

UNDP BIOFIN – TNFD Training

LEAP - Locate

June 2025

Climate Risk Services

UNDP

BIOFIN
The Biodiversity Finance Initiative

Meet the team

- Climate Risk Services' CEO **Gerhard** has a wealth of experience in the climate and nature field, previously working for consultancies, banks, governments, and the IUCN. He also holds an MBA from the University of Oxford.

- As a senior analyst at Climate Risk Services, **Ben** specialises in nature-related risk for financial institutions and corporates. Ben holds a Masters degree from Imperial College London in Environmental Technology (environmental economics and policy).



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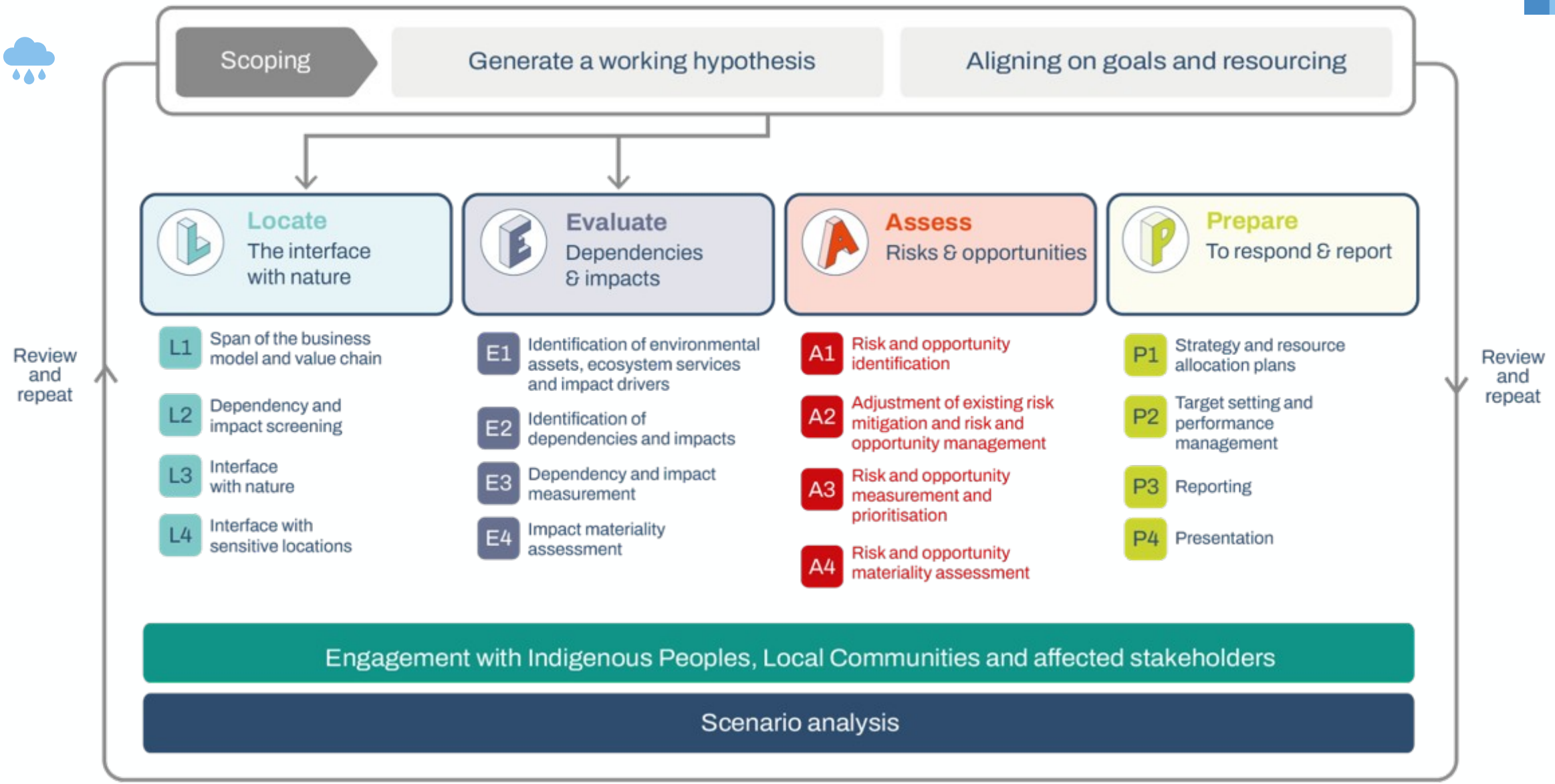
In this video…

1. Introduction to the LOCATE step
2. Case studies
3. Metrics

Key Objectives

- Understand the purpose and aims of the LOCATE step.
- Understand how the case study organisations undertook the Locate step.
- Learn about some of the tools and metrics recommended by the TNFD.

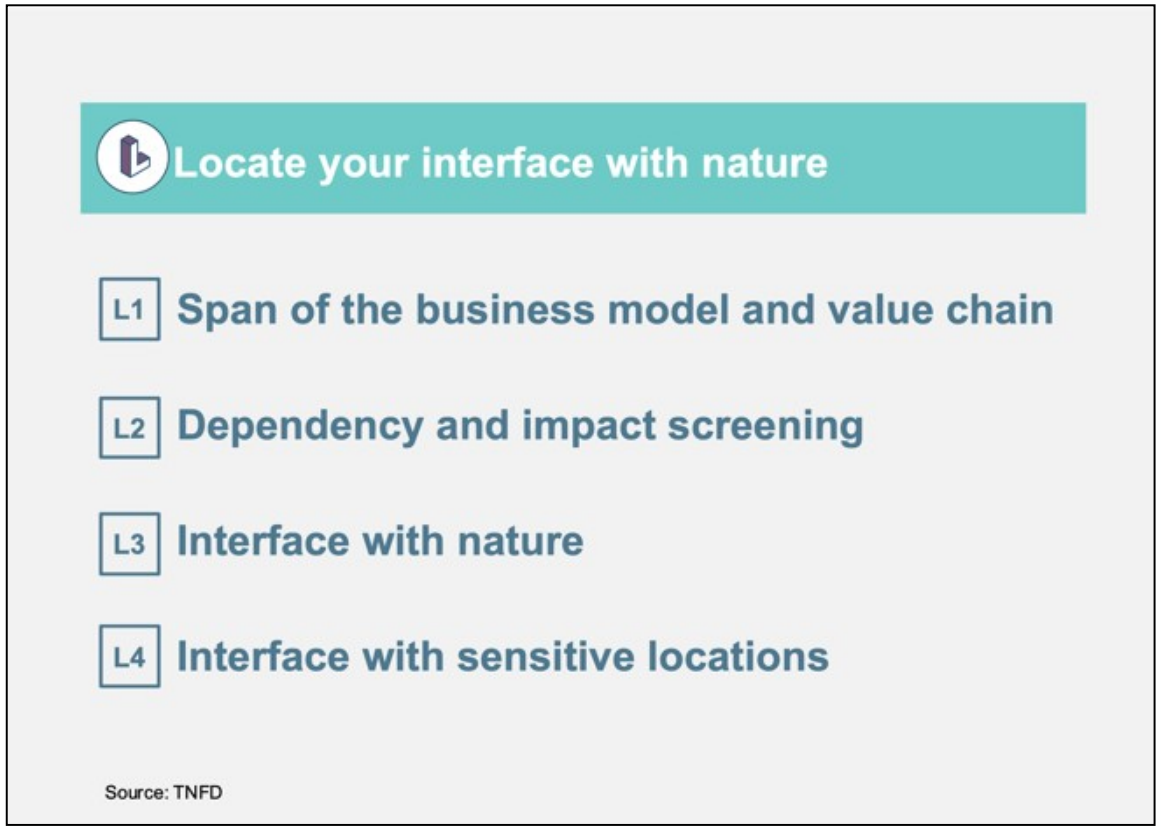
LOCATE


Scoping
Generate a working hypothesis
Aligning on goals and resourcing
Locate
The interface with nature
Evaluate
Dependencies & impacts
Assess
Risks & opportunities
Prepare
To respond & report
L1 Span of the business model and value chain
L2 Dependency and impact screening
L3 Interface with nature
L4 Interface with sensitive locations
E1 Identification of environmental assets, ecosystem services and impact drivers
E2 Identification of dependencies and impacts
E3 Dependency and impact measurement
E4 Impact materiality assessment
A1 Risk and opportunity identification
A2 Adjustment of existing risk mitigation and risk and opportunity management
A3 Risk and opportunity measurement and prioritisation
A4 Risk and opportunity materiality assessment
P1 Strategy and resource allocation plans
P2 Target setting and performance management
P3 Reporting
P4 Presentation
Review and repeat
Review and repeat
Engagement with Indigenous Peoples, Local Communities and affected stakeholders
Scenario analysis

LOCATE

What is the purpose of the locate step?

Nature-related risks are highly location-specific → The aim of the locate step is essentially to identify **where** your organisation's/client's relationship with nature is taking place.



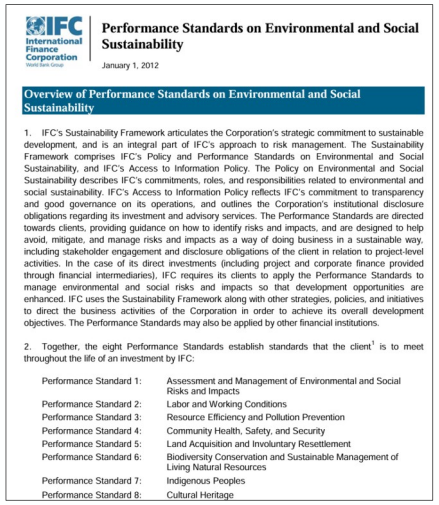
Tips

- *View the locate step as a set-up/screening step to frame the rest of the approach (filter and prioritise).*
- *For a financial institution you view your portfolio and identify where you are going to focus on (this can look like further scoping)*
- *You can use location and sector as useful variables for assessing your portfolio.*

Similarities with other regulations / frameworks?

IFC PS6

- If you are familiar with the IFC performance standards – you will notice, there is a lot of overlap with IFC PS6 particularly around identification of sensitive areas.
- Whilst the IFC standards are aimed at project-level not portfolio level, the principle of assessing the type of habitat/nature at a relevant location is the same.



IFC International Finance Corporation
World Bank Group

Performance Standards on Environmental and Social Sustainability

January 1, 2012

Overview of Performance Standards on Environmental and Social Sustainability

1. IFC's Sustainability Framework articulates the Corporation's strategic commitment to sustainable development, and is an integral part of IFC's approach to risk management. The Sustainability Framework comprises IFC's Policy and Performance Standards on Environmental and Social Sustainability, and IFC's Access to Information Policy. The Policy on Environmental and Social Sustainability describes IFC's commitments, roles, and responsibilities related to environmental and social sustainability. IFC's Access to Information Policy reflects IFC's commitment to transparency and good governance on its operations, and outlines the Corporation's institutional disclosure obligations regarding its investment and advisory services. The Performance Standards are directed towards clients, providing guidance on how to identify risks and impacts, and are designed to help avoid, mitigate, and manage risks and impacts as a way of doing business in a sustainable way, including stakeholder engagement and disclosure obligations of the client in relation to project-level activities. In the case of its direct investments (including project and corporate finance provided through financial intermediaries), IFC requires its clients to apply the Performance Standards to manage environmental and social risks and impacts so that development opportunities are enhanced. IFC uses the Sustainability Framework along with other strategies, policies, and initiatives to direct the business activities of the Corporation in order to achieve its overall development objectives. The Performance Standards may also be applied by other financial institutions.

2. Together, the eight Performance Standards establish standards that the client[1] is to meet throughout the life of an investment by IFC:

Performance Standard 1:	Assessment and Management of Environmental and Social Risks and Impacts
Performance Standard 2:	Labor and Working Conditions
Performance Standard 3:	Resource Efficiency and Pollution Prevention
Performance Standard 4:	Community Health, Safety, and Security
Performance Standard 5:	Land Acquisition and Involuntary Resettlement
Performance Standard 6:	Biodiversity Conservation and Sustainable Management of Living Natural Resources
Performance Standard 7:	Indigenous Peoples
Performance Standard 8:	Cultural Heritage

IFC PS6

Critical Habitat

16. Critical habitats are areas with high biodiversity value, including (i) habitat of significant importance to Critically Endangered and/or Endangered[11] species; (ii) habitat of significant importance to endemic and/or restricted-range species; (iii) habitat supporting globally significant concentrations of migratory species and/or congregatory species; (iv) highly threatened and/or unique ecosystems; and/or (v) areas associated with key evolutionary processes.

TNFD

Sensitive locations	Locations where the assets and/or activities in an organisation's direct operations – and, where possible, upstream and downstream value chain(s) – interface with nature in: • Areas important for biodiversity; and/or • Areas of high ecosystem integrity; and/or • Areas of rapid decline in ecosystem integrity; and/or • Areas of high physical water risks; and/or • Areas of importance for ecosystem service provision, including benefits to Indigenous Peoples, Local Communities and stakeholders.

Case Studies

Locate case study – Vale S.A.

What did they do in plain English?

→ Used the locations of their assets and geospatial datasets for **land-use**, **protected and prioritised areas**, **water**, and **species** to identify priority locations where nature-related risks may be apparent e.g. an asset in an area of high water stress or an asset near an area with very high biodiversity and legal protections.

Vale asset co-ordinate locations

Compared against

Maps for land-use, protected areas, water, and species

=

Priority list of locations, and a starting point for impacts and dependencies

Locate case study - Vale

How did Vale S.A. start their LEAP approach?

Locate

To assess the interface that our direct operations assets have with nature, a SIG was used for the intersection of the location shapes of these assets and for marking off their **area of influence**, with overlapping layers related to:

Area of influence

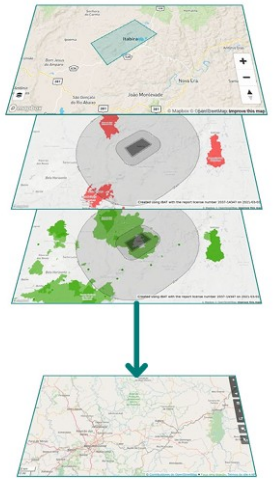
3 km buffer | 1 km buffer

*Manual for the Creation of Studies for Licensing with Environmental Impact Assessment (Cetesb, 2019)

Key

Mine | Railroad | Port

	Source	Geospatial information
	Supplied by Vale	**Area directly impacted by assets/operational sites**
Land Use	MapBiomas	Land use and coverage (2022)
	CECAV ICMBIO	Characteristics established by Speleology
	CECAV ICMBIO	Identification of Caves
	IBGE	Characteristics established by Geomorphology (2021)
	Embrapa	Classification of Brazilian soils (2021)
	Wildfinder Database	Identification of land ecosystems
	UNI Queensland	Ecosystem Integrity Index (Beyer *et al.* (2019))
Protected and prioritized areas	Funai	Location of Indigenous Lands (2021)
	Incra	Location of Quilombola Communities (2022)
	Incra	Location of agricultural reform settlements
	MMA	Protected areas (2022)
	MMA	Conservation of Biodiversity Priority Areas
	MMA	Ramsar Sites (2022)
	Supplied by Vale	Key Biodiversity Areas (KBA) (2017)
Water	Wildfinder Database	Identification of continental waters ecosystems
	Aqueduct	Basal water stress (2019)
	ANA	Hydrographic Regions (2022)
Species	GLOBIO	MSA (Mean Species Abundance) (Schipper et al., 2020)
	*species*Link	Distribution of species by selected area
	Supplied by Vale	Threatened species (IUCN, 2017)



Schematic diagram of the identification of the intersections of the priority interface tiers with the assets

Locate case study - Vale

How did Vale S.A. start their LEAP approach?

LEAP Approach

Locate

The direct operations totaled an area of 65,000 hectares, with 37 operational units located in the Atlantic Rainforest biome (~26,000 ha) and 13 operational units in the Amazon biome (~39,000 ha). The area of influence covered around 780,000 ha.

The area of influence of the assets interfaces with 18 types of land use and occupation, with 46% involving native vegetation. The most abundant types were Forest Formation (38.37%) and Pastureland (31.55%).

It was established that 38 assets interface with Priority Areas for Biodiversity Conservation, four assets interface with Ramsar Sites,* and four assets are located in regions of high water stress.

The areas of influence of 40 assets interface with protected areas.

Prioritization Criteria

- High integrity locations and areas of rapid decline (Ecosystem Integrity Index)
- Interface with legally protected areas
- Interface with areas hosting threatened species (CR, EN, VU)
- Areas of high biodiversity value (KBAs, areas prioritized for conservation)
- Known water stressed areas

*Ramsar Site: a wetland site designated to be of international importance under "The Convention on Internationally Important Wetlands" (Ramsar Convention).

All the operational assets in Brazil are priority.

Prioritization requires analyses involving new attributes in the Evaluate phase.



Photos: Gabriel Rangel Lordello Souza

Locate case study – PIDG

What did they do in plain English?

→ Used the locations of their assets and geospatial datasets for **biodiversity importance**, **ecosystem integrity**, and **water stress,** to identify priority locations where nature-related risks may be apparent e.g. an asset in an area of high water stress or an asset near an area with very high biodiversity and legal protections.

PIDG funded asset co-ordinate locations

Compared against

Maps for biodiversity importance, ecosystem integrity, and water stress

=

Priority list of locations, and a starting point for impacts and dependencies

Locate case study- PIDG

How did PIDG locate their priority locations and activities near sensitive areas?

Figure 2: Criteria, datasets, and thresholds to identify relevant locations within the portfolio

Criterion: Biodiversity importance

Datasets	Thresholds
Species Threat Abatement and Restoration (STAR/IBAT)	Relevant (>1)
Designated Areas (Protected Areas and Key Biodiversity Areas)	Proximity
Freshwater Biodiversity (WWF Water Risk Filter) - only hydropower projects	High / Very High

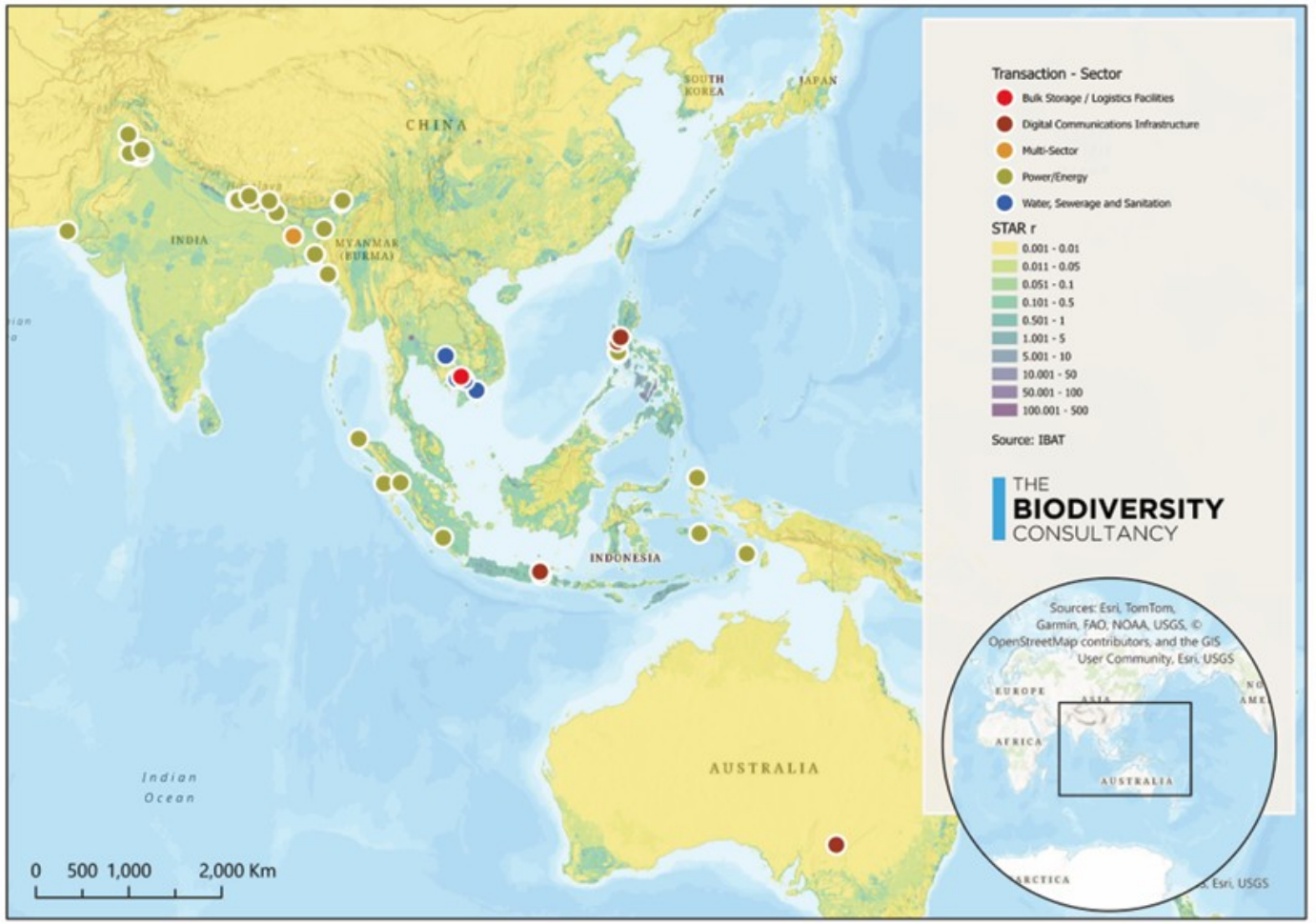
Criterion: Ecosystem Integrity

Datasets	Thresholds
Ecosystem Intactness Index	High (>0.6)
Emerging Hotspots - cover only forest ecosystems (Global Forest Watch)	Presence
Natural habitat conversion (Project data)	Presence
Freshwater ecosystems: River fragmentation / catchment degradation (WWF Water Risk Filter)	Low / Very Low

Criterion: Water Stress

Datasets	Thresholds
Water Scarcity Risk (WWF Water Risk Filter) - only projects with high dependency in water	High / Very High

Figure 4: $STAR_R$ indiceas where transactions are located.



Locate case study- PIDG

How did PIDG locate their priority locations and activities near sensitive areas?

More scoping →

chain and geography. The Locate phase was applied to sites where geographic point location information was available for infrastructure projects and where PIDG has operational or financial control. Supply chain information (e.g., main material/production equipment suppliers/location) was not considered during this phase, as PIDG does not currently require its projects/clients to report on this aspect.

Thresholds ! →

and stakeholders. The best available global environmental datasets were used to estimate biodiversity importance, ecosystem integrity and water stress at transactions' locations across sites. Thresholds were defined to identify sites where each criterion was relevant (Figure 2). The most appropriate threshold to identify relevant locations for each dataset was defined based on the global distribution of values within datasets. Sites triggered by at least one indicator in any criteria were considered a 'priority location'.

Success? →

Key findings and reflections

The method designed for the Locate phase can allow PIDG to report on the portfolio-level exposure to projects, and/or PIDG companies active in sensitive areas in alignment with the TNFD disclosure recommendation Strategy D and core disclosure metrics[4]: such as total spatial footprint, extent of land use change, ecosystem condition and species extinction risk.

A note on Locate for financial institutions…

Do you need coordinate-level data on your full portfolio to begin?

Nature-related risk is location specific & coordinate level data is best...

BUT

For a financial institution, this information can be difficult to acquire and organise.

You may have location information for a client's head office but not for their business activities.

You may only have a regional location.

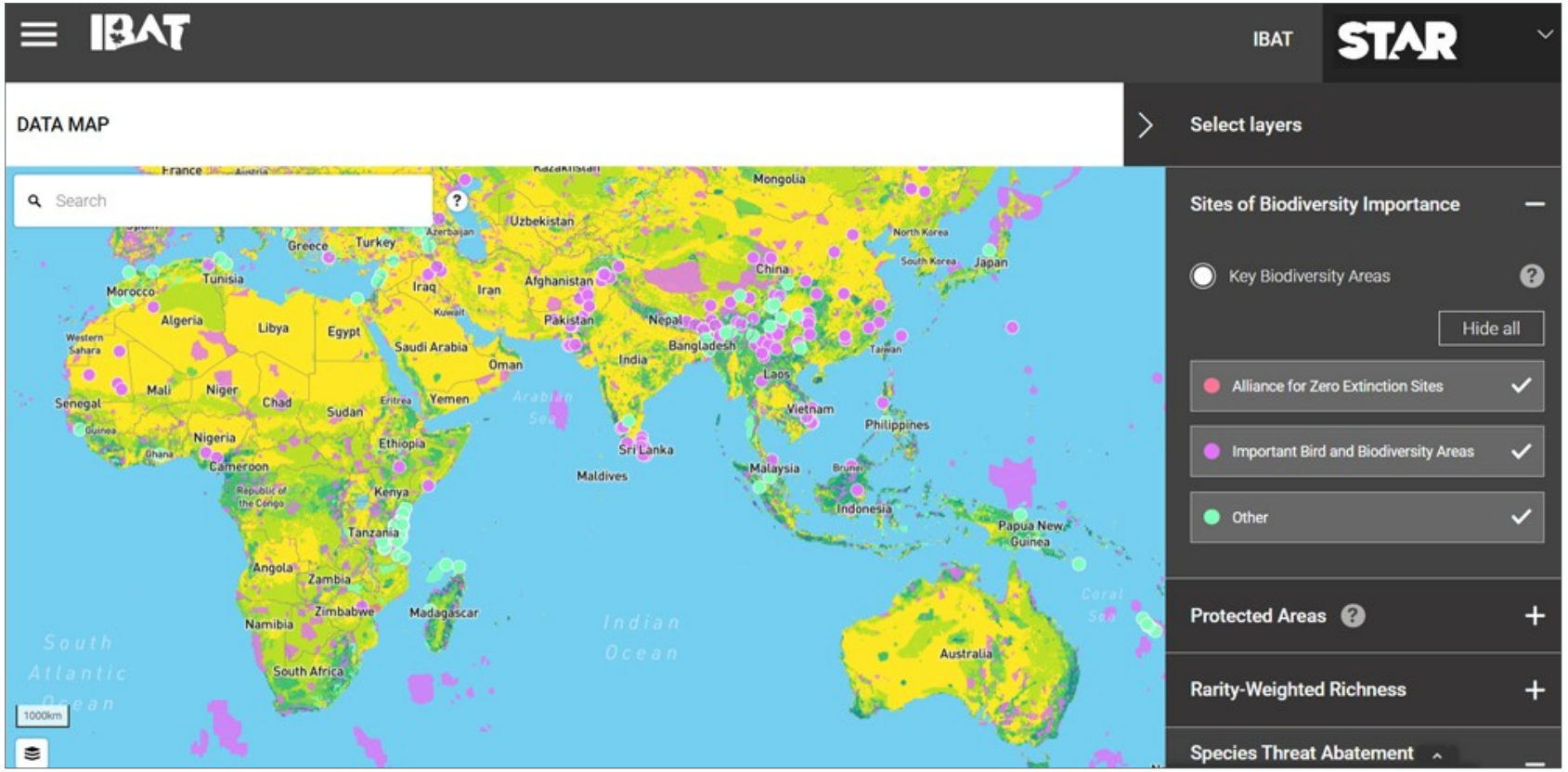
BEGIN

With province or even country level location data and improve your location data overtime e.g. use province water stress average scores to filter locations.



Locate tools

What tools can you use in the LOCATE step?



The most commonly used tool for location screening, particularly for **sensitive locations** (e.g. protected areas) is the IBAT tool.

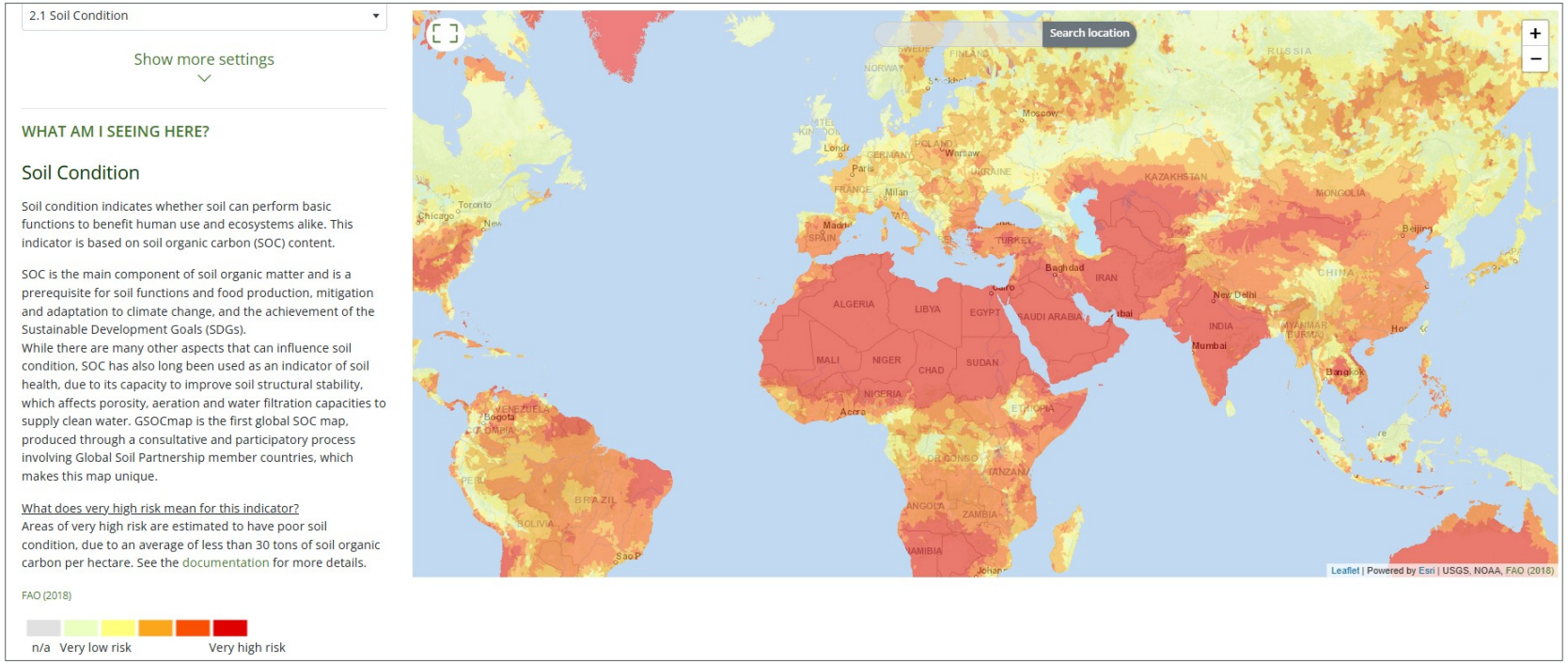
- Operates as a web-based tool with multiple datasets, maps, and layers built in.

Locate tools

What tools can you use in the LOCATE step?

Water Risk Filter

Biodiversity Risk Filter



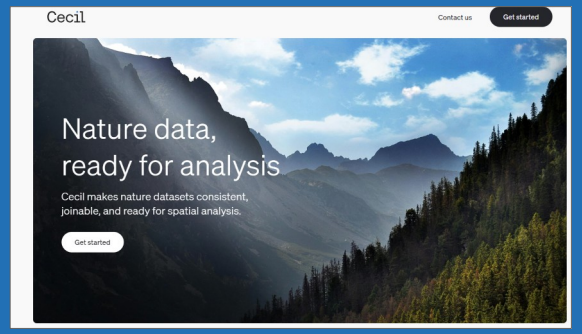
Similar tools are the WWF Biodiversity risk filter and Water risk filter.

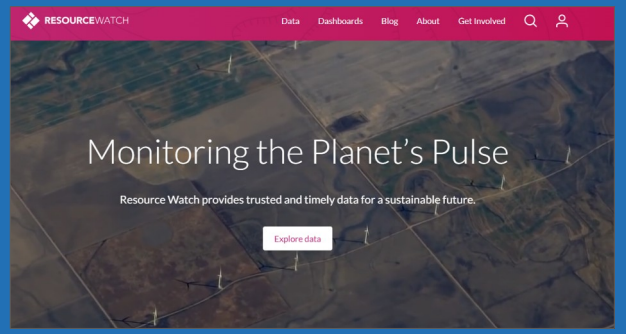
- Good coverage of a lot of nature-related risks.
- Water risk filter is excellent for water stress risks and other water risks.

Locate tools

Are there other options?

Access the raw datasets themselves e.g. on the Cecil earth platform or Resources Watch





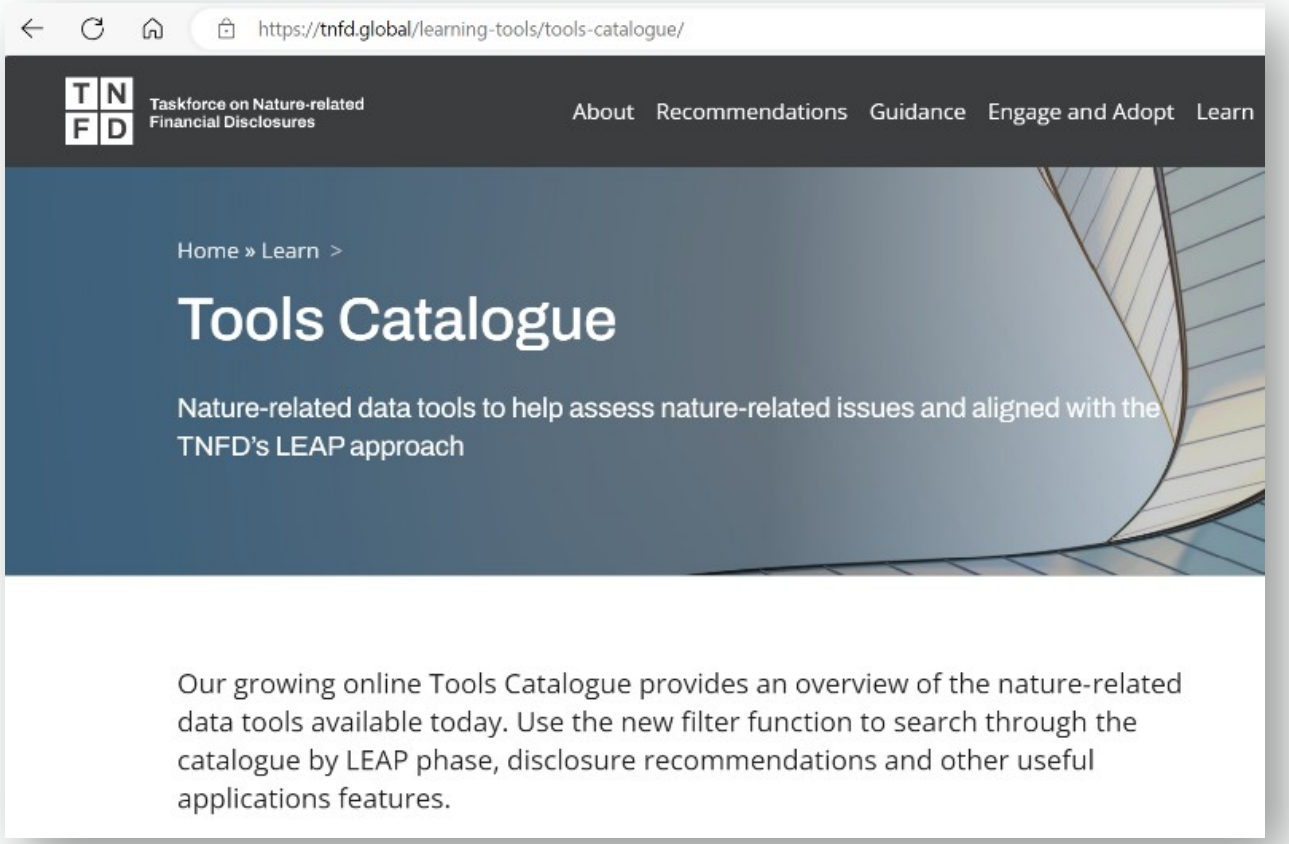
Offers the most specificity and flexibility **BUT** harder to use, needs some internal capacity in GIS and data science or a skilled consultant

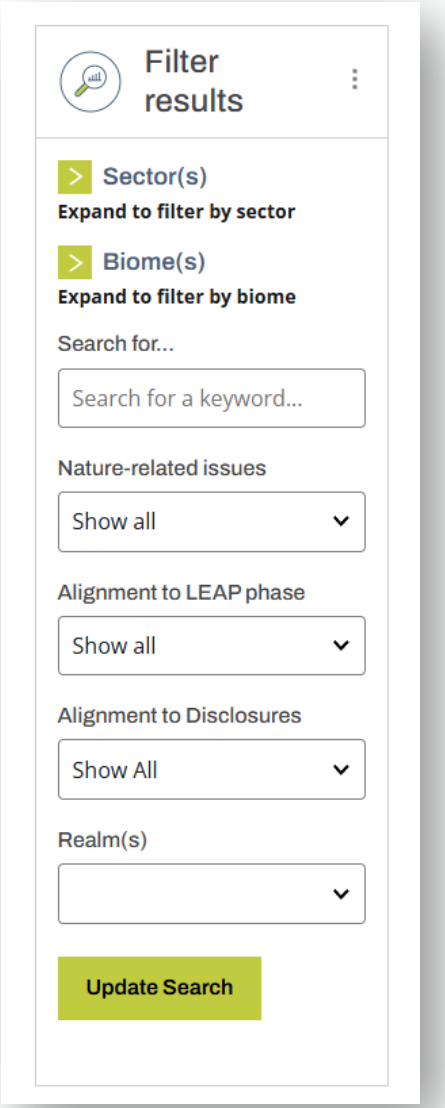
Use non-NGO profit-driven tools (there are loads)

Climate Risk Services
xylo systems
refinq
Leeana
Natcap
NATURE ALPHA
RepRisk
Bloomberg
MSCI

Designed to be easy to use with customer support – often more expensive

Where to look for tools?





Metrics

LEAP – the TNFD's integrated assessment approach

The LEAP approach is built on existing frameworks, methods and tools

The LEAP approach provides the market with a consistent approach to bringing nature into enterprise and portfolio risk management processes.

It is an internal due diligence assessment process for identifying and assessing nature-related issues facing an organisation – **its dependencies and impacts on nature; and the risks and opportunities to the organisation.**



LOCATE results in disclosure metrics

Where are the locate results relevant for core disclosure metrics?

Land / freshwater / ocean-use change	C1.0 Indicator: Total spatial footprint
	C1.1. Indicator: Extent of land/ freshwater/ ocean-use change
Pollution / pollution removal	C2.0 Indicator: Pollutants released to soil split by type
	C2.1 Indicator: Wastewater discharged
	C2.2 Indicator: Waste generation and disposal
	C2.3 Indicator: Plastic pollution
	C2.4 Indicator: Non-GHG air pollutants
Resource use / replenishment	C3.0 Indicator: Water withdrawal and consumption from areas of water scarcity
	C3.1 Indicator: Quantity of high-risk natural commodities sourced from land/ocean/ freshwater
Invasive alien species and other	C4.0 Placeholder indicator: Measures against unintentional introduction of invasive alien species (IAS)
State of nature	C5.0 Placeholder indicator: Ecosystem condition
	C5.0 Placeholder indicator: Species extinction risk
Core global nature-related risks metrics	C7.0 Value of assets, liabilities, revenues and expenses that are assessed as vulnerable to nature-related transition risks (total and proportion of total)
	C7.1 Value of assets, liabilities, revenues and expenses that are assessed as vulnerable to nature-related physical risks (total and proportion of total)
	C7.2 Description and value of significant fines/penalties received/litigation action in the year due to negative nature-related impacts
Core global nature-related opportunity metrics	C7.4 Amount of capital expenditure, financing or investment deployed towards nature-related opportunities, by type of opportunity, with reference to a government or regulator green investment taxonomy or third-party industry or NGO taxonomy, where relevant
	C7.5 Increase and proportion of revenue from products and services producing demonstrable positive impacts on nature, with a description of impacts

Source: TNFD (2023) Recommendations of the Taskforce on Nature-related Financial Disclosures

LOCATE results in disclosure metrics

Are the locate results relevant for core disclosure metrics

FI core disclosure metric	Description
FI.C0.0: Exposure to sectors The TNFD recommends that FIs disclose a metric that represents the exposure to a defined set of sectors considered to have material nature-related dependencies and impacts.	This metric demonstrates that a financial institution has undertaken an initial nature-related exposure assessment with a sector lens, based on a heatmapping approach. • **For banks:** Absolute amount or percentage of lending volume. • **For asset owners and managers:** Absolute amount or percentage of invested or owned assets. • **For re/insurers:** Absolute amount or percentage of gross written premiums (excluding external acquisition costs if appropriate) or total sums insured.
FI.C0.1: Exposure to sensitive locations The TNFD recommends that FIs disclose a metric that represents the exposure to companies with assets and/or activities in sensitive locations.	This metric demonstrates that a financial institution has undertaken an initial nature-related exposure assessment with a sensitive location lens. • **For banks:** Absolute amount or percentage of lending volume. • **For asset owners and managers:** Absolute amount or percentage of invested or owned assets. • **For re/insurers:** Absolute amount or percentage of gross written premiums (excluding external acquisition costs if appropriate) or total sums insured.

Source: TNFD (2023) Recommendations of the Taskforce on Nature -related Financial Disclosures

LOCATE results in disclosure metrics

What kind of asset classes should be included?

Asset class coverage	Metric FI.CO.0 – Exposure to sectors	Metric FI.C0.1 – Exposure to sensitive locations
Corporate equity and debt (publicly listed and privately held)	✓	✓
Infrastructure and project finance assets	✓	✓
Commodities finance	✓	✓
Corporate lending	✓	✓
Sovereign exposures	Not currently considered for inclusion but may be included in future	
Cash and money market		
Derivatives and commodity future		
Advisory and other off balance sheet activity		
Retail and other consumer exposures		
Mortgage portfolios	Banks and insurers may choose to disclose	

Source: TNFD (2024) Additional Guidance for Financial Institutions

Case study – Cibus Capital LLP.

How did Cibus disclose their exposure to sensitive locations?

They used the IBAT, WWF biodiversity risk filter, and WWF water risk filter to assess specific sites within their portfolio.

Presented the results as a heatmap (see right) covering Key Biodiversity Area status, legally protected area status, water risks, species richness, and ecosystem integrity risk.

Is their disclosure perfectly aligned to the TNFD?

NO, they did not disclose every core metric or core financial institution metric

→ as the TNFD is voluntary there is no risk by starting with what's possible and improving over time.

Site Name	Company	Cibus Sector	Country	Ecosystem	KBA	Legally Protected	Physical Water Risks	Rarity Weighted Richness	Low Ecosystem Integrity Risk
1	The Summer Berry Company	Contained Environment Agriculture	Portugal	Warm Temperate Dry Cropland on Plains	No	Yes	H	M	M
2	The Summer Berry Company	Contained Environment Agriculture	Portugal	Warm Temperate Dry Cropland on Plains	No	Yes	H	M	M
3	Amaretto Almonds	Permanent Row Crops	Australia	Warm Temperate Dry Cropland on Plains	No	No	H	M	H
4	Amaretto Almonds	Permanent Row Crops	Australia	Warm Temperate Dry Cropland on Plains	No	No	H	M	H
5	Withcott Seedlings	Contained Environment Agriculture	Australia	Sub-Tropical Dry Shrubland on Mountains	No	No	M	H	H
6	Prunus Nuts	Permanent Row Crops	Spain	Warm Temperate Dry Cropland on Plains	No	No	H	M	H
7	Prunus Nuts	Permanent Row Crops	Spain	Warm Temperate Dry Cropland on Plains	No	No	H	M	H
8	Prunus Nuts	Permanent Row Crops	Spain	Warm Temperate Dry Cropland on Mountains	No	No	H	M	H
9	Prunus Nuts	Permanent Row Crops	Spain	Warm Temperate Dry Cropland on Hills	No	No	H	M	H
10	Prunus Nuts	Permanent Row Crops	Spain	Warm Temperate Dry Cropland on Hills	No	No	H	M	H
11	Prunus Nuts	Permanent Row Crops	Spain	Warm Temperate Dry Cropland on Plains	No	No	H	M	H
12	Prunus Nuts	Permanent Row Crops	Spain	Warm Temperate Dry Cropland on Plains	No	No	H	M	H
13	Prunus Nuts	Permanent Row Crops	Spain	Warm Temperate Dry Cropland on Hills	No	No	H	M	H

H: High M: Medium

Climate Risk Services

Thank you!

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