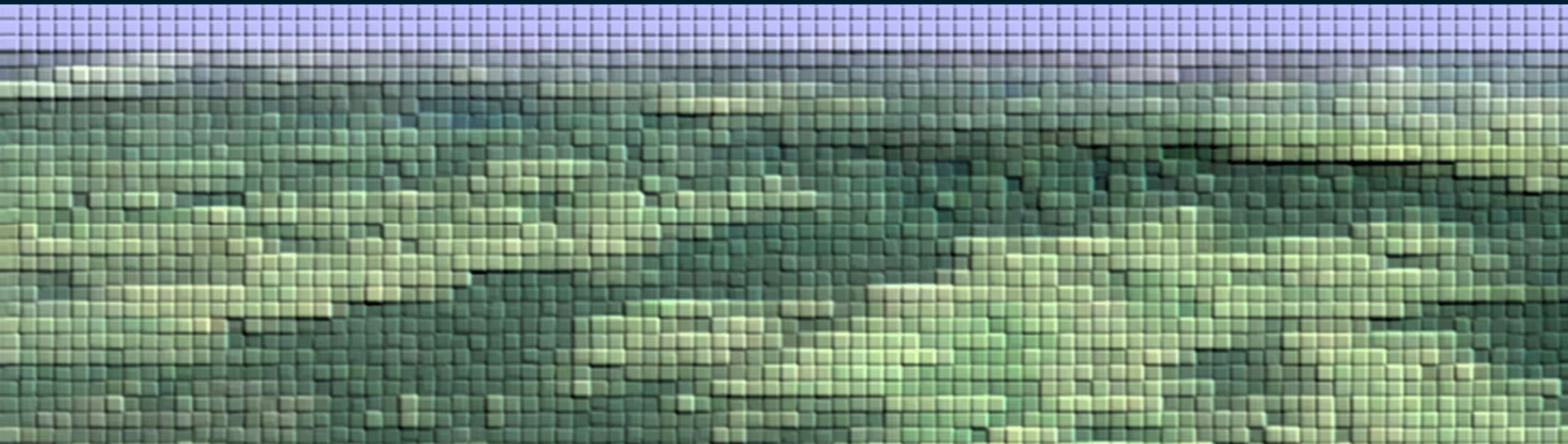# Using indicators to plan & monitor achievement of biodiversity outcomes through ecosystem restoration: a bigger-picture perspective

Simon Ferrier, CSIRO

# Dual role of indicators – monitoring <u>and</u> planning

Monitoring framework for the Kunming-Montreal Global Biodiversity Framework (Decision 15/5, Annex 1)

➢ "headline indicators … to be used for **planning and tracking progress** as set out in decision 15/6"

Mechanisms for planning, monitoring, reporting and review (Decision 15/6)

➢ "use the headline indicators, supplemented by component and complementary indicators and other national indicators, in relevant **national planning processes**"

➢ "headline indicators as well as component, complementary and other national indicators … should be used … to **track contributions towards the goals and targets**"

CSIRO

Dual role of indicators – monitoring <u>and</u> planning
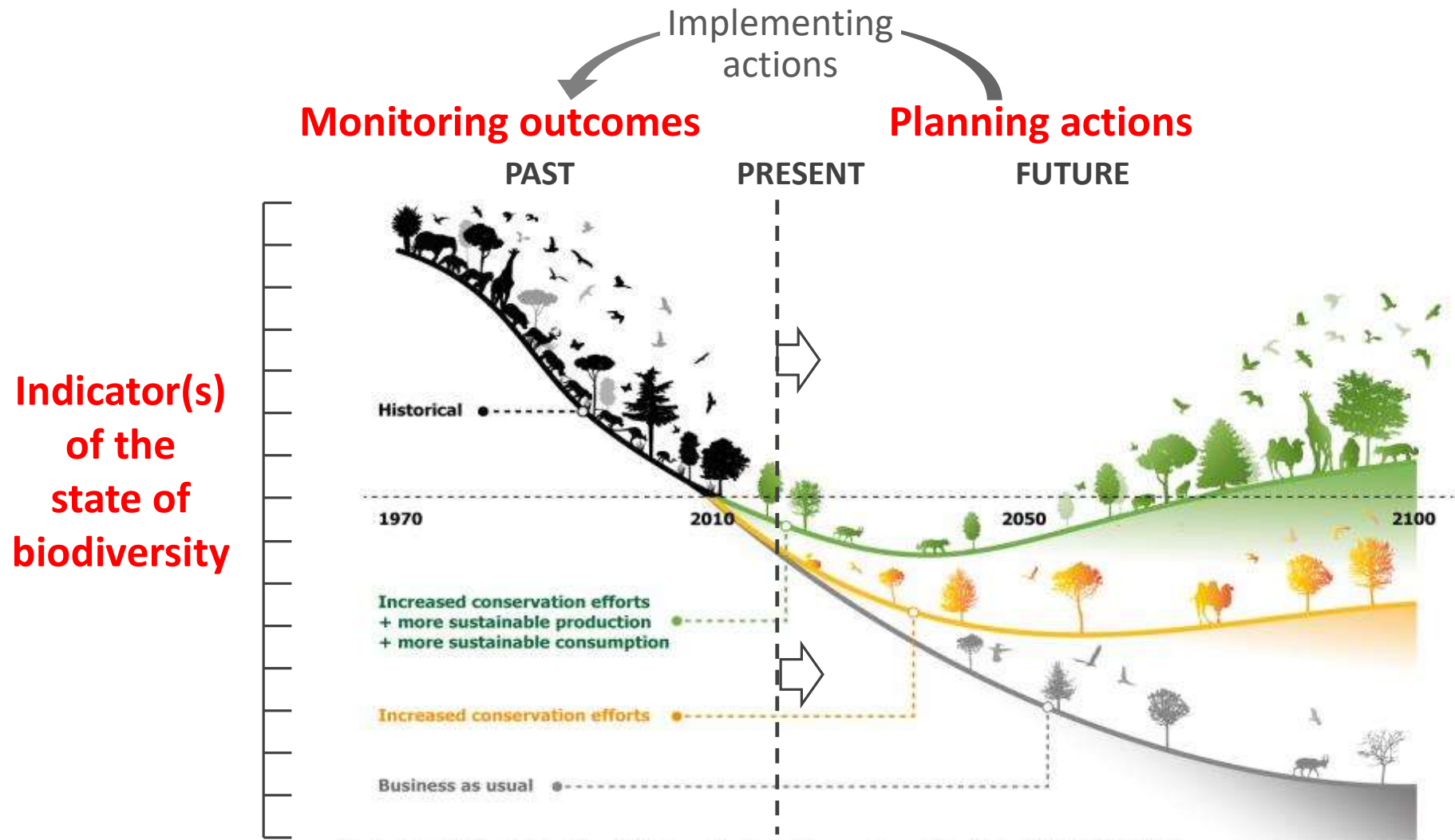
This artwork illustrates the main findings of the article, but does not intend to accurately represent its results (https://doi.org/10.1038/s41586-020-2705-y)
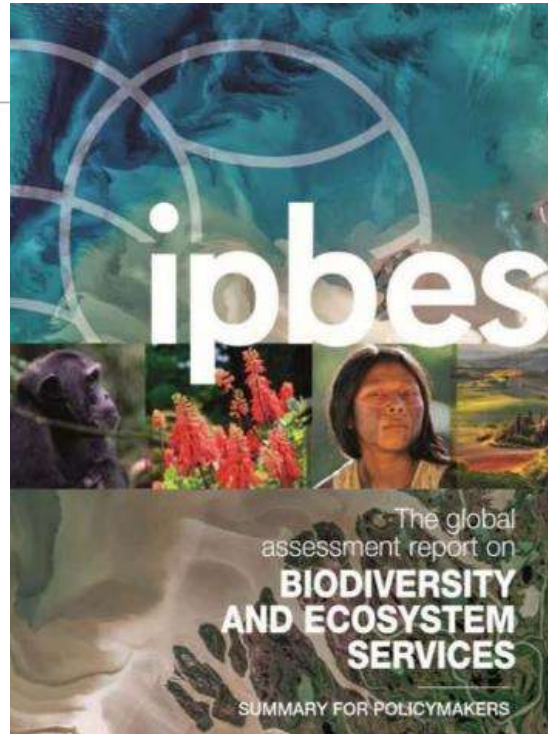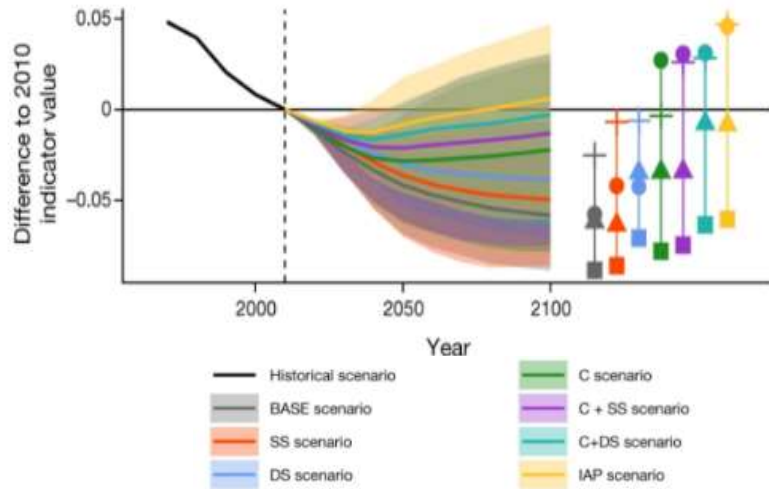
Bending the curve of biodiversity loss to achieve a nature-positive world requires <u>both</u> actions addressing direct drivers (ecosystem protection, restoration etc) <u>and</u> actions addressing indirect drivers (sustainable production & consumption etc)

Leclere D *et al* (2020)

Pereira H *et al* (2024)
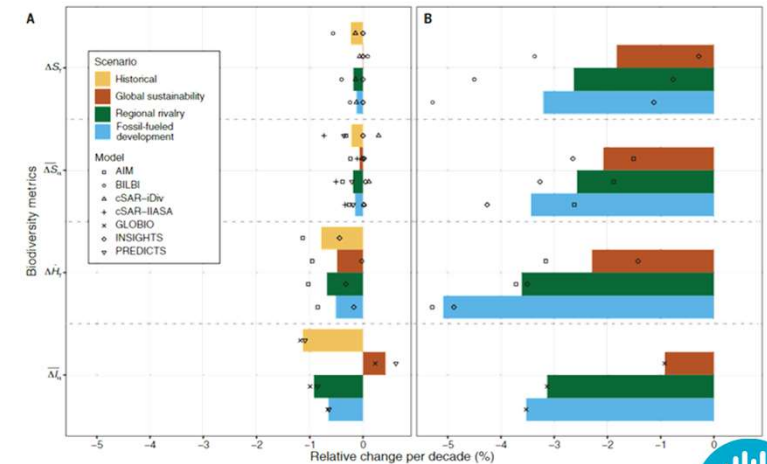
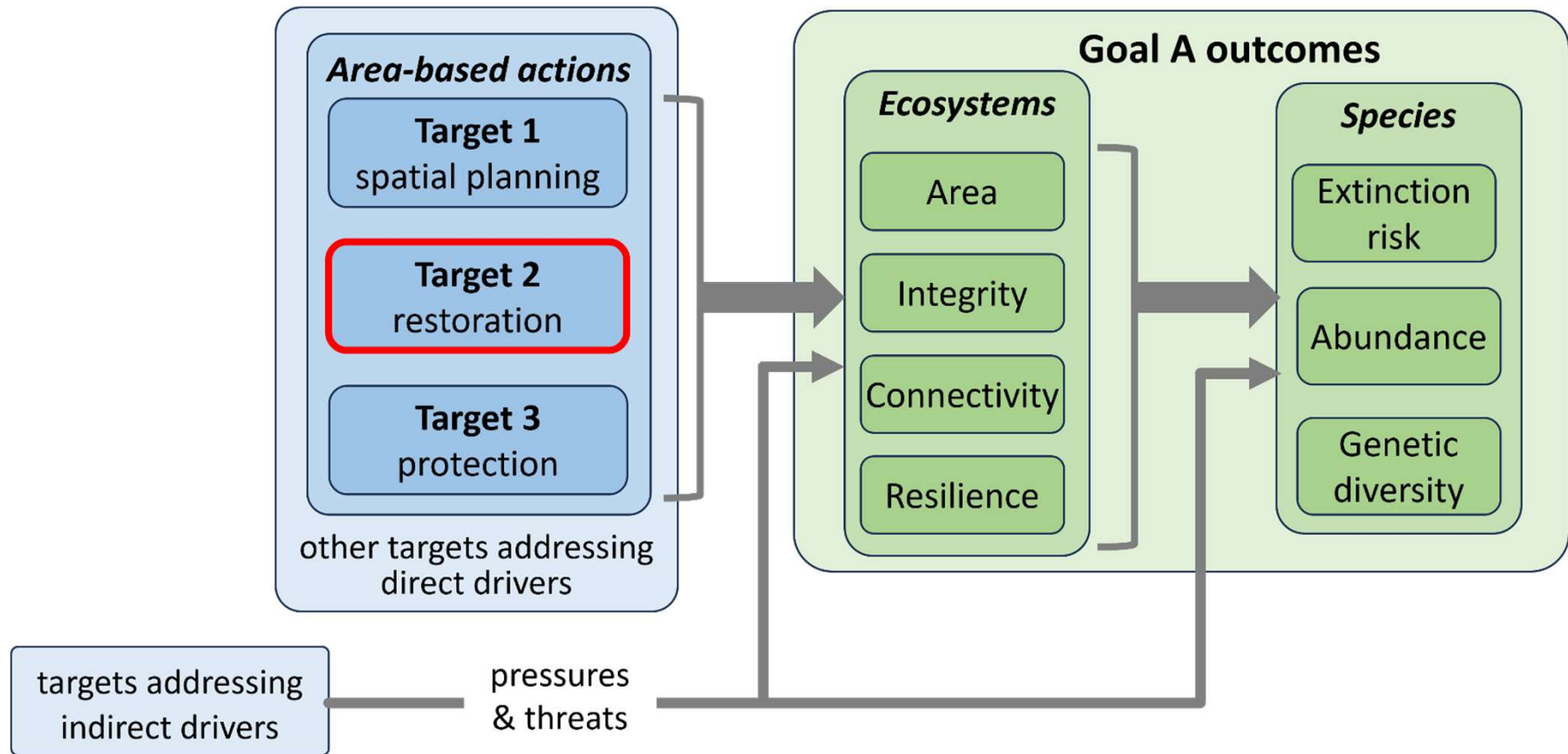# Key linkages and dependencies between GBF targets & goals
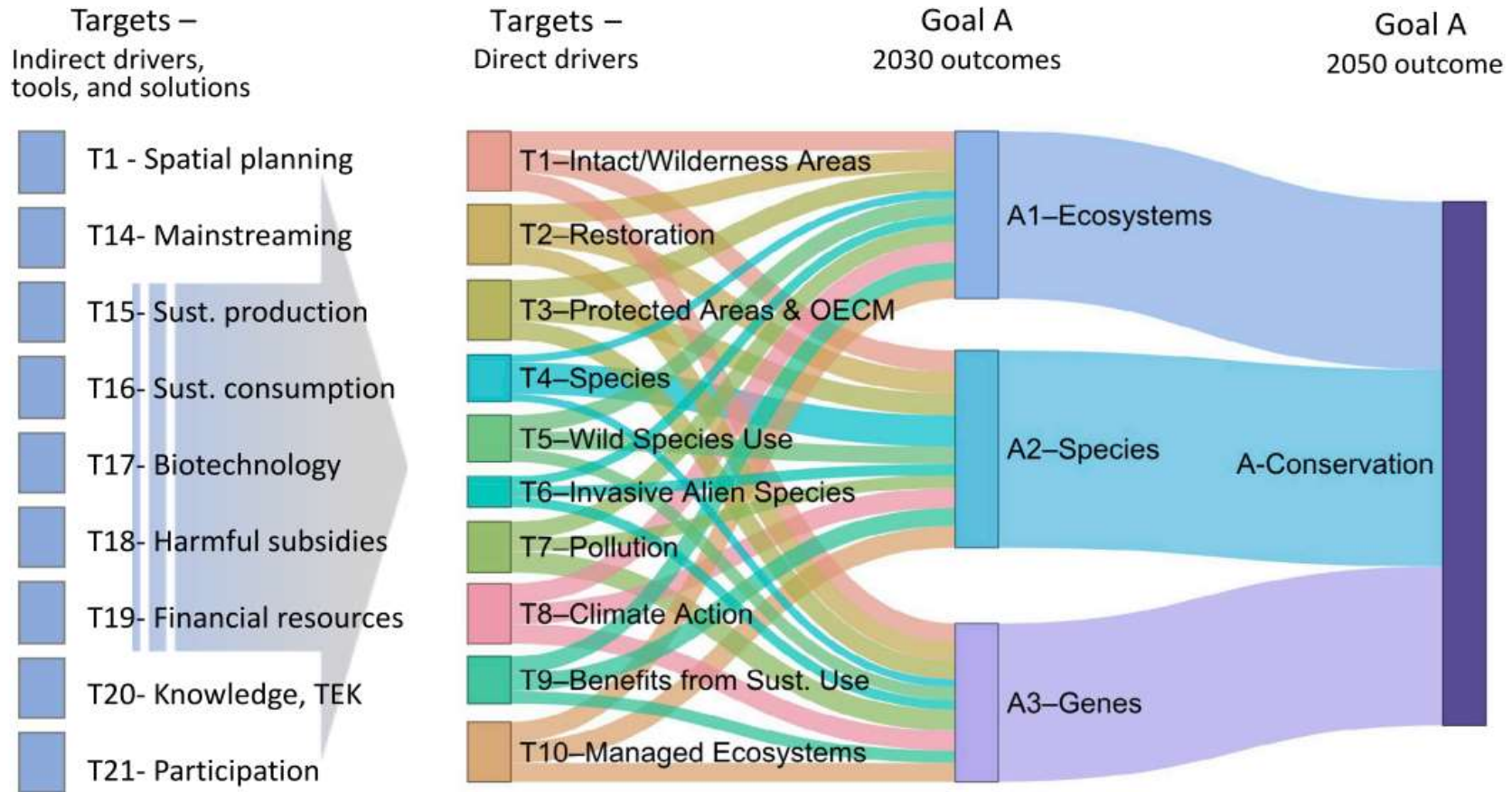
One Earth — Commentary

**Achieving global biodiversity goals by 2050 requires urgent and integrated actions**

Paul Leadley,[1,*] Andrew Gonzalez,[2] David Obura,[3,4] Cornelia B. Krug,[5] Maria Cecilia Londoño-Murcia,[6] Katie L. Millette,[7] et al (2022)
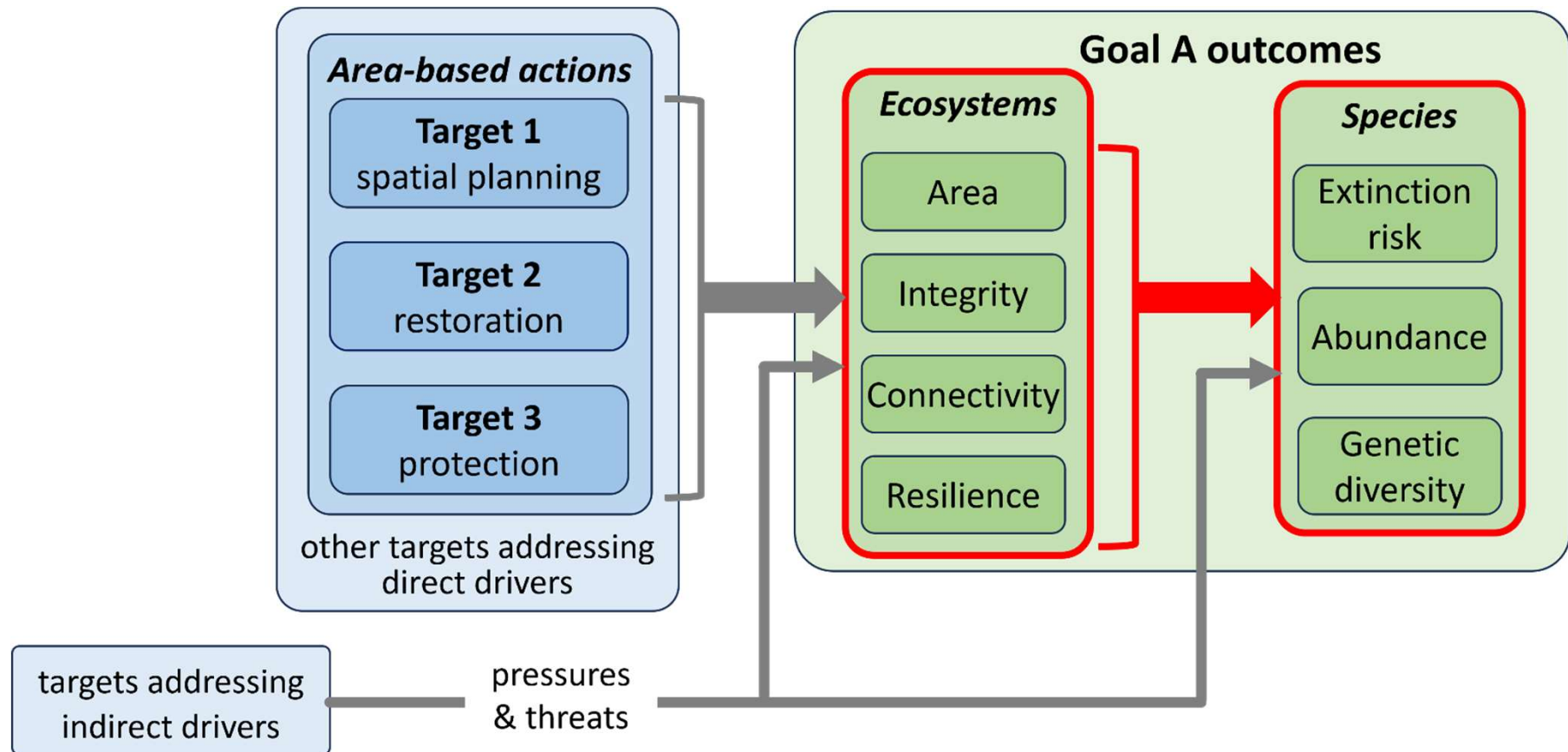
Let's take a closer look at part of this complexity

Area-based actions under Targets 1, 2 and 3 will in combination shape ecosystem-level outcomes under Goal A
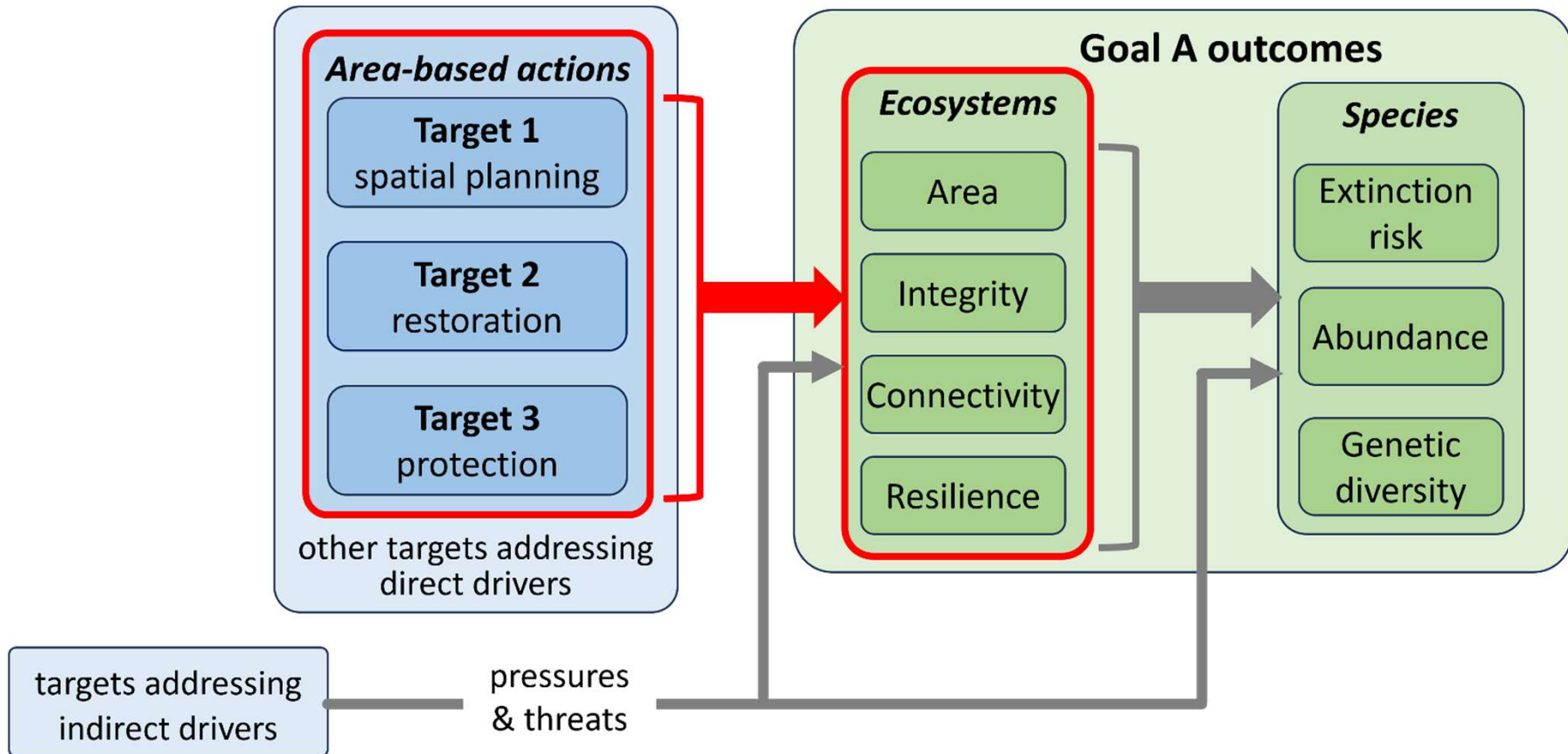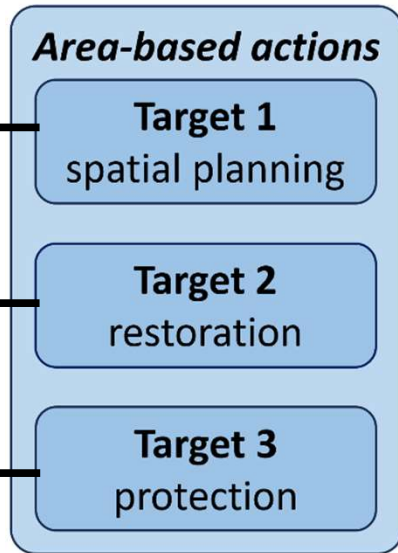
Changes in ecosystem area, integrity, connectivity & resilience will then have flow-on consequences for species-level outcomes under Goal A
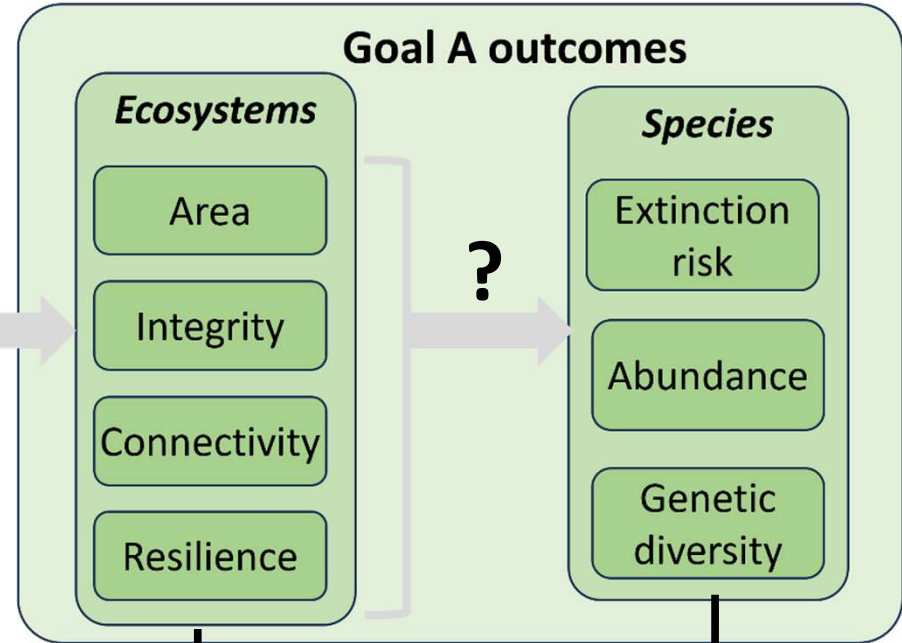
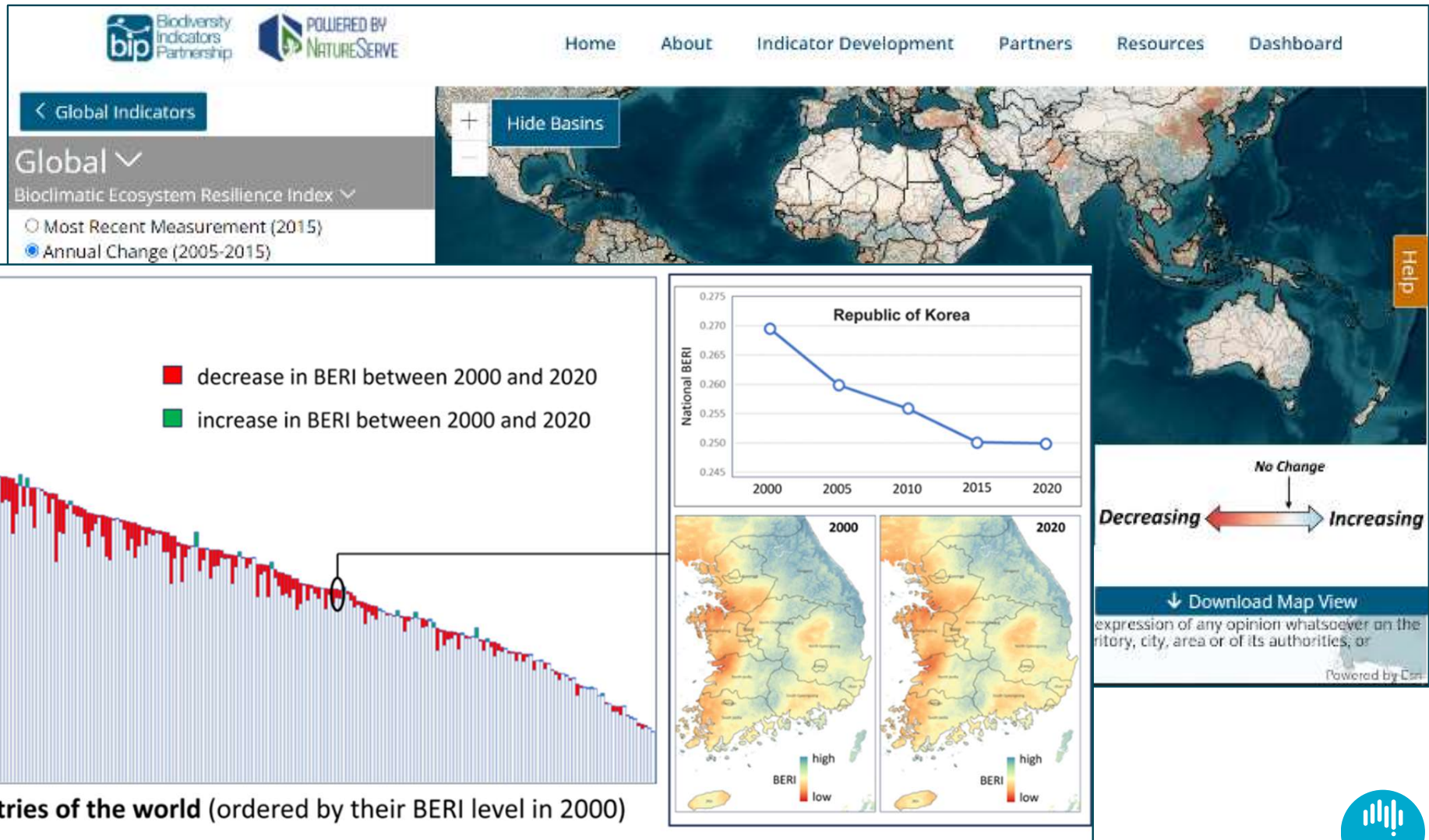# Headline indicators do not explicitly address these linkages and dependencies

A role for predictive (leading) indicators included as 'component indicators' in GBF monitoring framework, e.g. Bioclimatic Ecosystem Resilience Index (BERI)

Assessing the impact that changes in the integrity and connectivity of natural ecosystems across a landscape are expected to have on the capacity of that landscape to retain native species in the face of climate change

Ferrier S *et al* (2020) *Ecological Indicators* 117: 106554

https://www.gbf-indicators.org/
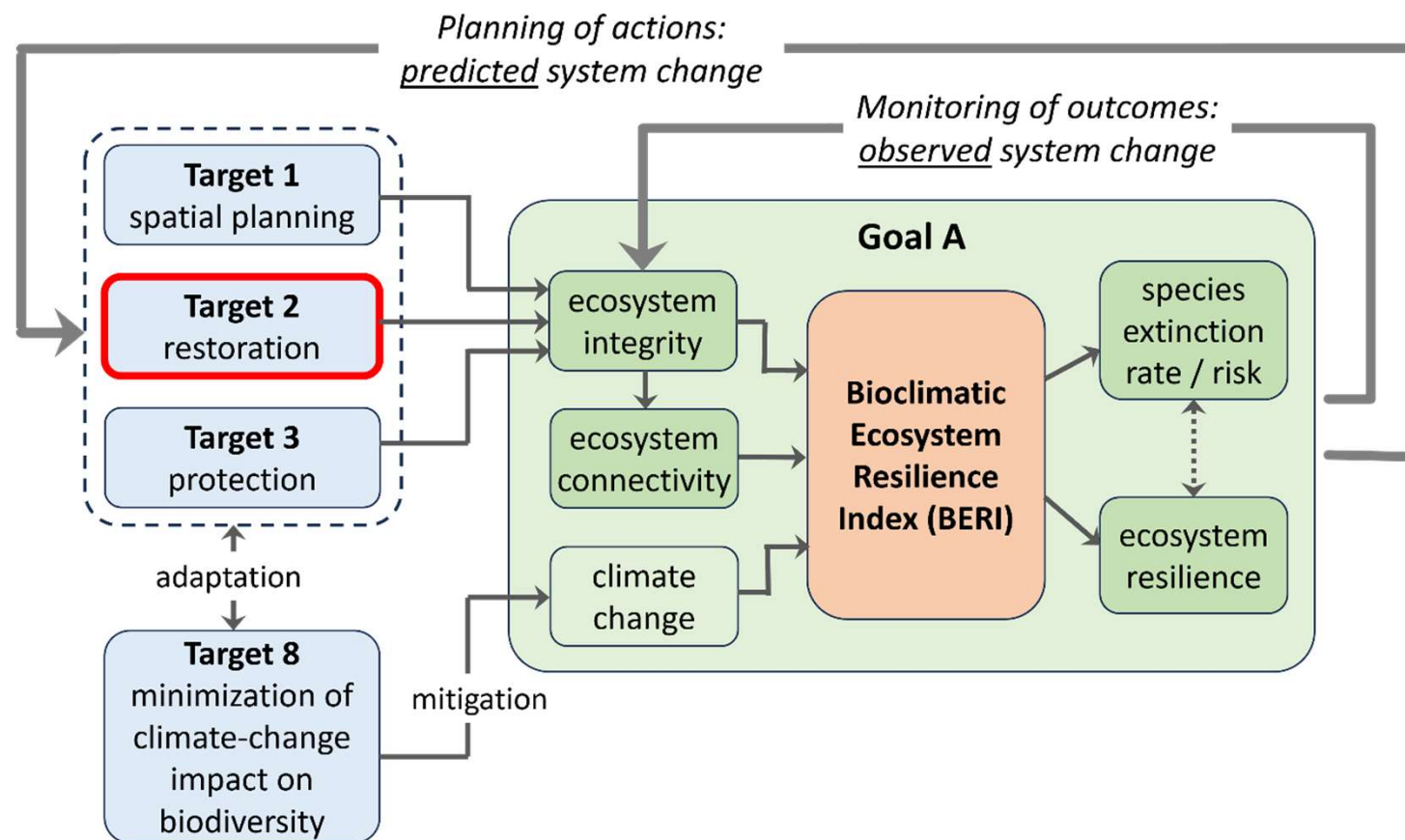
Integrative monitoring of expected biodiversity outcomes globally ...

… and at national, state and regional scale

Harwood T *et al* (2022) Staying connected: assessing the capacity of landscapes to retain biodiversity in a changing climate. *Landscape Ecology* 37: 3123–3139

Thank you

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Australia's National Science Agency