

Getting the message right on nature-based solutions to climate change

February 1 2021



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Nature-based solutions can play a key role in helping to tackle the climate and nature crises, while delivering other benefits for people, according to a new paper today from the Nature-based Solutions Initiative (NbSI) at the University of Oxford—but it is vital to get the message right about how to deliver successful NbS and avoid potential

pitfalls.

Professor Nathalie Seddon, Director of the NbSI and joint first author of the paper, explains NbS projects are people-led and biodiversity-based. They emerged in the late 2000s as a move away from conserving nature for its own sake to conserving nature for people's sake and they currently have huge traction in business and government. They were high on the agenda at Davos last week and are a major theme of November's [climate change conference](#), COP26, being hosted by the UK government.

This new research, published in *Global Change Biology*, sets out how a wide-range of well-designed NbS can deliver multiple benefits for people and nature. For example, coastal mangroves or [coral reefs](#) can protect from storm surges, urban green spaces help to cool cities, and improving soil health can help farmers adapt to droughts.

But, as Alison Smith from Oxford's Environmental Change Institute and joint first author of the paper, explains, "Most of the recent limelight has been on [tree planting](#) for [carbon sequestration](#)—and often these trees are commercial plantations of non-native species with little benefit for biodiversity."

She notes, "The expansion of forestry framed as a climate change mitigation solution is being used for corporate greenwashing, as an excuse for continued use of fossil fuels. Although it is vital to protect a diverse mix of carbon-rich and bio-diverse native ecosystems, such as [old-growth forests](#), natural grasslands and wetlands, there is a limit to the carbon that can be stored by newly planted trees—and this carbon is at risk if trees are harvested or if they die from fire, drought or disease as the climate continues to warm.

Professor Seddon emphasizes that NbS must be designed and implemented in partnership with local communities, with an equitable

sharing of the benefits. "Poorly designed projects sometimes ignore the rights of local people to govern their [natural](#) resources, undermining the legitimacy and long-term success of the project."

After discussing the promises and pitfalls of NbS, today's paper encourages policymakers, practitioners and researchers to consider four guiding principles to deliver sustainable benefits:

- NbS are not a substitute for the rapid phase-out of fossil fuels;
- NbS involve a wide range of ecosystems on land and in the sea, not just forests;
- NbS are implemented with the full engagement and consent of Indigenous peoples and [local communities](#) in a way that respects their cultural and ecological rights, and
- NbS should be explicitly designed to provide measurable benefits for biodiversity.

"If we follow these guidelines, we can design robust and resilient NbS that address the urgent challenges of climate change and biodiversity loss, sustaining nature and people together, now and into the future," says Professor Seddon.

In this way, she argues, "NbS can play a key role as part of a fundamental paradigm shift that is being fast-tracked by the COVID-19 pandemic. This is the transformation of a destructive global economic model centered around GDP and infinite growth, that ignores nature's value to people and its intrinsic value, to one where a healthy economy is defined by the social and ecological wellbeing it brings."

More information: Nathalie Seddon et al. Getting the message right on nature-based solutions to climate change, *Global Change Biology* (2021). [DOI: 10.1111/gcb.15513](https://doi.org/10.1111/gcb.15513)

Provided by University of Oxford

Citation: Getting the message right on nature-based solutions to climate change (2021, February 1) retrieved 26 April 2024 from <https://phys.org/news/2021-02-message-nature-based-solutions-climate.html>

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