest matters,¹¹ reported that 'The Amazon rainforest is losing about 10,000 acres a day', and that: 'Since 1988,



humans have destroyed an area of rainforest roughly the size of California.'¹² The stats continue to be cited and revised.

Earlier, with *The Theft of the Countryside*, Marion Shoard also included a hard-hitting chapter called 'Subsidies for Destruction'. In 1979–1980, the UK Government offered subsidies for the removal of hedgerows and woodland in order to grow crops, something I myself witnessed happen to the healthy ancient woodland quantum in East Sussex, in the High Weald Area of Outstanding Natural Beauty (AONB). The UK Government is now offering incentives for woodland creation.

Shoard was not the only one to note what was going on. Listeners of the BBC radio serial *The Archers* were perhaps unaware of the hard-hitting book by the programme's 'Agricultural Story Editor', Graham Harvey, entitled *The Killing of the Countryside* (1997), where he firmly blames agriculture (e.g. 150,000 miles of hedgerows gone), UK government grant schemes, and the EU and its subsidies for the loss of habitats. His first chapter, 'The Grim Reaper', is a catalogue of countryside attrition that he often states would run counter to the benign world that Anglo-

ABOVE: According to the British Trust for Ornithology, in the last 50 years the population of yellowhammers in the UK has dropped by about 58%, due in part to changes in arable farming and loss of hedgerows.

9 The Linnean Society of London, 2022. <https://www.linnean.org/learning/who-was-linnaeus/career-and-legacy> (accessed 20 June 2022).

10 Buglife, The Invertebrate Conservation Trust (2022). <https://www.buglife.org.uk/> (accessed 22 June 2022)

11 Two of the books reviewed here are by writers from *The Guardian*: Oliver Milman and Ben Rawlence (both essentially written during lockdown).

12 Heacox, Kim. (2022) <https://www.theguardian.com/commentisfree/2021/oct/07/the-amazon-rain-forest-is-losing-200000-acres-a-day-soon-it-will-be-too-late> (accessed 22 June 2022)



ABOVE: Colourful macaws are highly susceptible to rainforest loss and trading. These scarlet macaws from South America need salt licks to top up their nutrients, and an abundance of rainforest to ensure success in their home range.

RIGHT: The author campaigning for the protection of biodiversity in Cévennes, France



Argentine naturalist William Henry Hudson (1841–1922) and esteemed nature writer Richard Jeffries (1848–1887) once described.

While species distribution is always in flux, some benefiting, and some expiring, global warming does not trump habitat loss—yet. As Rachel Carson said:

The balance of nature is not a status quo; it is fluid, ever shifting, in a constant state of adjustment. Man, too, is part of this balance. Sometimes the balance is in his favor; sometimes—and all too often through his own activities—it is shifted to his disadvantage.

That time is now.

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