

## Rewilding: a serious candidate for stabilising the global climate

In March 2023 the Intergovernmental Panel on Climate Change (IPCC) released its latest **report** on the current and future state of the Earth's climate.

The report had a bleak message: we are unlikely to achieve the Paris Climate Agreement goal of cutting greenhouse gas emissions in half by 2030, let alone net zero by 2050. This failure means surpassing a global mean temperature rise of 1.5°C and facing a hotter, drier and stormier world. **But the report provides hope by stating that it is not too late. If we act now and act fast we can still change course.**

Acting now and fast means reducing annual emissions by billions of tonnes of CO<sub>2</sub>-equivalent (GtCO<sub>2</sub>-eq) between now and mid-century. IPCC's top 5 options for reducing net emissions are:

- (1) rapid transitioning to solar energy (4.5 GtCO<sub>2</sub>-eq/yr)
- (2) reducing the conversion of natural ecosystems (4.0)
- (3) rapid transitioning to wind energy (3.9)
- (4) enhancing carbon capture and storage in agriculture (3.5)
- (5) restoring, afforesting and reforesting ecosystems (2.8).

The report further acknowledges the importance of simultaneously maintaining the adaptability and resilience of nature's species and ecosystem functions by ensuring "effective and equitable conservation of approximately 30% to 50% of Earth's land, freshwater and ocean areas". The need to safeguard nature as part of climate action is needed to sustain society into the future. **But we can do even better by enlisting nature to help us mitigate climate change more quickly.**

One week after the IPCC published its report, the Global Rewilding Alliance, along with 13 other colleagues, released the **article**, entitled "*Trophic rewilding can expand natural climate solutions*" describing a new way to enlist nature to help us mitigate climate change. Published in the top scientific journal Nature Climate Change, we describe how **rewilding (protecting and enhancing) populations of key wildlife species across the world could further reduce emissions by billions of tonnes annually, an amount of reduction that rivals each of the IPCC's top 5.**

Rewilding animal populations to enhance natural carbon capture and storage is known as "**Animating the carbon cycle**" (ACC). We argue that it is **probably among the best climate solutions available**. The protection of marine fish, wildebeest, sea otter, sharks, muskox, and grey wolf would secure 5.8 GtCO<sub>2</sub> in carbon sequestration per year (or more than 440 GtCO<sub>2</sub> by end of century). The restoration of only three species - American bison, baleen whales and African forest elephant - would add another 0.6 GtCO<sub>2</sub> per year - or 40 GtCO<sub>2</sub> by 2100. If we take into account the much larger group of high potential species, such as the African buffalo, white rhino, puma, dingo, Old and New World primates, hornbills, fruit bats, harbour and grey seals, and loggerhead and green turtles, **ACC through trophic rewilding could make a very significant contribution to meet the global target of removing 500 GtCO<sub>2</sub> from the atmosphere by 2100**, which would keep global warming below the 1.5°C threshold.



Photo credit: K.Sumano via Getty Images



Our article outlines the value to climate mitigation not only for protecting the wild nature we have left, but enabling degraded ecosystems to return to full health through **trophic rewilding** at scale. And, **this can be done within the urgent timeline set by the IPCC. There is potential to do even more, given the potential of many other candidate wildlife species.**

What is the significance of these findings? Here are some initial conclusions:

- The ACC perspective is **not at all considered by the IPCC.**
- **An ACC approach along with IPCC's ecosystem protection and restoration measures could double the emissions reduction** mentioned in the IPCC report (2.8-4.0 GtCO<sub>2</sub>-eq/yr).
- Marine fish, in particular, play a very significant - but overlooked - role in capturing and storing 5.5 GtCO<sub>2</sub>/yr. It is crucial to recognize this neglected aspect of the carbon cycle. Urgent action in global fisheries management must be taken to **restore depleted fish stocks and establish no-take fishing zones** to preserve the ocean's climate, biodiversity, and functioning both in territorial and High Seas.
- With its holistic ecosystem-based, functional biodiversity approach, **ACC through rewilding is a prime example of how to achieve synergy between climate mitigation & adaptation and biodiversity conservation.**



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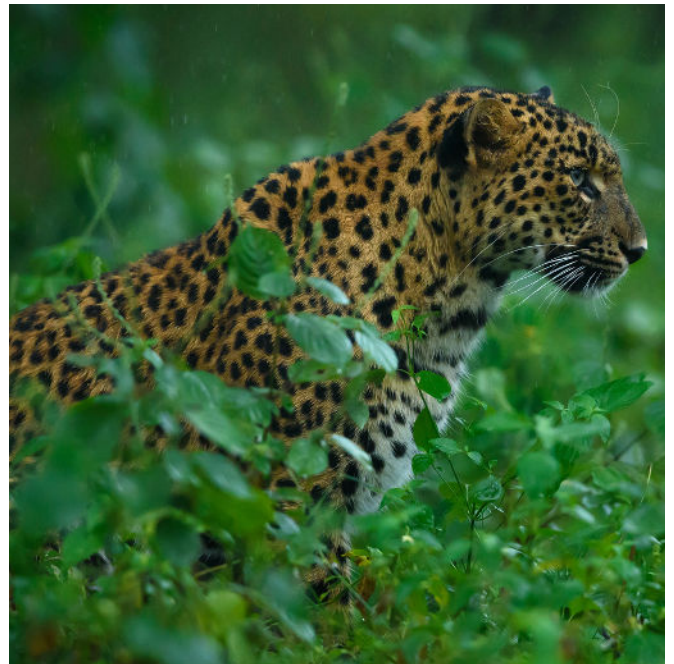
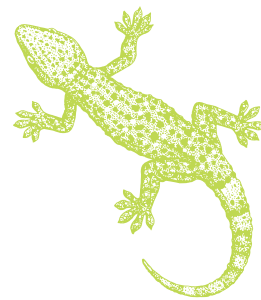


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The time has come to embrace a holistic systems perspective that explicitly includes biodiversity — especially animal diversity — and the interlinkages with ecosystem carbon cycling and climate change. The recent commitments to protect **30% of both land and sea** (including **High Seas**) by 2030 can serve as a key basis for implementing ACC. Including ACC as a nature-based climate solution could help humanity meet the target of halving its GHG emissions by 2030.

**We therefore call for the restoration of wildlife populations to be included in the scope of nature-based climate solutions – solutions which help nature to lock up carbon and adapt to climate change.**



Our partners at One Earth produced this **beautiful, accessible, short film** (1 minute 56 seconds) to help explain all this.

