

Challenges and opportunities for investment in nature-based solutions for climate resilience

Growing the Region's Ability to influence Investment in Landscapes (GRAIL) – the Limestone Coast pilot



Resilient
Landscapes

National Environmental Science Program



Mullinger Swamp. Photo: Limestone Coast Landscape Board

Nature-based solutions (NbS) for climate resilience offer a response to ongoing climate and biodiversity crises for both nature and people. Yet barriers remain to investing in NbS at scale in Australia. These can be addressed through building collaborations, knowledge, pathways and strategies for NbS that align investments and outcomes across landscapes.

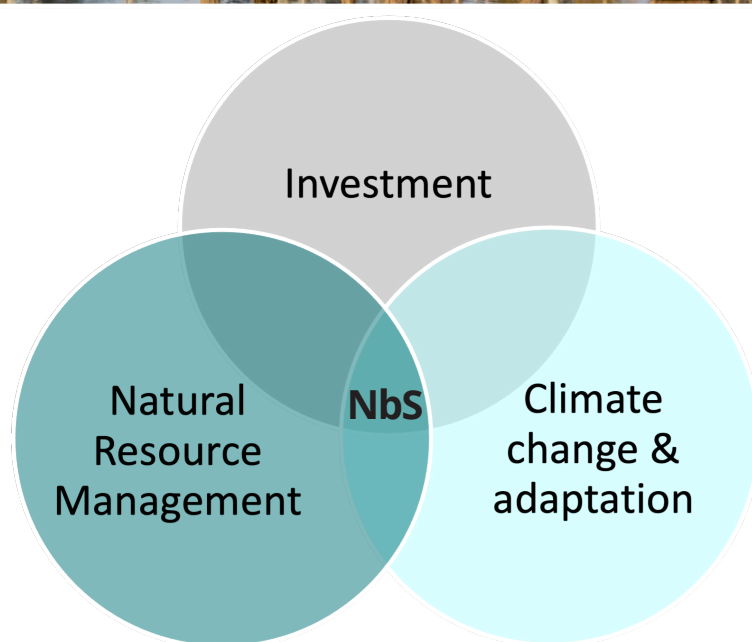
Research Context

Addressing the effects of climate change requires sustained investments that mitigate the risks from disasters and build the resilience of human-nature systems. Nature-based solutions can support these aims.

Investing in NbS is essential for achieving global goals on biodiversity, adaptation and sustainable development. Recent NbS projects highlight both challenges and opportunities, especially in meeting long-term adaptation needs and financial expectations amid climate uncertainties. Collaborative efforts across public and private sectors are needed to address these challenges and unlock opportunities.

Opportunities and challenges

Understanding the intersections between investment, natural resource management and climate change is key to ensuring effective NbS. The benefits and outcomes of NbS are often slow to materialise, spatially distributed, complex and difficult to attribute. Addressing the perceived or actual risks to public and private returns on investments in nature is a major challenge to the implementation of NbS for climate adaptation at scale.



Additionally, the size of required investments can surpass government spending appetites, creating a greater emphasis on blended (public-private) investment and exploration of other mechanisms including philanthropy and voluntary contributions.

These issues underscore the urgent need for incentives and governance that promote alignment between investments, sustainable natural resource management and climate resilience.

What are nature-based solutions?

Nature-based Solutions are: *actions to protect, sustainably manage and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human wellbeing and biodiversity benefits.*

Misalignment between profit-driven and values-driven rationales

Designing effective NbS requires transparent and collaborative consideration of both direct and indirect benefits and costs, across short- and long-term scales.

Benefits such as biodiversity preservation, climate adaptation, disaster risk reduction, social wellbeing, and cultural values must be part of this process, alongside traditional paradigms that have understood value as monetary or capital. New approaches to valuing non-monetary benefits are becoming more widespread and provide an opportunity to do this.

Additionally, a 'profit logic' often prevails as there is an absence of governance to ensure that the non-financial, long-term and public good outcomes of NbS investments are achieved. This undermines genuine adaptation and sustainability efforts.

Aligning profit- and values-driven logics in investment in climate-resilient NbS involves a wider interpretation of investment (e.g. time, labour, commitment); recognition of multiple values (e.g. financial, relational, environmental, cultural); understanding pathways of benefit and value over time; and governance arrangements that support public-private partnerships.

Pilot research for enabling investments in climate-resilient NbS

CSIRO is working with the Limestone Coast Landscape Board and NRM Regions Australia through the GRAIL project to:

- co-create new investment models and pathways for landscape resilience
- increase awareness and recognition of the role of regional NRM organisations in coordinating landscape scale investment in NbS
- develop tools and guidance to progress landscape investment strategies and scale up NbS.

Alignment advantage

Aligning profit- and values-driven investments in natural resource management and climate change adaptation strategies maximises the benefits of climate adaptive NbS for people and nature. This alignment is essential for effectively mobilising resources and investments towards sustainable NbS that adapt to climate change while ensuring shared benefits across public and private sectors.

Further information

The GRAIL project is led by Dr Josie Carwardine, Dr Russ Wise and Dr Russell Gorddard from CSIRO in partnership with the Limestone Coast Landscape Board and NRM Regions Australia.

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