



Managing natural capital with science & technology

The forestry sector plays a vital role in managing natural capital



Provision of timber and
non timber products



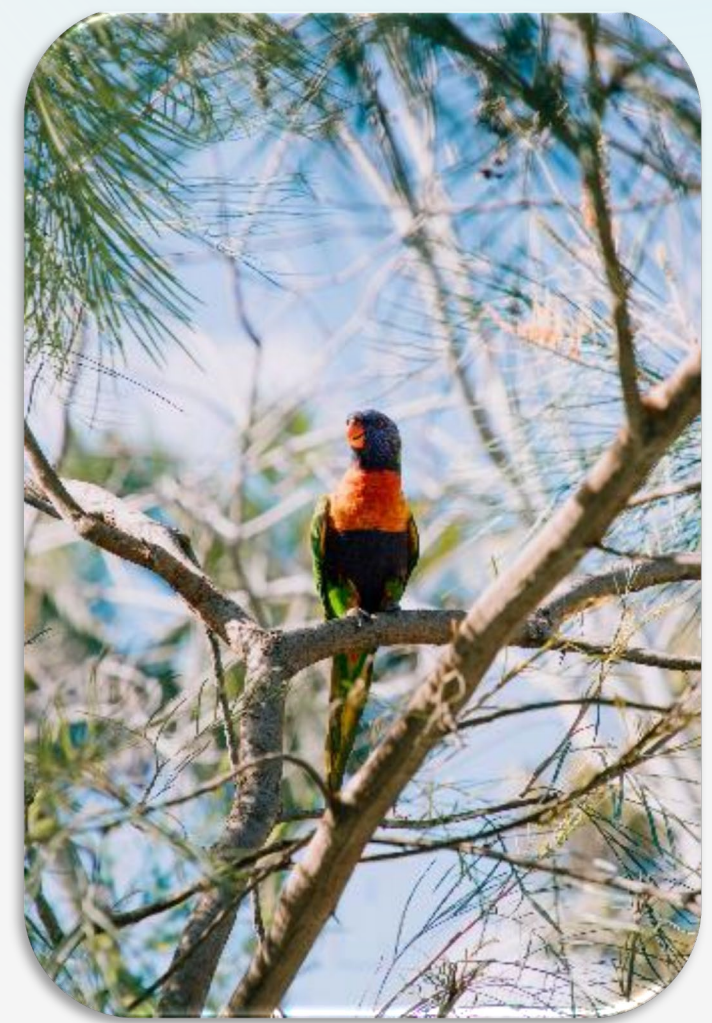
Carbon sequestration



Soil health



Water quality and supply



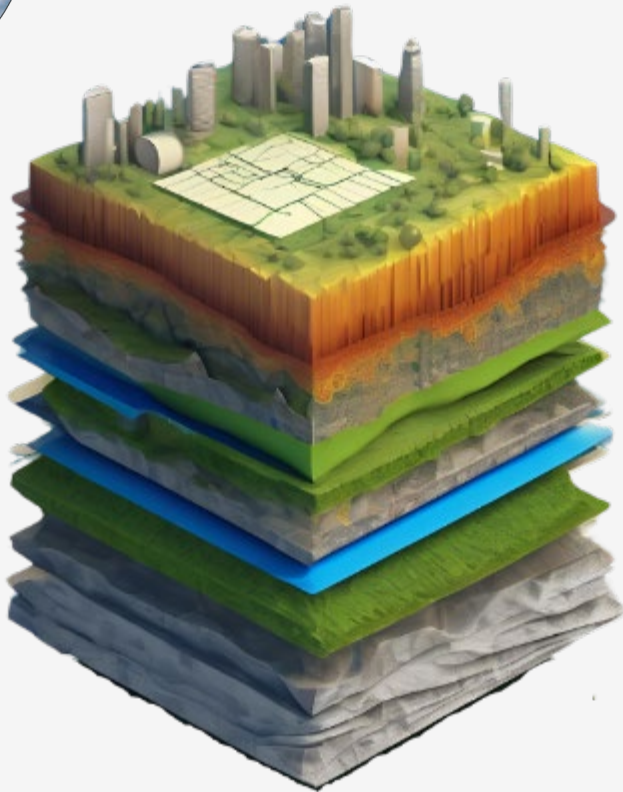
Biodiversity conservation

Assessing and accounting for natural capital at scale requires a combination of science and technology



SCIMAGO international rankings

Category	World	Pacific Region	OECD	Australia
Animal Science and Zoology	35 th	1 st	15 th	1 st
Aquatic Science	21 st	1 st	8 th	1 st
Ecology, Evolution, Behavior and Systematics	48 th	1 st	35 th	1 st
Food Science	95 th	2 nd	49 th	2 nd
Forestry	65 th	2 nd	24 th	2 nd
Plant Science	39 th	1 st	18 th	1 st
Soil Science	42 nd	1 st	17 th	1 st



Understand when, where & what changes have occurred to natural assets under management



Create scenarios to evaluate management options



Identify priority areas for natural capital investments



Set a science-based nature positive ambition and track progress

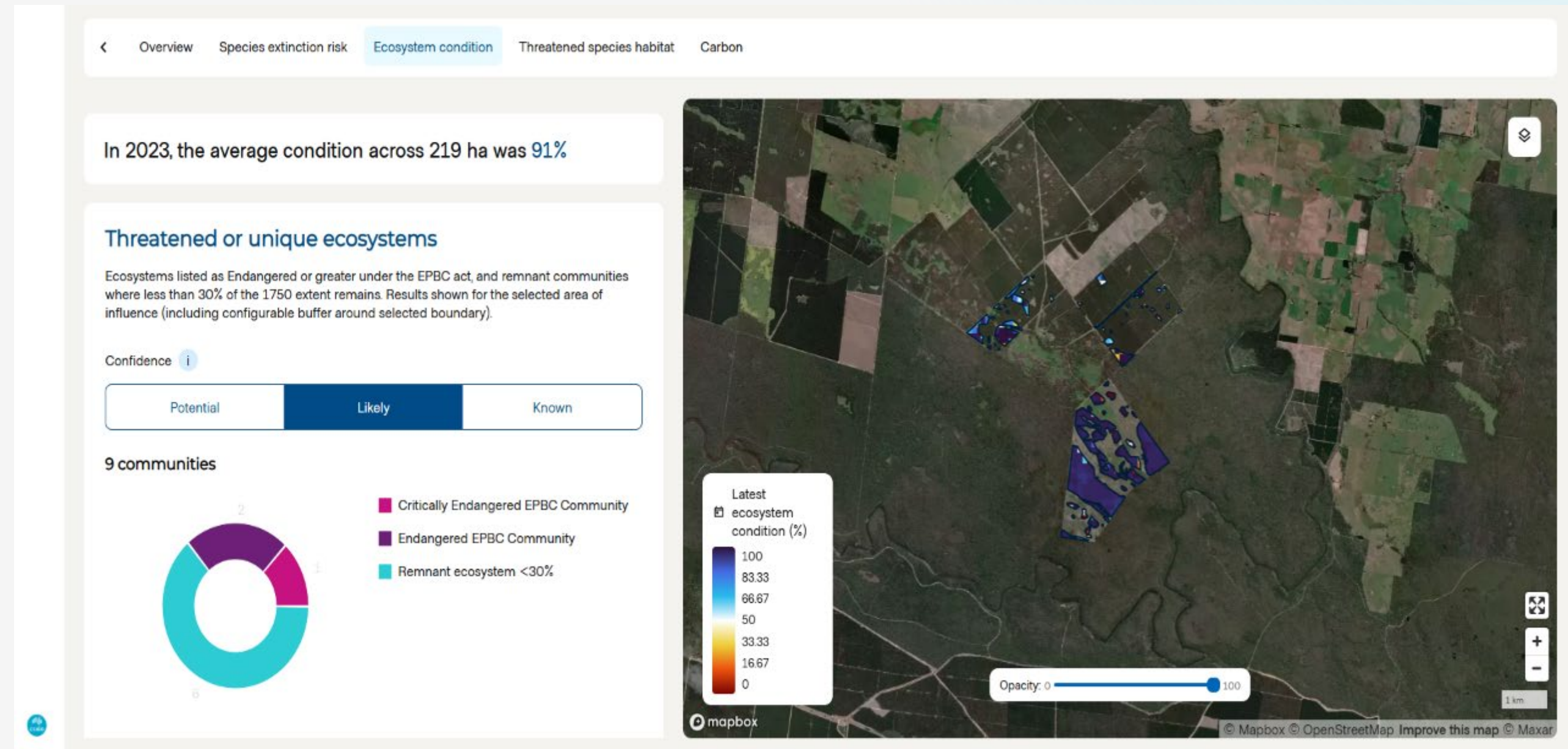


Monitoring the evolution of impacts on biodiversity over time and space

Measuring past impacts from 1987- 2024 at a fine scale spatial resolution

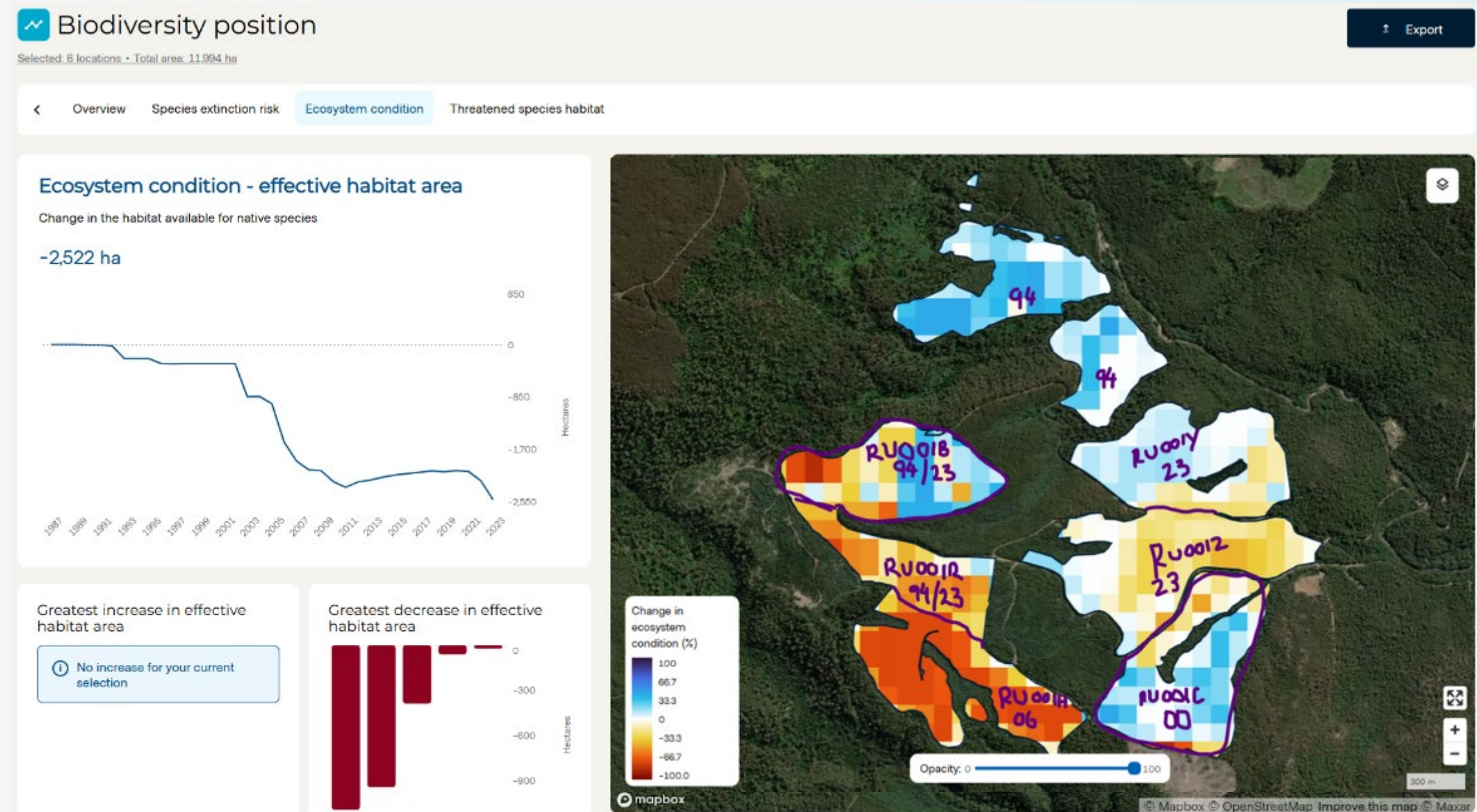
Key indicators used to measure land-based biodiversity impacts:

- Ecosystem condition
- Species extinction risk
- Threatened species habitat
- Ecosystem connectivity (soon)
- Bio Climatic resilience (soon)



Monitoring ecosystem condition over time and space in Southern Tasmania

- Russel is a hardwood plantation in managed by Sustainable Timber Tasmania.
- The map shows 6 plantation coupes and change in condition over time that generally reflects the age of trees.
- General trend of condition decline as plantation were established, small increase in condition during growth period and recent decline may be a result of increased harvesting.



Monitoring ecosystem condition over time and space in northern Victoria

- Eaglehawk is a forestry asset located in the green triangle.
- PF Olsen took over management in 2013 and conducted extensive ground surveys leading to classifying 219 hectares as High Conservation Value area in 2014.
- Leveraging Nature IQ we measured the ecosystem condition indicator at 91% in 2013 and highlighted changes.

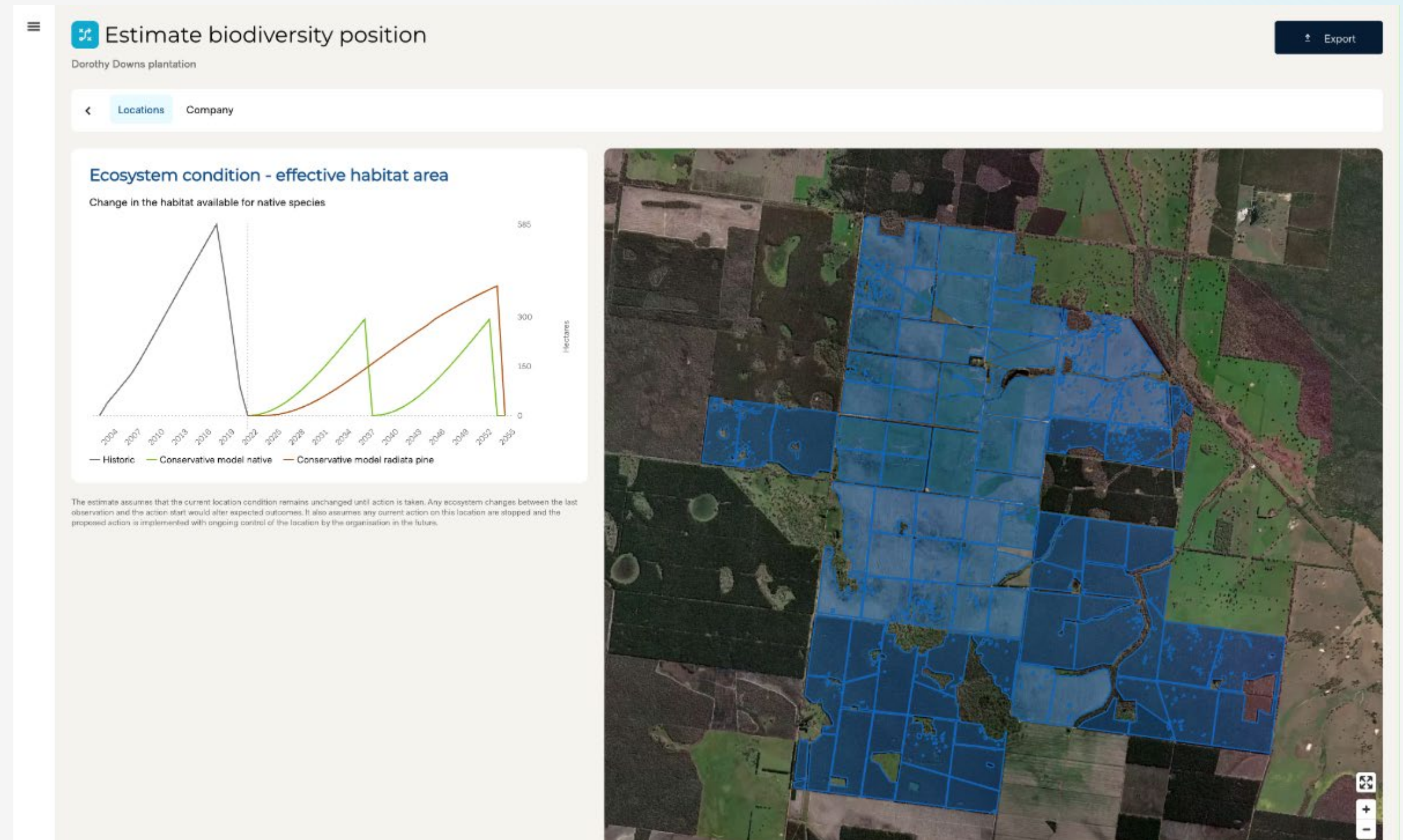


Comparing impacts of future actions on biodiversity using scenarios

Forest production part of Dorothy downs is appx 2,201 hectares in the green triangle.

Nature IQ used conservative models to compare effective habitat area available over 30 years based on 2 scenarios:

- short rotation *Euc. globulus*
- long rotation *Pinus radiata*

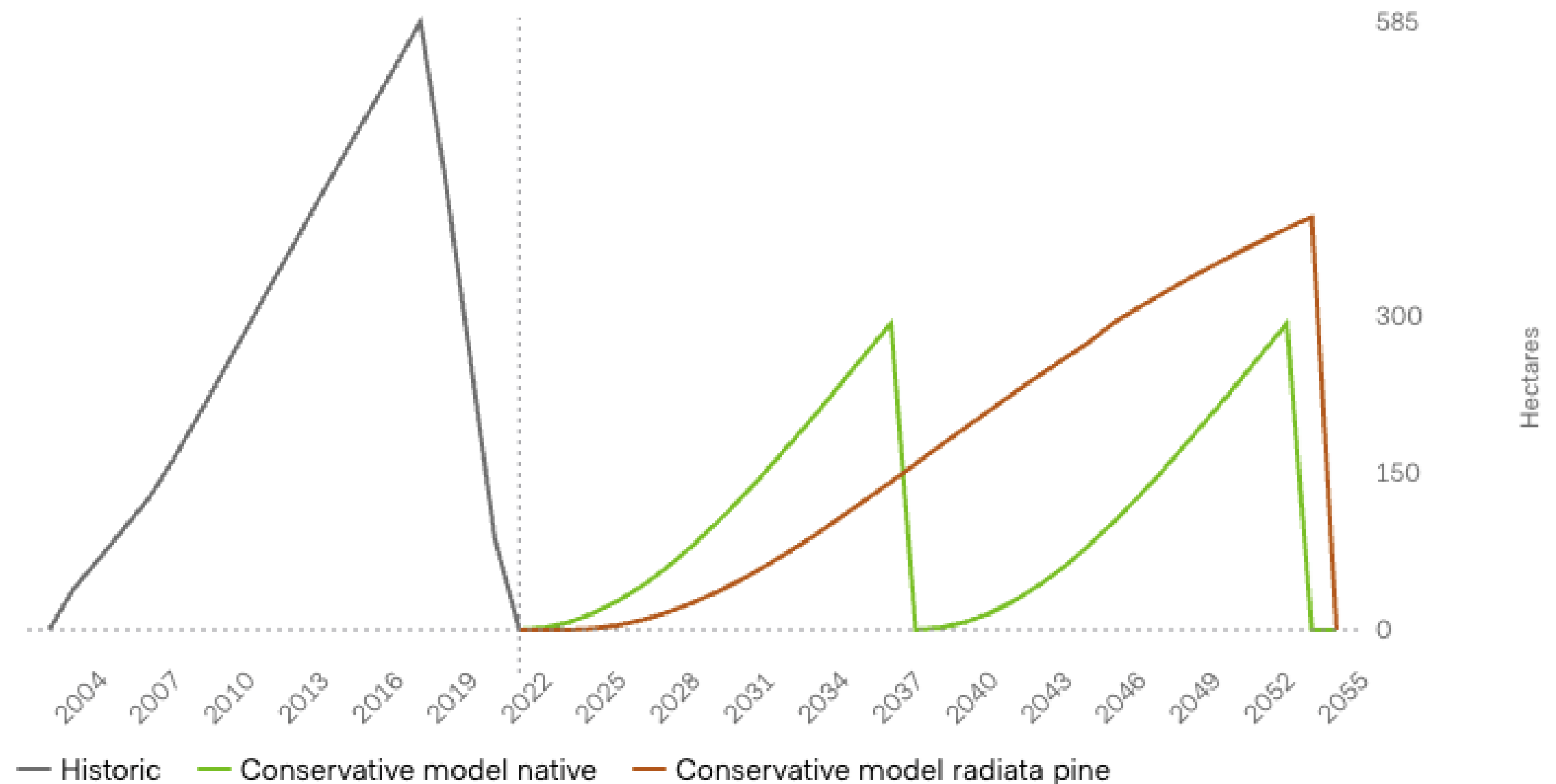


Comparing impacts of future actions on biodiversity using scenarios

- First rotation *Eucalyptus globulus* planted 2003 and harvested 2018-2022
- Second rotation comparing *Pinus radiata* and *Euc.* *globulus* planted in 2021
- Modelled outputs are conservative to account for uncertainty in environmental conditions and other factors

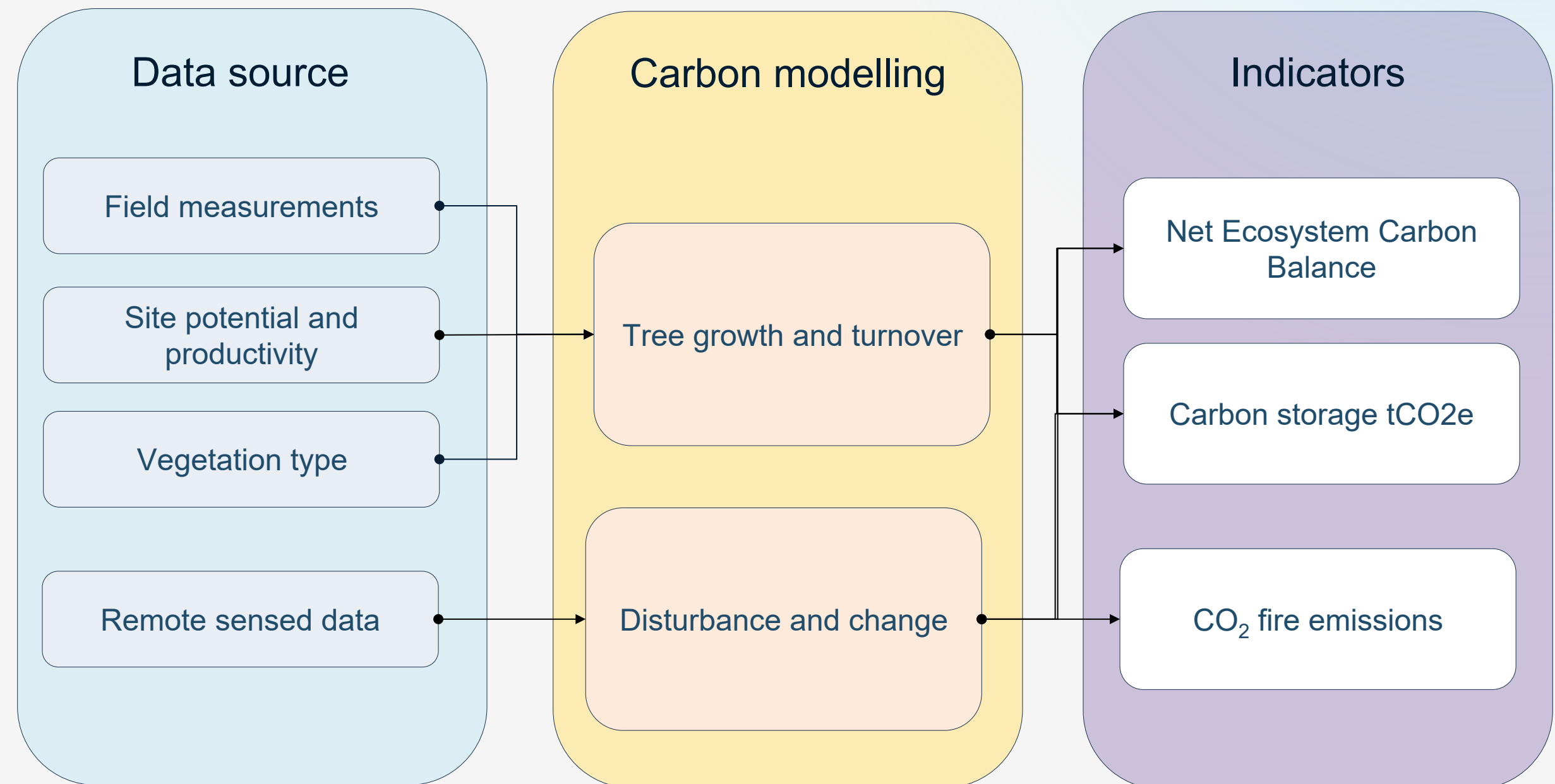
Ecosystem condition - effective habitat area

Change in the habitat available for native species



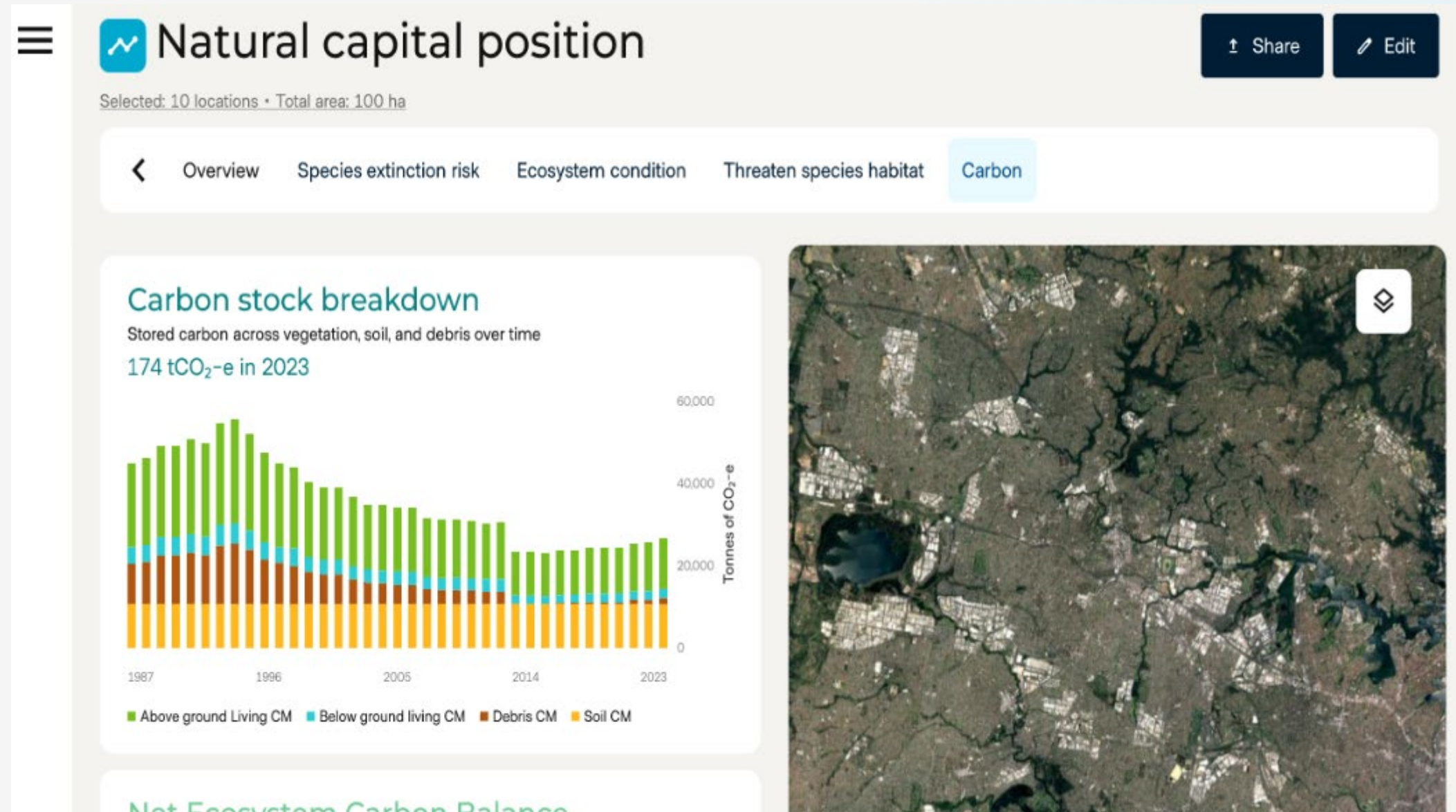
Leveraging models and remote sensing to provide a land -based carbon estimates

CSIRO has developed new modelling capability to undertake land carbon analysis and provide results with consistent with FULLCAM



Monitor the evolution of carbon stocks and flows over time and space

Visualise key indicators
such as carbon stocks, Net
Ecosystem Carbon Balance
and others at fine resolution
(25m)



Value creation will be determined by a holistic approach to natural capital

By combining on ground observations, remote sensing and advanced modelling capabilities we will soon be able to create natural capital accounts at scale with the aim to redefine value creation for business and society





If you would like to find out more let's connect!

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