

Reversing the Nature Crisis: Silent spring or Adlestrop?

Introduction: Silent Spring

“There was once a town in the heart of America where all life seemed to live in harmony with its surroundings. Then a strange blight crept over the area. Everywhere was a shadow of death. It was a spring without voices. On the mornings that had once throbbed with the dawn chorus of robins, doves, jays, wrens, and scores of other bird voices there was now no sound; only silence lay over the fields and woods and marsh. No witchcraft, no enemy action had silenced the rebirth of new life in this stricken world. The people had done it themselves.”

Those are the opening lines of Rachel Carson’s *Silent Spring*, the 1962 book that sparked the modern environmental movement. Sixty years on we are closer than ever to that silent spring happening. Since we humans and everything we cherish depends on nature, we have the strongest possible interest in avoiding that outcome.

But if we are going to fix the problem, we need to start by understanding what the problem is, its magnitude, and what’s causing it.

That is why the Environment Agency has today published a major new report on the state of our nature. It looks in particular at what is happening to our plants and animals (trigger warning: it’s shocking), explains what these do for us (apart from bringing us joy at their beauty), and sets out how we can turn things around.

Our report focuses on England, but you could write this report about almost any other country in the world right now and while the details would all be different, the underlying picture would be the same – awful.

What’s happening: the story so far

People have affected the environment in England for millennia. Most of our untouched natural wilderness had probably already vanished from Britain by the time the Romans arrived. Even then our forebears were not living sustainably, cutting down forests and starting to degrade nature. The Industrial Revolution made things worse, by triggering the start of climate change as coal was burned to power machines, and by starting to put much more pollution into environment. That accelerated the degradation of nature on which our plants, our wildlife and all of us ultimately depend.

But it wasn’t until the second half of the 20th century and our own lifetimes that things really started to go downhill. Our report collects the evidence. Species-rich grasslands such as meadows have decreased in extent by around 97% since 1930. Lowland heathlands now cover only 20% of the area they did in the 19th century. The loss of wetlands, one of the richest habitats, has also

been severe: we have lost 99.7% of our fens, 81% of our grazing marshes and 44% of our lowland bogs. Almost all our ancient trees have gone too: up to 70% of our remaining ancient woodlands have been deforested or damaged, mostly during the past century.

The loss of meadows, wetlands, woods – the decline in those precious habitats has had its inevitable consequence: an equally shocking decline in the plants and animals that depend on them. Since 1970, 41% of our species have decreased in abundance and 15% of all our native species in the island of Britain are now threatened with extinction.

The position is even worse for the mammals, birds, butterflies and moths designated as priority species – those about which we have the greatest concern. They have declined in abundance overall by 61% since 1970.

Since that date butterflies and moths have decreased in average abundance by 16% and 25% respectively; a third of pollinator species have declined; water and wetland birds have declined by 14%, woodland birds by 25%, and farmland birds by 55%. A third of farmland specialist species – those that depend on a narrow ecological niche, like grey partridge, turtle doves, tree sparrows and corn buntings – have declined by more than 90% since 1970.

It's no better for our mammals: several species have undergone drastic reductions in population sizes. Hedgehog numbers have fallen by approximately 66% since 1995 and water voles have done even worse, falling by 78%. Overall, a quarter of mammals in England are now threatened with extinction. Let me say that sentence again in case you missed it: a quarter of mammals in England are now threatened with extinction. If that doesn't make you angry, you haven't been paying attention.

The story is a bit better in our waters, partly as a result of all the work the Environment Agency has done over the last three decades to clean up our rivers. Freshwater invertebrates, on which a lot of other aquatic life depends and which had previously declined to a low in the mid-1990s, have shown a recovery in recent years. Not so some other species like salmon though: in 2019, only 16% of our rivers met the minimum population targets for salmon conservation, the lowest score since monitoring began in 1993.

Meanwhile, things aren't any better on the ground. 18% of plants and 15% of fungi and lichens are at risk of extinction in Great Britain.

Why this is happening

Why is this happening? It's the result of a combination of factors: unsustainable use of our resources, changes in land use, pollution, the modifications we have made to our rivers, urban development, etc, much of which has been going on for centuries but which is now having a cumulative effect.

What's making this even worse is something relatively new – the climate emergency. Changing climate patterns are disturbing species and the warmer temperatures that climate change is bringing is threatening the existence of

some of those species. Example: lakes. When the water temperature in a lake gets to 17 degrees C, they are likely to suffer from algal blooms which lead to a deterioration in water quality, less life in that water and less diversity in the life that remains.

So there are a range of factors in the nature crisis we are now witnessing. They all, however, have one thing in common: they are down to us, the humans.

Why is this a problem?

Why should we care about biodiversity? Does it really matter if the vole goes the way of the dodo? It would be a shame to live in a world without tree sparrows, but we could surely manage without them, couldn't we? Here's why it does matter: the biodiversity crisis is a crisis because it won't just kill the plants and animals it is killing. It will kill us too.

That's because nature is indivisible and interdependent. Nature provides us with a host of things we depend upon, such as clean water, clean air and food. No nature, no food. It's vital in providing resilience to climate change by absorbing carbon dioxide, regulating local climatic conditions and providing flood protection. No nature, no climate shield. And as humans we depend on green and blue spaces for our own health and well-being. No nature, no us.

What we do about it

Are you depressed enough yet? Don't be because we can turn this round. Just as we can successfully tackle the climate emergency by doing the right things, we can successfully tackle the biodiversity crisis too.

Nature is indivisible. What happens in one part of our blue planet affects all the other parts. So the solution to the biodiversity crisis has to start at the global level. The framework for that already exists: the international Convention on Biological Diversity, which has committed all its signatories to protect our natural diversity, and to enhance it wherever possible. At the UN Biodiversity Conference (COP 15) due to take place later this year, governments from around the world need to agree a new set of goals for the next decade with strong monitoring to measure progress on the ground in reversing nature loss.

What the government is doing

We need action at the national level. The UK government, with other leading nations, made a commitment to halt and reverse biodiversity loss by 2030: or in other words to become Nature Positive. Many organisations, the EA included, have made a commitment to be Carbon Neutral by 2030. I would (and do) get out of bed every day to achieve that. But I would leap out of bed to help the planet become Nature Positive.

We could achieve that goal in this country. We know what we need to do: nurture our protected species; sustain our protected areas; better protect wildlife habitats outside those areas; restore our damaged habitats and

create new ones; start to knit together nature networks across the whole country; build a nature positive approach into our planning and development; stop the pollution which damages our habitats; tackle the climate emergency which is accelerating the biodiversity crisis and vice versa; and wherever we have a problem, employ nature based solutions as the default to solving it.

And much of this not only can be done, by governments national and local, by businesses, by landowners, by others; much of it is already being done. And what gets measured gets done. That is why we welcome the lead the UK government has given others by requiring, in the new Environment Act, the setting of a legally binding target on species abundance in England for 2030, aiming to halt the decline of nature.

What the EA is doing

The Environment Agency is playing its part. We protect species and the habitats on which they depend. Example: our work to ensure that the abstraction of water (which we regulate) does not damage wildlife or habitat – and when we think it will, we are reducing or in some cases stopping that abstraction by adjusting or turning off the licences that allow it. We create and restore habitat: over 1,100 hectares last year (2021/22). We use our role as a statutory planning consultee to ensure that new developments don't damage the environment, and we are influential: almost all planning decisions (over 98%) are in line with our advice. We are tackling the pollution that hits our wildlife, including by reducing the amount of air pollution from the industries we regulate. We are improving our waters on which so much of nature depends: we enhanced over 1,500 kilometres of rivers and streams last year. We are tackling the climate crisis, by regulating down most of the emissions that cause it, by helping people and nature become more resilient to its effects by building flood defences and by helping planners, developers and communities create better and more resilient places. And we are increasingly using nature-based solutions as the default.

Example: Steart Marshes on the Severn Estuary. If you visited Steart and didn't know what it was, you would think it was just a beautiful bit of marshland with some nice birds. It is all of those things. But it is a lot more too. It is also the UK's biggest coastal realignment scheme which reduces flood risk to 100,000 homes and businesses – a benefit valued at £5 billion – and has created 250 hectares of new intertidal habitat. The new marshland is home to a variety of species including great crested newts, otters, butterflies, and wintering and breeding birds. It is also a place where people can enjoy nature, a benefit to the local rural economy, and a carbon sink, locking away carbon and reducing the extent of climate change. It's a massive success for our partners with whom we designed and built it, the Wildfowl and Wetlands Trust and local communities. And it's a great example of how nature-based solutions can deliver multiple outcomes, including but not limited to tackling the biodiversity crisis.

Second example: Keeping Rivers Cool. If warm lakes are bad (algal bloom, as I mentioned) then warm rivers are bad too, killing off the wildlife in them. Our Keeping Rivers Cool project (the clue is in the name) uses trees to shade streams and prevent some of the warming that happens on hot sunny days,

reducing the impact on trout and salmon and other species. The shade from trees can reduce temperatures in small rivers on average by 2 to 4°C (compared to unshaded streams), sometimes by more on the hottest days: and that can make all the difference to the wildlife. Since the programme began in 2012, the Environment Agency, Rivers Trusts and Wildlife Trusts have planted more than 500,000 trees along our rivers and streams. This doesn't just help the wildlife and tackle both the causes and consequences of climate change, though it does. It is also providing other benefits, such as reducing erosion, intercepting sediment and pollutants, and making the rivers nicer places for the humans as well as all the other forms of wildlife that benefit.

What we can all do

So the EA is doing its bit. But none of us is as good as all of us. We are all contributing in some way to the biodiversity crisis, and we all have a role to play in tackling it. There are simple steps we can all take, most or all of which will also help us address the climate crisis too. Walk, cycle or take public transport instead of driving. Have less stuff, and reuse or recycle as much of it as you can. Use water wisely. If you have a garden don't concrete over it: keep it green and put in a pond. Only eat sustainably sourced food. Make sure your pension is not invested in businesses that are trashing the planet. Think about how your footfall resonates on this earth.

Conclusion

I started with a silent spring in which no birds sang. That is one future we can have, and will have if we fail to act. But there is another future we can have, a much brighter one, if we do choose to act. That's a future best encapsulated by another work of literature, a famous poem about the past which is also a kind of nostalgia for a future we would all like. It's "Adlestrop", by Edward Thomas, written in 1917 towards the end of a war that the poet himself tragically did not survive.

Adlestrop

Yes. I remember Adlestrop—

The name, because one afternoon

Of heat the express-train drew up there

Unwontedly. It was late June.

The steam hissed. Someone cleared his throat.

No one left and no one came

On the bare platform. What I saw

Was Adlestrop—only the name

And willows, willow-herb, and grass,

And meadowsweet, and haycocks dry,
No whit less still and lonely fair
Than the high cloudlets in the sky.
And for that minute a blackbird sang
Close by, and round him, mistier,
Farther and farther, all the birds
Of Oxfordshire and Gloucestershire.

So let's tackle the nature crisis. Let's refuse the silent spring. Let our
future be Adlestrop.

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