

TRANSNET



SCOPE OF WORKS

**PROVISION OF A SERVICE PROVIDER TO UNDERTAKE THE TRANSNET BIODIVERSITY INTERFACE
FOOTPRINT AND IMPACT STUDY FOR A PERIOD OF TWENTY-FOUR (24) MONTHS**

TABLE OF CONTENTS

1.	DEFINITIONS	3
2.	ACRONYMS	4
2.	BACKGROUND	6
2.3	The Need.....	9
3	SCOPE OF WORK	10
3.1	The Objectives	10
3.2	Detailed Description of Works	10
3.2.1	Biodiversity Baseline Assessment	10
3.2.2	Biodiversity Risk and Opportunities Assessment	11
4	PRESENTATION OF STUDY OUTPUTS	12
5	THE REQUIRED RESOURCES.....	12
6	PROJECT DURATION.....	12

1. DEFINITIONS

Biodiversity means the variability among living organisms from all sources including, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part and also includes diversity within species, between species, and of ecosystems.

Biodiversity offset means the measurable outcome of compliance with a formal requirement contained in an environmental authorisation to implement an intervention that has the purpose of counter-balancing the residual negative impacts of an activity, or activities, on biodiversity, through increased protection and appropriate management, after every effort has been made to avoid and minimise impacts and rehabilitate affected areas.

Biodiversity priority area means an area identified as a priority for biodiversity conservation in a spatial biodiversity plan, and includes Critical Biodiversity Areas, Ecological Support Areas, Freshwater Ecosystem Priority Areas and focus areas for protected area expansion.

Double materiality considers how company's activities impact its finances and the environment, society and stakeholders.

Ecological infrastructure means naturally functioning ecosystems that deliver valuable services to people, such as water and climate regulation, soil formation and disaster risk reduction.

Ecosystem means an assemblage of living organisms, the interactions between them and their physical environment.

Endemism means the ecological state of a species being unique to a defined geographic location, such as an island, nation, country or other defined zone, or habitat type.

Fatal flaw means a major defect or deficiency in a project proposal that should result in environmental authorisation being refused, and from a biodiversity perspective, a residual negative impact that would have a Very High significance rating.

Key biodiversity area are sites that contribute significantly to the global persistence of biodiversity and are regarded as the most important places in the world for species and habitats.

Mitigation means to avoid negative impacts, and where they cannot altogether be avoided, to minimise and remedy them, including through rehabilitation, restoration, and/or offsetting.

Natural capital means the stock of renewable and non-renewable natural resources (i.e., plants, animals, air, water, soils, minerals) which combine to yield a flow of benefits to people.

Spatial biodiversity plan means a spatial plan that identifies one or more categories of biodiversity priority area, using the principles and methods of systematic biodiversity planning.

Threatened ecosystem means an ecosystem with an ecosystem threat status of critically endangered, endangered or vulnerable as determined by the latest edition of the National Biodiversity Assessment, or the list of ecosystems that are threatened or in need of protection published in terms of NEMBA, whichever is more recent.

2. ACRONYMS

Abbreviation	Meaning given to the abbreviation
CBA	Critical Biodiversity Area
CBD	Convention of Biological Diversity
COP	Conference of the Parties
ESG	Environmental, Social and Governance
GBF	Global Biodiversity Framework
GIS	Geographic Information System
IUCN	International Union for Conservation of Nature
KBA	Key Biodiversity Area
MCA	Multi-criteria Analysis
NBSAP	National Biodiversity Strategy and Action Plan
NEMA	National Environmental Management Act 107 of 1998
NEMBA	National Environmental Management: Biodiversity Act 10 of 2004
NBA	National Biodiversity Assessment
PLP	Project Lifecycle Process
SANBI	South African National Biodiversity Institute
SOC	State-Owned Company
TCC	Transnet Corporate Centre
TE	Transnet Engineering
TFR	Transnet Freight Rail
TNFD	Taskforce on Nature-related Financial Disclosures
TNPA	Transnet National Ports Authority
TP	Transnet Properties
TPL	Transnet Pipelines
TPT	Transnet Port Terminals
TRIM	Transnet Rail Infrastructure Manager

1. EXECUTIVE SUMMARY

Transnet SOC operates an extensive national footprint across rail, ports, pipelines and property assets that intersect with ecologically sensitive and high-value biodiversity areas. South Africa is globally recognised as a mega-diverse country and is a signatory to the Convention on Biological Diversity (CBD), with national obligations embedded in National Environmental Management: Biodiversity Act 10 of 2004.

The loss of biodiversity is recognised as one of the top global risks. The Kunming-Montreal Global Biodiversity Framework (GBF), particularly Target 15, calls on businesses to assess, manage and disclose biodiversity-related dependencies, impacts, risks and opportunities. The Taskforce on Nature-related Financial Disclosures (TNFD) further provides a practical LEAP (Locate, Evaluate, Assess, Prepare) framework to integrate nature-related risks into governance, strategy, risk management and reporting. Alignment with these frameworks ensures that Transnet is prepared for disclosure requirements and achieves the commitments outlined in the Environmental, Social Governance Strategy and the Transnet Environmental Sustainability Framework.

Preliminary desktop mapping undertaken by Transnet Corporate Sustainability indicates that approximately 46% of Transnet landholdings fall within critically endangered ecosystems, with several operational corridors located within or adjacent to Key Biodiversity Areas (KBAs) such as the Cape Floristic Kingdom, Greater Kruger National Park and the Maputoland hotspot.

Transnet therefore intends to undertake a comprehensive Biodiversity Interface Footprint and Impact Study to establish a defensible biodiversity baseline and translate biodiversity risk into actionable operational decision-support tools. The study will ensure that biodiversity considerations are integrated into Transnet's operational and infrastructure planning processes.

2. BACKGROUND

South Africa has unique biological diversity, characterised by a variety of ecosystem types, high species richness and high levels of endemism. It is ranked among the top 17 mega-diverse nations in the world. South Africa's biodiversity provides an array of benefits to the economy, society and human wellbeing¹. It is for that reason that South Africa is a signatory of the Convention of Biological Diversity (CBD), that entails a commitment to conserving biological diversity, promoting sustainable use of the components of biological diversity and ensuring fair and equitable consumption of the benefits derived from biological diversity. It is against this biophysical backdrop and legal framework that Transnet SOC operates and interfaces with biodiversity.

Transnet is a state-owned company (SOC), wholly owned by the Government of the Republic of South Africa. It is the custodian of rail, ports, and pipelines, responsible for enabling the competitiveness, growth, and development of the South African economy through delivering reliable freight transport and handling services to satisfy customer demand. Transnet consists of seven core Operating Divisions: Transnet Freight Rail (TFR), Transnet Rail Infrastructure Manager (TRIM), Transnet National Ports Authority (TNPA), Transnet Port Terminals (TPT), Transnet Engineering (TE), Transnet Pipelines (TPL), and Transnet Property (TP).

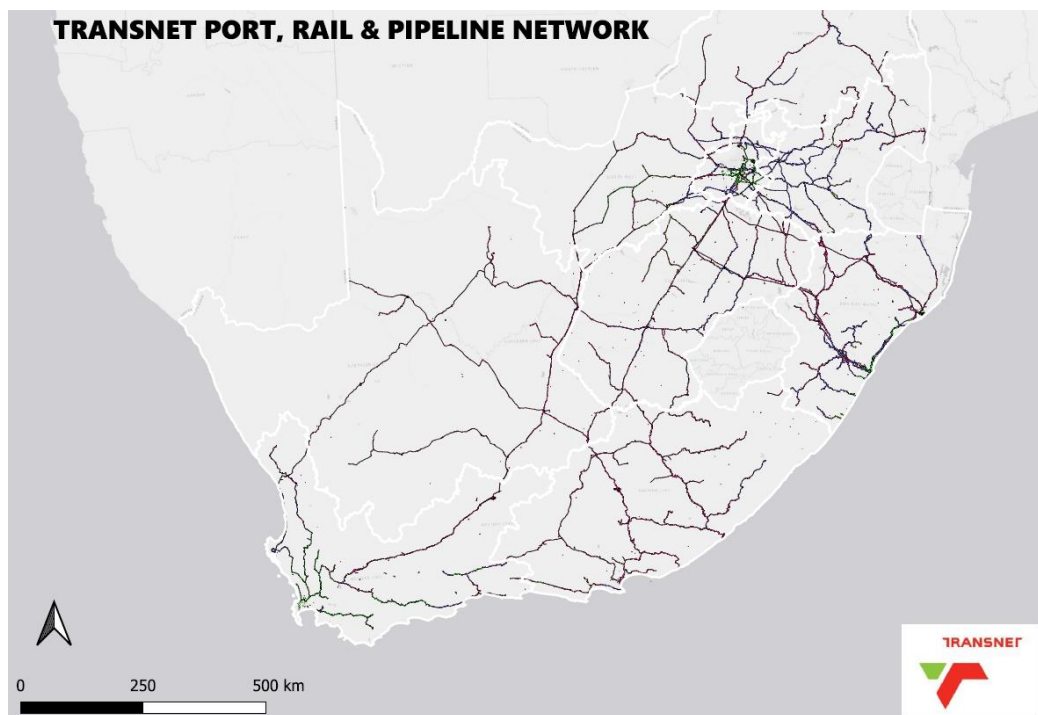


Figure 1 Extent of Transnet Operations

Transnet owns large landholdings across the country (figure 1), which traverse through a range of ecosystems, some of which hold significant biodiversity value and provide valuable ecosystem services that would otherwise be

¹ South African National Biodiversity Institute (SANBI). 2019. National Biodiversity Assessment 2018: The status of South Africa's ecosystems and biodiversity. Synthesis Report.

too costly to provide by means of engineering solutions. Additionally, Transnet operations are impacted and equally have an impact on the state of biodiversity that it interfaces with. Therefore, Transnet bears the responsibility of ensuring that its operations not only coexist with biodiversity but actively contribute to its enhancement and is compliant with relevant pieces of legislation. Transnet's biodiversity commitments are embedded in its Environmental Sustainability Framework and the Environmental, Social and Governance (ESG) Strategy that outlines Transnet's position on biodiversity management and enhancement aligned to the United Nations Sustainable Development Goals. As the largest OD, Transnet Freight Rail (TFR) is a crucial player in South Africa's freight planning landscape. Operating a vast rail network of 30,400 km across South Africa, TFR is responsible for the transportation of bulk, break-bulk, and containerised freight.

2.1 Contextual Framework

The loss of biodiversity has been noted as one to the top ten (10) global risks in recent years² and the world at large is moving towards prioritising biodiversity conservation initiatives to mitigate this risk. To this end, the Kunming-Montreal Global Biodiversity Framework (GBF), an outcome of the 15th Conference of Parties (COP 15), held in December 2022, sets out four (4) main goals and twenty-three (23) actionable targets to reverse biodiversity loss by 2030 and live-in harmony with nature by 2050. Target 15 of the GBF connects business with biodiversity by requiring businesses to monitor, assess and transparently disclose risks, dependencies and impacts on biodiversity both within their own operations and across their supply and value chains.

Countries that are signatories to the CBD are required to develop a National Biodiversity Strategy and Action Plan (NBSAP). This strategic document outlines each nation's biodiversity priorities, commitments, and actions to ensure alignment with global biodiversity frameworks. South Africa is currently updating its NBSAP, with key revisions including the integration of Target 15 of the GBF, which calls on businesses to assess and disclose their impacts on biodiversity.

In responding to Target 15, Transnet strives to align to the Taskforce for Nature-related Financial Disclosures (TNFD) that aims to provide companies and financial institutions with a risk management and disclosure framework to identify, assess, manage, and disclose nature-related activities³. TNFD adopts a LEAP approach that recommends that companies and financial institutions are to locate their interface with nature, evaluate their dependencies and impact on nature, assess the risks and opportunities, and prepare to respond and disclose on nature-related issues, as depicted by figure 2. Whilst nature-related disclosures are currently not yet compulsory in South Africa, Transnet is taking a proactive stance to adopt international best practice, ensure a net positive impact to biodiversity by 2030, and align with anticipated changes to the revised NBSAP.

² Biodiversity Credits: Demand Analysis and Market Outlook. World Economic Forum Insight Report, December 2023

³ TNFD (2023). Guidance on the identification and assessment of nature related Issues. The TNFD LEAP approach V1.1 October 2023



Figure 2 Overview of the TNFD LEAP Framework

2.2 Situation Assessment – Biodiversity in Transnet

Transnet operations span across all the provinces in the country and contain areas of conservation significance, and in some cases near formally protected areas and Key Biodiversity Areas (KBA). Transnet recognises the importance of biodiversity and has taken great strides in minimising risks posed by our operations to biodiversity, through careful planning and maintenance of our assets using mechanisms such as the Project Lifecycle Process (PLP). Additionally, Transnet plays an active role in ensuring that some of the areas of significant biodiversity value are formally protected, ultimately contributing towards restoring biodiversity.

Preliminary desktop mapping conducted by the Transnet Corporate Sustainability office using shapefiles obtained from the South African National Biodiversity Institute (SANBI) revealed that according to the output of the recent National Biodiversity Assessment, approximately 46% of Transnet land is located within critically endangered ecosystems, thus presenting constraints for future infrastructure expansion plans. Moreover, the output of the preliminary mapping exercise provided a spatial representation of the proximity of Transnet operations to KBAs such the Cape Floristic Kingdom, the Greater Kruger National Park and the Maputoland hot spot, as highlighted in figure 3.

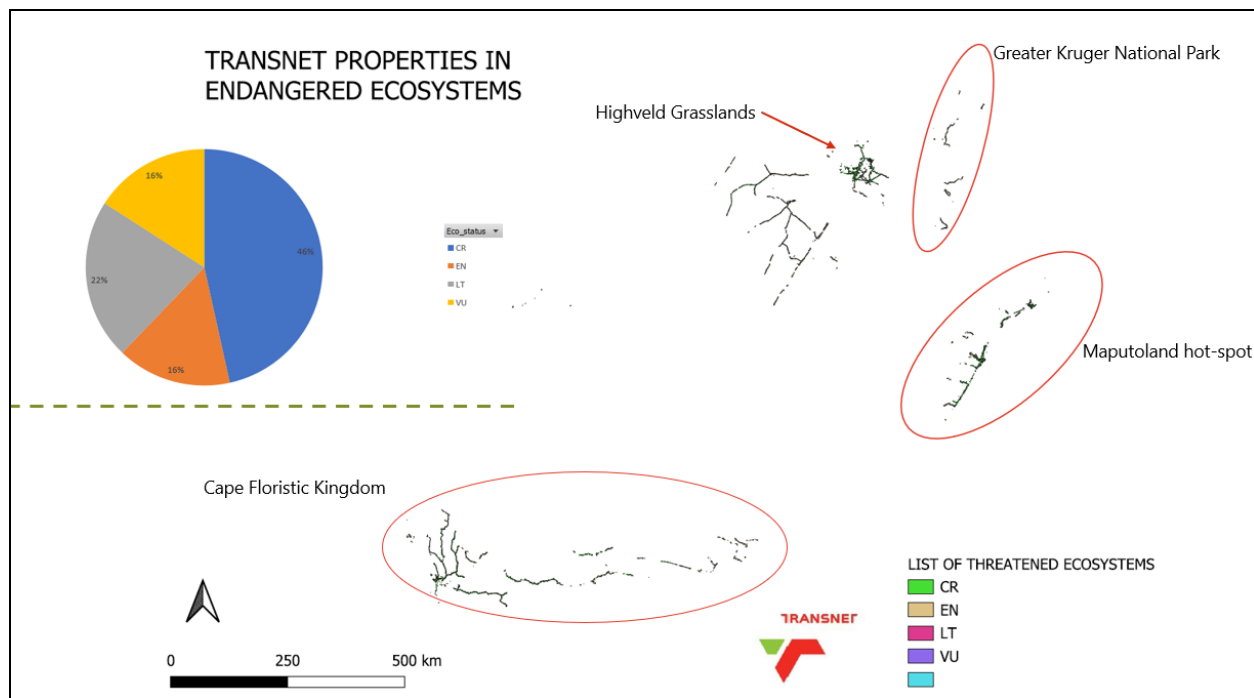


Figure 3 Transnet operations within Key Biodiversity Areas

When using the ENCORE Database and economic exposure assessment method from Maurin *et al* (2025) , the economic activities (related to Transnet operations, namely “Transportation and storage” & “Construction”) dependencies to ecosystem services shows that Transnet operations could potentially be exposed to high dependencies to the following Ecosystem services: “Soil and sediment retention”, “Flood control” and “Storm mitigation.”⁴

2.3 The Need

The Biodiversity Interface Footprint and Impact Study will deliver significant strategic value to Transnet. It will provide clarity on the company’s biodiversity footprint, evaluate the risks posed by its operations, and identify potential constraints that biodiversity considerations may place on achieving the Reinvent for Growth Strategy. In addition, the study will strengthen Transnet’s social licence to operate, enhance the quality and transparency of biodiversity disclosures and further strengthen investor confidence and stakeholder relationships.

⁴ Maurin, J., Calas, J. & Godin, A. (2025). Assessing economic exposure to nature-related risks. AFD Research Papers n° 306. July 2025. Paris. 60 p.

3 SCOPE OF WORK

Transnet intends to conduct a biodiversity interface footprint and impact study, to delineate its biodiversity footprint and quantify the risk and opportunities presented by Transnet operations to the natural environment, and vice versa.

3.1 The Objectives

The primary objective of this work is to conduct a biodiversity interface footprint and impact study across Transnet operations then develop a Biodiversity Risk Assessment and Implementation Plan for Transnet. This will be achieved by means of undertaking biodiversity baseline assessment that will serve as a reference point for future comparisons and monitoring efforts, allowing for the evaluation of changes in biodiversity over time. Furthermore, the risk assessment register will assist in identifying and documenting double materiality of the impact of Transnet operations to biodiversity and vice versa.

The Consultant must therefore produce inter-alia:

- Biodiversity Baseline Assessment Report
- Shapefiles of sensitivity maps of Transnet properties at a local or provincial scale
- Biodiversity constraints, dependencies and opportunities register
- Biodiversity Risk Assessment register and Implementation Plan

3.2 Detailed Description of Works

3.2.1 Biodiversity Baseline Assessment

The tasks will include but not limited to the following:

- An initial desktop assessment, using local and provincial spatial biodiversity plans, to provide a detailed understanding of Transnet's landholdings against fine-scale biodiversity plans.
- Identification of biodiversity hotspots, key ecosystem services dependencies and fatal flaws across Transnet's operational footprint.
- Depending on the outcome of the exercise above (biodiversity footprint for hotspots etc); undertake an MCA undertake Multi-Criteria Analysis (MCA) for which the criteria will be based on environmental sensitivity and business priorities/operational requirements. The output of the MCA is to inform the selection of sample sites for ground-truthing.
- Ground truthing of selected sites to include an ecological survey and key ecosystem services provision assessment of the sample sites, taking into account seasonal requirements for flora and fauna under assessment.
- Spatially represent an ecological profile of the sample sites using Geographic Information Systems or any compatible mapping software.
- Provide insight into the ecological functions/linkages and importance of the habitats of the sample sites. This should speak to ecological infrastructure and ecological goods and services value.
- Findings of the ground truthing exercise to be compared with initial desktop assessment to inform the method of extrapolation to determine Transnet's biodiversity footprint.

- The baseline biodiversity assessment to identify biodiversity constraints and opportunities across Transnet landholdings.
- Initial and final findings of the biodiversity baseline assessment to be presented to the Transnet Biodiversity Focus Group.

Deliverables Required from the Service Provider:

The expected outputs/deliverables for this assignment, includes but not limited to the following:

- Biodiversity Baseline Report - detailing the outcome of initial desktop screening, MCA and ground-truthing of sample sites; this must include a Transnet-wide consolidated report and individual OD Biodiversity Baseline Reports.
- The Report/s must specify the details of the methods applied in collecting and analysing data. All input data must be available in a native format upon request.
- GIS Maps - raw data in the form of ESRI shapefiles, presented in an accurate scale and superimposed on recent aerial photography, where necessary.
- Presentations to the Transnet Biodiversity Focus Group.
- Monthly Progress Report – highlighting progress against the project schedule, risks and issues.

3.2.2 Biodiversity Risk and Opportunities Assessment

The tasks will include but not limited to the following:

- Based on the findings of the biodiversity baseline assessment, identify existing or potential threats, constraints, nature-related dependencies and opportunities across Transnet operational footprint.
- Quantify Transnet's nature-related dependencies across Transnet operational footprint.
- Conduct a risk assessment, using an acceptable Biodiversity Risk Assessment Framework (or compatible methodology) and in collaboration with the Transnet Biodiversity Focus Group and key Transnet personnel to quantify Transnet's biodiversity risk profile.
- Make recommendations on ecosystem services and biodiversity mitigation actions (i.e., measures to avoid, minimise, regenerate, restore or transform dependencies and impacts on biodiversity) to be implemented, to manage biodiversity risks and contribute towards the achievement of Transnet's biodiversity goals outlined in the Environmental Sustainability Framework.
- Determine Transnet's material risks to biodiversity that must be disclosed in accordance with the TNFD framework.
- Explore Nature-based solutions (NBS) that can be integrated into the design, rehabilitation and maintenance of Transnet infrastructure assets, in support of biodiversity enhancement, climate resilience and operational performance.
- Identify for each asset type (rail, ports, pipelines and landholdings) the most relevant NBS options, their intended functions beyond biodiversity enhancement (climate resilience, erosion control, ecosystem services, etc.), and their applicability to infrastructure rehabilitation and maintenance activities.
- Identification of land within Transnet's landholdings that can be used for biodiversity offset sites, implementation of nature-based solutions, or payment for key ecosystem services maintenance.
- Identification and mapping of key stakeholders and partnership opportunities for Transnet to realise its biodiversity goals.

- Propose a capacity-building module for Transnet teams on biodiversity and NBS integration into infrastructure asset management. The assessment shall translate biodiversity risks, dependencies and opportunities into operational decision-support tools for investment planning, including prioritisation criteria applicable to infrastructure rehabilitation projects (rail, ports, pipelines).

Deliverables Required from the Service Provider:

The expected outputs/deliverables for this assignment, includes but not limited to the following:

- Preparation for the risk workshop material and facilitation of the Risk Workshop with Transnet representatives.
- Biodiversity Risk Assessment Register – as an output of the risk workshop.
- Biodiversity Impact Report - detailing biodiversity risks, dependencies, mitigation actions and opportunities (Transnet-wide and OD specific report)
- Documented recommendations on nature-based solutions.
- Stakeholder Register and RACI Matrix.
- Capacity building material and awareness material
- Biodiversity assessment tool for project appraisal

4 PRESENTATION OF STUDY OUTPUTS

The outputs comprising of the above-stated deliverables must be presented to Transnet in a virtual meeting to discuss the findings and recommendations. Further to such meeting, each deliverable/report must be revised and finalised in accordance with instructions from Transnet.

The *Consultant* will be expected to highlight assumptions, constraints and limitations of their assessment, validations, advice, necessary information, critical gaps, key success criteria of this study.

5 THE REQUIRED RESOURCES

The *Consultant* must have experience in biodiversity assessment and strategic environmental assessment and this is critical to successful delivery of this assignment. The respective qualification and experience requirements are contained in the panel development and evaluation process. For ground-truthing travel, the consultant must make provision for Transnet representative travel costs.

6 PROJECT DURATION

The following high-level project milestones and timelines for the various activities of this assignment are proposed.

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| • Team mobilisation | 2 weeks |
| • Reviews and consultation | 8 weeks |
| • Execution | 90 weeks |
| • Preparation and submission of final reports | 4 weeks |

The study will be completed within 24 (twenty-four) months of award; it must be noted that some of the assessments have seasonal requirements that need to be catered for.