

Confronting existential crises: the current state of the environment and a pathway for a better future

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Introduction

Dad, the world is missing amazing animals, I wish extinction wasn't forever. Rohan Martin Ritchie, aged 5

Our son is now 17, and noteworthy recent conservation wins in the interim deserve celebration and gratitude. The Northern Hairy-nosed Wombat *Lasiorhinus krefftii* once numbered fewer than 50 individuals restricted entirely to Epping Forest National Park, Queensland, but, through concerted care, this marsupial earthmover has bounced back from the brink of oblivion to a total population now exceeding 400 individuals, spread across multiple locations (The Wombat Foundation 2025). I wish I could say such significant wins were the prevailing narrative, but the extinction and climate crises are deepening, rapidly.

Australia's 2021 State of the Environment Report (Department of Climate Change, Energy, the Environment and Water 2021) shows that the environment is in a poor and deteriorating condition. Coral reefs, rainforests, seagrass meadows, mangroves, riverine areas, woodlands, alpine herbfields, tropical savannas, kelp forests ... these and many other ecosystems are collapsing, from the tropics to polar regions (Bergstrom et al. 2021), due to the combined and compounding pressures of climate change, habitat destruction and modification, invasive species, pollution, and ultimately, our inability to share Earth harmoniously with all forms of life.

The more clearly we can focus our attention on the wonders and realities of the universe about us, the less taste we shall have for destruction. Rachel Carson (2024).

Perhaps the most well-known manifestation of Australia's dismal conservation record since European colonisation is the perilous

state of our unique, much loved, but awfully neglected native mammals. Forty species are now thought extinct; the latest to be declared so is the diminutive tropical forest denizen, the Christmas Island shrew *Crocidura trichura*, following other recent solemn farewells for the Bramble Cay Melomys *Melomys rubicola* and Christmas Island Pipistrelle *Pipistrellus murrai*. Scores of other species remain at risk of suffering the same fate as the shrew, Thylacine *Thylacinus cynocephalus*, and others, with more than 100 mammal species currently listed as at risk of extinction (EPBC Act of Listed Threatened Fauna, 2025). The environmental and conservation picture is even worse when we zoom out: there are now over 2,000 threatened species—most of them plants—and ecological communities in Australia (Species Profile and Threats Database, 2025), and this list is growing with alarming monotony.

The unemotional pragmatist might ask, but why does it really matter? The simple answer is that species that existed long before us have an equal right to persist, regardless of the values humans place on them. But importantly, we have a moral and ethical duty to act as responsible stewards and custodians of the extraordinary natural heritage we live alongside. Wildlife, and the places they call home, also bring us immense joy and a sense of wonder. For many, especially First Nations peoples, they hold deep cultural meaning, connections forged over millennia. In a more practical sense, species do not exist in a vacuum, they interact with each other, and shape and are shaped by their environment. Like threads in a great tapestry, if we keep pulling and removing them, we continue to weaken and, ultimately, risk unravelling the ecosystems upon which all life depends.

What escapes the eye, however, is a much more insidious kind of extinction: the extinction of ecological interactions. Daniel Jantzen (1974)

How might we confront the wicked challenges posed by dual existential biodiversity and climate crises? There is no simple nor single answer, but the following provocations are designed to challenge our thinking and assumptions about the intersections of science, politics, stories and societal change.

Science and public understanding

The late great scientist James Lovelock, who famously proposed the Gaia hypothesis—the interdependencies of life on Earth—observed

We live in an era where emotions and feelings often outweigh truth, leading to widespread scientific ignorance.

For sobering context, surveys have shown that 87% of scientists agree that natural selection drives evolution, but less than a third of the public share that view. Similarly, 87% of scientists attribute climate change to human activity, but only 50% of the public agree (Hoffman 2016). And, globally, papers in academic journals, where much research is published, are estimated on average to be read in their entirety by about 10 people (Biswas and Kirchherr 2015). *Genuine and effective* research dissemination remains insufficient relative to the need for greater public education, underscoring the need for broader, more effective communication strategies. To foster societal change, communication should focus on honesty, clarity, and *emotional* engagement. Many might recoil when science and emotion are mentioned together, but such an enforced divide has been a grave mistake. Scientists are not automatons, we have values and emotions just like everyone else, and we should be open about these. We should always conduct scientific investigation in a robust and objective manner, but there is no logical reason why we cannot use data, observations and the findings of enquiry to advocate for evidence-based change (Garrard et al. 2016).

There is arguably a limit to the benefit of additional information, though. The continued assumption by many that conducting more research and simply communicating it better will be the way to finally achieve substantive policy and societal breakthroughs is naïve at

best (Toomey 2023). History demonstrates it is a fool's errand. After all, in 1896, Swedish scientist Svante Arrhenius was possibly the first person to articulate how humans could change the climate globally (Sample 2005). This does not mean we drop our tools and stop research, far from it, but we must also confront the systemic barriers to change and work to overcome them. We also urgently need changes to academic reward structures to genuinely value and better support those that strive to ensure their work is accessible, relevant and impacting society.

Insanity is doing the same thing over and over again and expecting different results. Rita Mae Brown (1983)

Barriers to communication and policy change

The scientific community and society more broadly must reflect on the tight links between political parties and donations, industry lobbying and pressure, and ultimately, government decisions (Kurmelovs 2024; Centre for Public Integrity 2025). Furthermore, why are knowledge holders being silenced, threatened or punished? Why in Australia's democracy are > 50% of government, nearly 40% of industry, and approximately one in ten academic employees restricted from communicating scientific information (Driscoll et al. 2021)? Without access to information, citizens lack the ability to make informed decisions, including whom we vote for. This is a threat not only to democracy, but to society, and keen observers of history and political events currently unfolding in the United States of America should be concerned about the path silencing academics and experts leads us down. Far more scientists must be supported to speak truth to power, without fear of personal and professional retribution, and we must also better support those who already raise their heads above the parapet. Reform of laws and disclosures related to political donations and the influence of lobbyists is well overdue. It is essential to reduce the risk of coercion and corruption and to increase transparency. Failure to make these changes means the full benefits of scientific information for informing and changing society are unlikely to be realised.

Scientific and public discourse would benefit from more direct and honest language too. When we discuss taking care of Earth, our only home—sustaining human populations on Mars is a folly that denies ecological and evolutionary realities—it should not be discussed in terms of costs, but rather as an essential investment. Governments prioritise those areas they deem most important; we should apply far greater scrutiny of those they choose to neglect. A Biodiversity Council survey showed that over 90% of Australians want much greater government investment in conservation (Biodiversity Council 2025). Similarly, the Wentworth Group of Concerned Scientists estimated that investing approximately \$7.3 billion annually for 30 years (\$219 billion total) could fund 24 activities, such as invasive species and fire management, and habitat restoration. These would be targeted at protecting and recovering soil, water, native vegetation, threatened species' populations, and coastal environments, and ultimately, halting Australia's declining biodiversity (Wentworth Group 2024). Yet, government continues to cry poor and cites this as a primary reason for needing the unproven and likely grossly insufficient Nature Repair Market to drive conservation actions (Evans and Maron 2022). All this while committing hundreds of billions to AUKUS and nuclear submarines. Surely, striving for and supporting a healthy and biodiverse environment is our best defence against an uncertain and likely increasingly inhospitable future?

There is a price to pay for speaking the truth.
There is a bigger price for living a lie. (Cornel West 2018)

Let's be honest and speak freely. Australia's sovereign government and economy *can* afford far greater funding for environmental protection and repair (Ritchie 2025); our political leaders are choosing *not* to. The very same government is attempting to continue and expand harmful actions while simultaneously speaking of their sustainability and conservation goals. It is a simple matter of physics and chemistry that if we continue to release more greenhouse gases into the atmosphere, including the North West Shelf Gas Project, described as a 'climate bomb' (Climate Council 2025), then we will continue to see the consequences. The continuing decline

of the Great Barrier and Great Southern reefs, mass flying fox deaths, and other avoidable tragedies, are all a result of government choices, in Australia, and globally. Rather than the well-worn trope that increased environmental protection threatens jobs and growth, expert analysis shows the former is fundamental to supporting the latter (Dasgupta 2021). Australia's new nature laws have just been passed in the Senate: decision-makers would do well to remember this, and seize the enormous generational opportunity it presents (Bell-James et al. 2025).

Collaboration, community, and fostering hope

Despite the enormity of the conservation and existential issues we face, hope remains, and it is vital that it is nurtured. Effective environmental action will require careful and thoughtful listening as much as speaking. Effective communication is multi-directional, and we need to encourage all voices to be heard. We must take opportunities to go to and work with communities and champions of change. There is a tendency in society, and especially the media, to put people and groups into neat little boxes and pit their interests against each other. This is regrettable. If instead we re-examine issues with open minds and hearts, and seek and start solutions from shared common ground, great progress remains possible. Humans are hardwired to listen to and share their stories, and they are powerful motivators of change. I have worked in conservation for roughly 30 years, and I've learnt that the more deeply I listen the more my preconceived ideas are challenged. Deep listening and patience can lead to unexpected and positive outcomes.

Science is humanity's best tool for objectively understanding our world, but when we combine science with art, education, and storytelling, profound transformation is possible.

One of the penalties of an ecological education is that one lives alone in a world of wounds. Much of the damage inflicted on land is quite invisible to laymen. An ecologist must either harden his shell and make believe that the consequences of science are none of his business, or he must be the doctor who sees the marks of death in a community that believes itself well and does not want to be told otherwise. Aldo Leopold (1947)

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