

National Natural Capital Accounting (NCA) Forum 2026

Unlocking Nature's Value for Sustainable Growth
and Inclusive Futures

Mainstreaming NCA into the Private Sector

A biodiversity tool for the
forestry value chain

South African forestry has a long history of environmental stewardship

Years of dedication to integrating biodiversity protection into management planning and practice.



Over **300,000 hectares** set aside and 32,000 hectares formally protected.



Long history of natural forest protection



Around **80%** of plantation area independently certified



Strong water stewardship and regulated water use



Over **150,000** directly employed within the sector, mostly in rural landscapes



Strong history of recycling and renewable technologies



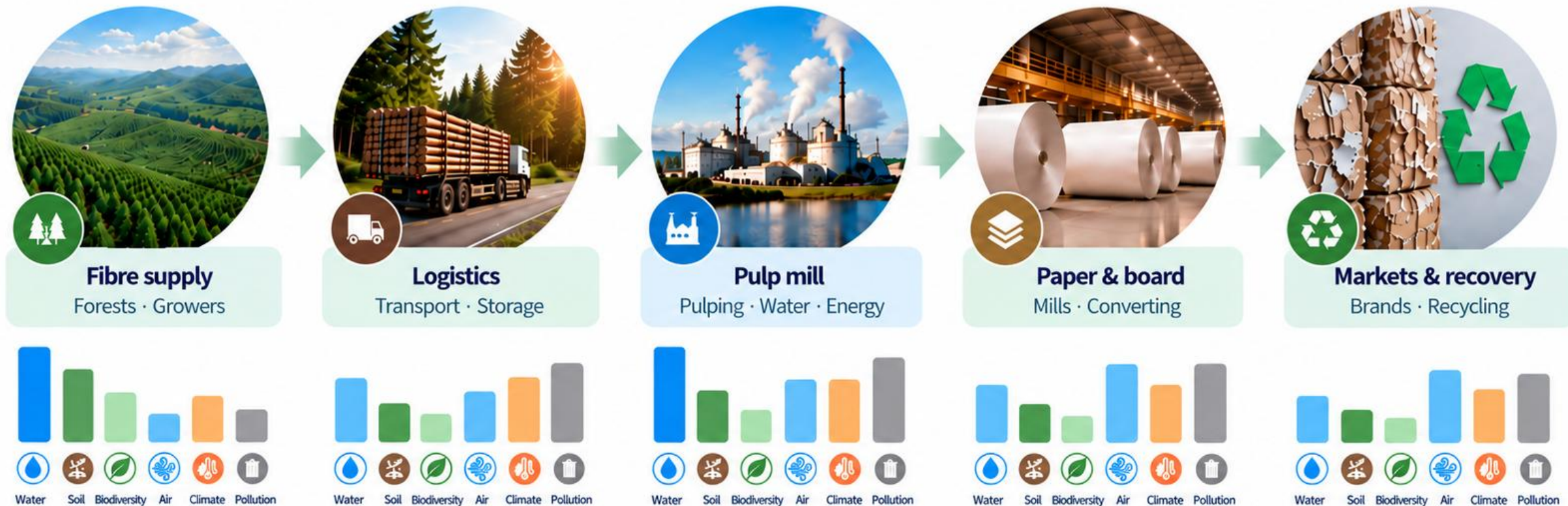
Established carbon measurement and reporting



Long-standing partnerships with conservation agencies and organisations

Businesses must monitor, assess and disclose their risks, dependencies and impacts on biodiversity.

Different parts of the forestry value chain have different activities and ecological profiles.



Managers provide operation-specific information

Practical, reliable information from people who know their operations.



Management information



Activities

What activities take place?



Location

Where do they occur?



Operational practices

How are they undertaken?



Management measures

What practices are applied?



Mitigation measures

What is in place to reduce impacts?



The tool provides definitions, explanations and guidance to support consistent input.

Biodiversity information



Ecological values

Condition of nature



Ecosystem services

What nature provides



Dependencies

What we rely on

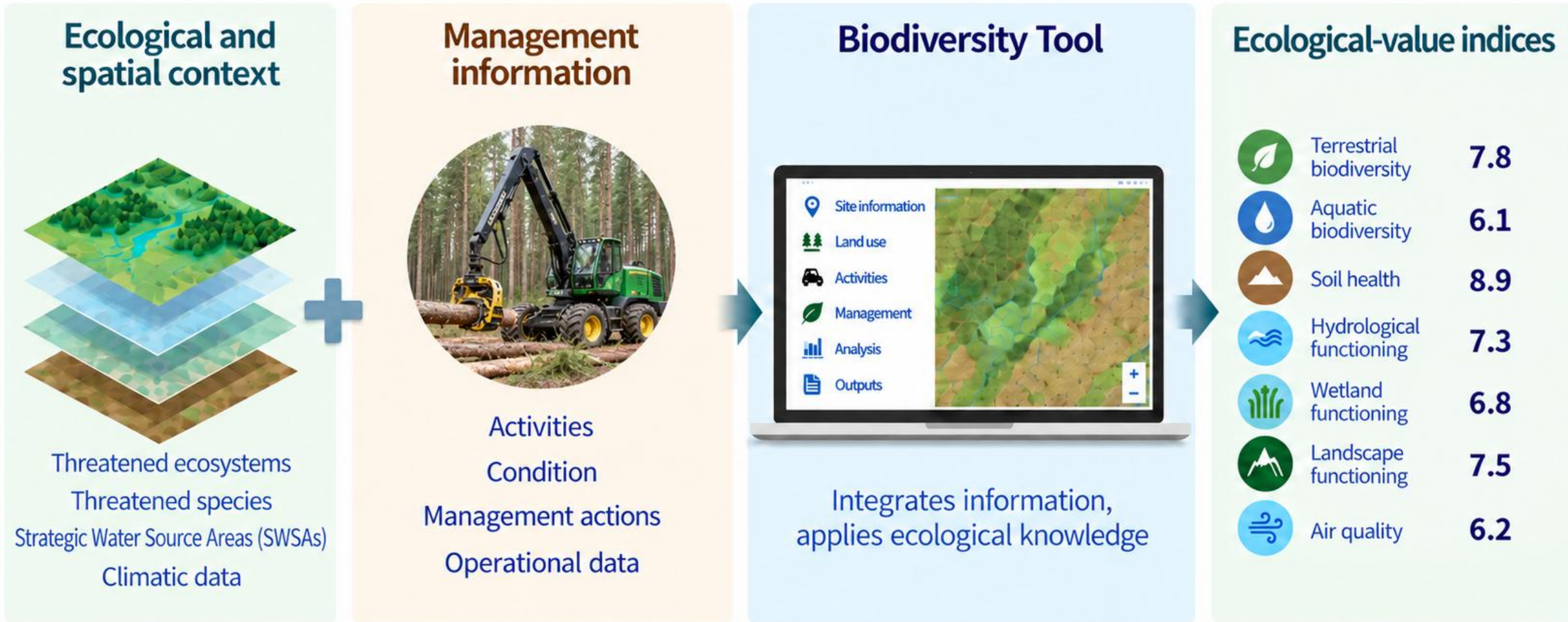


Risks and priorities

Where to focus action

Understanding how management practices affect ecological values

Combining ecological context and management information to generate consistent ecological indices.



Activity-pressure analysis for a forestry operation

Actual output from the Biodiversity Tool.

Pressures / Activities

Sorted by: Highest Raw Score (Inherent Severity)

Raw Score (High → Low) ▾

Rank ▾	Operational Zone ▾	Activity ▾	Pressure ▾	Receiving Zone ▾	Unmitigated Score (before management) ▾	Mitigated Score (after management) ▾	Reduction (%) ▾	
15	 Compartment	Crop Production	Vegetation Water Use	 Surface water	10.0	4.1	59%	>
1	 Compartment	Residue management - burning	Soil erosion	 Soil	9.0	5.6	38%	>
2	 Compartment	Crop Production	Spread of invasive species	 Terrestrial Habitat	8.0	3.8	53%	>
3	 Natural Habitat	Invasive Plant Growth	Habitat degradation	 Terrestrial Habitat	7.4	7.4	0%	>
4	 Natural Habitat	Grazing management	Soil erosion	 Soil	7.2	3.5	51%	>
5	 Compartment	Harvesting - Mechanised Whole-Tree (Feller-buncher + Skidder)	Soil erosion	 Soil	7.0	2.9	59%	>
6	 Wetland Zone	Stream crossing use/operation	Sedimentation	 Freshwater habitat	6.4	6.4	0%	>
7	 Natural Habitat	Grazing management	Habitat degradation	 Terrestrial Habitat	6.0	6.0	0%	>

Ecological values: results from a forestry operation

A clear, comparable view of ecological values, the pressures affecting them and the main drivers.

 **Biodiversity Tool**

[Home](#) [My Site](#) [Activities & Pressures](#) **[Ecological Values](#)** [Ecosystem Services](#) [Results](#) [Reports](#)

Site: Example Forest 

 Site Overview

 Location & Context

 Activities & Pressures

 **Ecological Values**

 Ecosystem Services

 Dependencies & Risks

 Management Actions

 Results & Reports

Ecological Values

Sorted by: Residual Pressure Index (High → Low)

Residual Pressure Index (High → Low) 

Rank 	Ecological Value 	Baseline Pressure Index (Without Management: 0–10) 	Residual Pressure Index (After Management: 0–10) 	Change 	Major Pressures 
1	 Water Yield	10.0	7.7	▼ 2.3	Vegetation Water Use
2	 Terrestrial Biodiversity 	7.7	7.3	▼ 0.4	Habitat degradation Spread of invasive species Altered fire regimes
3	 Wetland Functioning 	8.3	6.7	▼ 1.6	Vegetation Water Use Sedimentation Hydrological alteration
4	 Soil Health 	7.0	4.4	▼ 2.6	Soil erosion Soil compaction Pollution nutrients (soil)
5	 Aquatic Biodiversity 	5.7	3.1	▼ 2.5	Spread of invasive species Sedimentation Hydrological alteration
6	 Scenic value 	7.2	2.2	▼ 2.0	Degradation of scenic value
7	 Hydrological Functioning 	3.4	1.4	▼ 2.0	Soil erosion Hydrological alteration Soil compaction
8	 Landscape Functioning 	1.3	0.9	▼ 0.4	Altered fire regimes
9	 Air Quality 	2.6	0.8	▼ 1.8	Dust and particulate emissions

Understanding how management affects ecological values

Drill down from an ecological index to the pressures, activities and management choices that influence it.

1. Ecological value

Index for the key value



Soil health

Index

8.9 / 10



2. Pressures

What affects this value?



Soil erosion

Index **8.7** / 10



Soil compaction

Index **3.2** / 10



Nutrient pollution

Index **1.8** / 10



3. Activities

Which activities contribute?



Residue management

Contribution to soil erosion

High



Harvesting

Contribution to soil erosion

Medium



Planting

Contribution to soil erosion

Low



4. Management choices

What drives the impact?

Residue management



Burning residues
(over large area)

Higher
soil erosion risk



Site soil
erosion potential

High

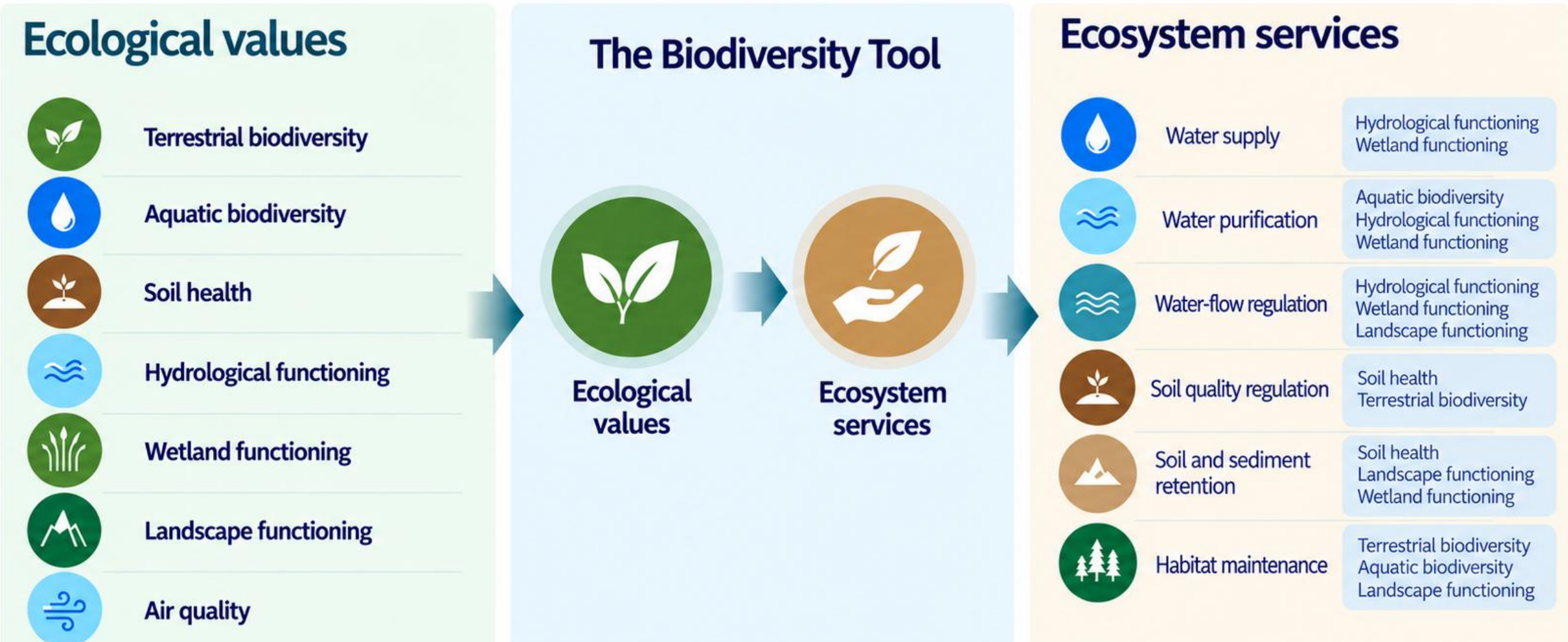


Alternative options

Retain residues
/ controlled burning
/ mulching

Ecological values underpin ecosystem services

From ecological condition to the benefits that nature provides.



Prioritising ecosystem-service dependencies and risks

Assess dependency and risk to focus management attention.

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Site: Example Forest



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 **Ecosystem Services**

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Ecosystem Services ⓘ

Operational and social dependencies and overall risk

Overall Dependency Risk (High → Low) ▾

Ecosystem Service ▾	Operational Zones ▾ (zone of influence)	SRI ▾ (0–10) ▴	 Operational Dependency ⓘ (dependence on the ES)	 Social Dependency ⓘ (dependence of licence to operate)	Overall Dependency Risk ⓘ (0–10) ▴	Risk Ranking
 Water supply	Compartment, Natural Habitat	7.7	1.00 Very High	1.00 Very High	7.66	High >
 Biological control	Natural Habitat, Wetland Zone	7.3	0.60 Significant	0.40 Moderate	5.57	Moderate >
 Water purification	Compartment, Natural Habitat, Wetland Zone	6.2	0.20 Low	0.80 High	5.24	Moderate >
 Soil quality regulation	Compartment, Natural Habitat	4.4	1.00 Very High	0.60 Significant	4.37	Moderate >
 Nursery population and habitat maintenance	Natural Habitat, Wetland Zone	4.4	0.20 Low	0.80 High	3.71	Low >
 Soil and sediment retention	Compartment, Firebreak, Natural Habitat	3.3	1.00 Very High	1.00 Very High	3.30	Low >



Conservation Contributions

An Analysis of Areas Which Are Managed for Conservation Outcomes.

 Biodiversity Tool

Home

Site Information

Pressures & Activities

Ecological Values

Ecosystem Services and Dependencies

Contributions

☐ Calibration

 Recalculate

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 Location & Context

 Activities & Pressures

 Ecological Values

 Ecosystem Services

 Dependencies & Risks

 Contributions

 Management Actions

 Results & Reports



CONTRIBUTIONS

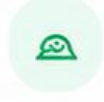
Bemedal Bolepongs - Site Overview

CONSERVATION AREAS IDENTIFIED

2

TOTAL CONSERVATION AREA (HA)

1,434.77



TOTAL CONSERVATION AREA

1,434.77 ha

Total area managed primarily for the conservation of biodiversity and ecological processes.



CV INDEX

71.48

High

Measures the relative biodiversity importance of the identified conservation areas. The index combines area, ecosystem threat status and ecological condition into a single conservation value score.



STEWARDSHIP INDEX

Advanced

Index 60.3

Measures the quality of conservation stewardship of the identified conservation areas. The index combines ecological condition, formal protection and contribution into a single stewardship score, independent of area.

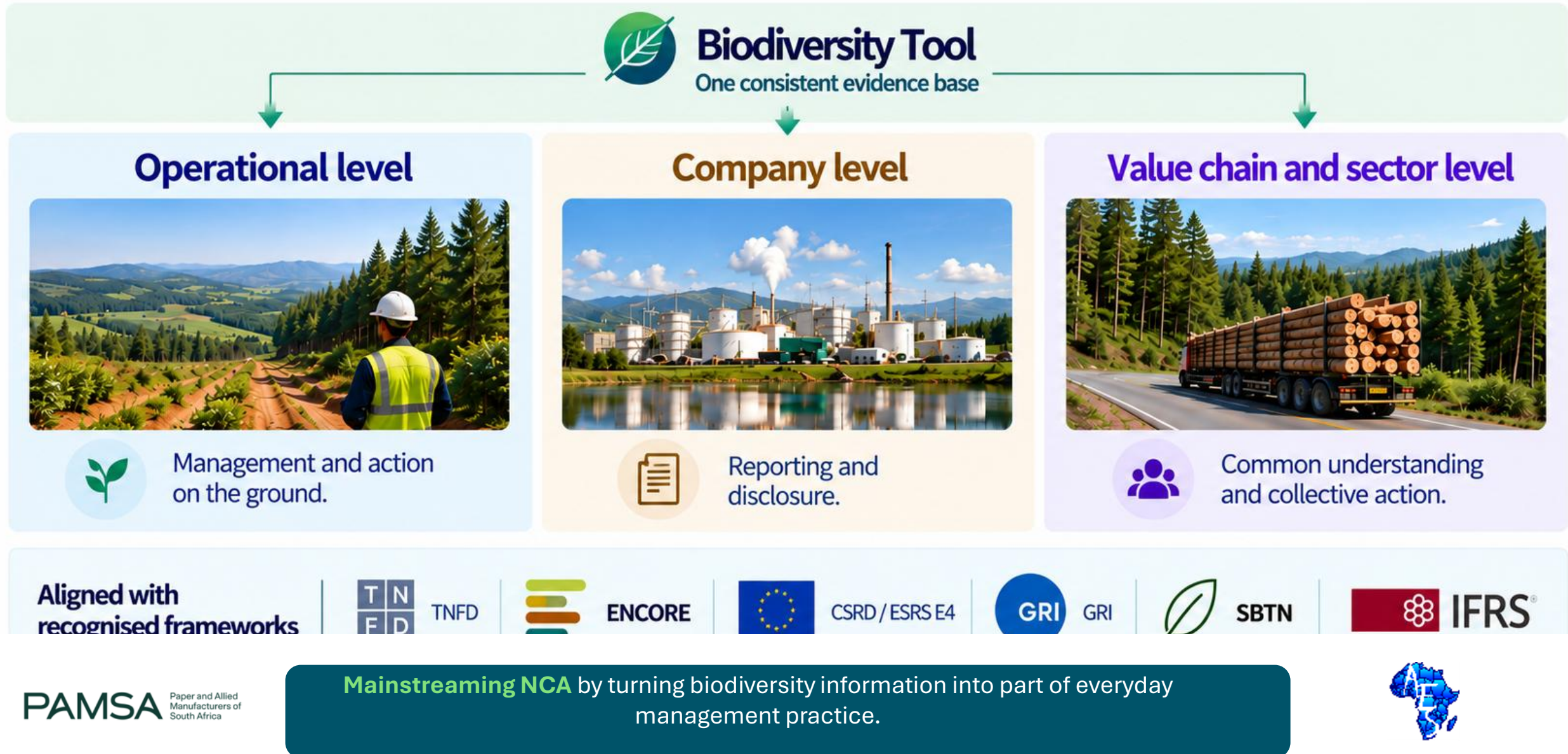
#	Biome ⓘ	Vegetation Type ⓘ	Threat Status ⓘ	Conservation Area (ha) ⓘ	National Extent (ha) ⓘ	National Representation ⓘ	Ecological Condition ⓘ	Assessment Confidence ⓘ	Formal Protection ⓘ	Certification ⓘ	Conservation Value Index ⓘ	Stewardship Index ⓘ
 A1	Grassland	Kahnyavene Montane Grassland	EN - Endangered	1,274.13	538923.75	0.24%	Moderately modified	Limited evidence	Protected Environment or strong formal commitment	FSC-PEFC Certified	66.98	56.5 (Established)
 A2	Grassland	Eastern Highveld Grassland	EN - Endangered	160.63	381010.08	0.04%	Pristine / near natural	Low confidence: modest discount only	Nature reserve / national park or equivalent	None	63.62	90.0 (Exemplary)

PAMSA
Paper and Allied
Manufacturers of
South Africa

Mainstreaming NCA by making conservation contributions visible and integrated into operational decision-making.

One evidence base, multiple uses

Consistent ecological and management information can support decisions from the operation to the sector.



Collaboration between government and the private sector

Leads to better decision-making and greater outcomes for natural capital.

National biodiversity information system

SANBI    South African National Biodiversity Institute



forestry, fisheries
and the environment

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA



Biodiversity datasets

e.g. species, ecosystems, protected areas



Spatial frameworks

e.g. CBAs, ESAs, Strategic Water Source Areas



National objectives

e.g. NBSAP, natural capital accounting

National data
and frameworks
Inform site-level
assessment



Private-sector
information

Contributes to the
national picture



The Biodiversity Tool



Site context



Activities and
pressures



Ecological values
and ecosystem
services



Dependencies and risks



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Thank you

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