



The WWF Risk Filter Suite

31 January 2023

An aerial photograph of a dense tropical forest. A large, light-colored rocky cliff face is visible, partially covered by the thick green canopy. The forest extends to the edges of the frame, with various shades of green indicating different types of vegetation.

Agenda

The Nature Loss Crisis

Introduction to the Risk Filter Suite and Guidance

Panel Discussion

Future Directions

Q&A

A Reality: Nature Loss and Economic Risk



1 million*

Species may face extinction due to human activity



69% decline*

in populations of mammals, birds, fish, amphibians and reptiles since 1970



\$44 trillion*

of value generation is moderately or highly dependent on nature and the services it provides

Global Risks Report 2023

Top 10 Risks

“Please estimate the likely impact (severity) of the following risks over a 10-year period”



10 years



Risk categories

Economic Environmental Geopolitical Societal Technological

Source: World Economic Forum, Global Risks Perception Survey 2022-2023

The WWF Biodiversity Risk Filter



WWF Risk Filter Suite

Biodiversity Risk Filter

Water Risk Filter

Login

WWF Risk Filter Suite

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Introduction to Tools

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Our Team

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Increasing Regulatory and Stakeholder Expectations



Corporates will need to comply with many new standards on biodiversity

- Science-Based Targets for Nature
- Task Force for Nature-related Financial Disclosures
- Kunming-Montreal Global Biodiversity Framework
- Global Reporting Initiative
- Climate Disclosure Standards Board
- EU Sustainable Finance Disclosure Regulation
- EU Corporate Sustainability Reporting Directive
- CDP

Bloomberg
Green

Open the Data Dash >

Politics

Europe's Anti-Greenwashing Rules Take Effect for



BNN
Bloomberg

NEWS

LIVE TV

COMMODITIES | News Wire | Investing

BlackRock to press rights and nature

France's Article 29: biodiversity disclosure requirements sign of what's to come

published on collective biodiversity engagement platform

What is Biodiversity Risk?



PHYSICAL

Cost increases or loss of revenue due to (acute or chronic) hazards arising from the global depletion of natural resources and the decline of ecosystem services



REGULATORY

Cost increases due to restrictions and requirements resulting from non-compliance with existing and future biodiversity legislation



REPUTATIONAL

Loss of brand value and market share due to actual or perceived nature-related misconduct (or lack of transparency)



MARKET

Cost increases or loss of revenue due to changing dynamics in overall markets that arise from a company's impact or dependency on biodiversity



Impacts and dependencies on biodiversity create financial risks and opportunities – which drive companies and financial institutions to act in the right places in the right way



Dependencies on biodiversity

Ecosystem services decline can physically impact business locations and create opportunities



Impacts on biodiversity

Impacts on biodiversity can create **regulatory, reputational, and other risks** for business locations



Biodiversity risk & opportunity ratings for company locations

Spatial ratings across categories of biodiversity-related threats and opportunities help companies and financial institutions **prioritize areas for action and set targets**



Response plan per and across priority locations

Personalized list of options to mitigate risks and seize opportunities helps to **drive positive biodiversity impact and contribute to global conservation agenda**

The WWF Biodiversity Risk Filter - Overview



Purpose

Corporate-level screening & prioritization

Understand direct impacts and dependencies on nature

Analysis of operational and key value chain sites

Visual outputs on spatial data for planning and decision-making

Result: Assess and respond to nature-related risks and opportunities



Ease of Use

Open access

Web-based

Over 50 key data sets translated into company-relevant terms

Visually comprehensive output

Same login and data input requirements for both Biodiversity Risk Filter and Water Risk Filter



Scope

All industries

Spatially explicit biodiversity and water-specific data

Risks: Physical, Regulatory, Reputational

The WWF Biodiversity Risk Filter - Demo



WWF Risk Filter Suite

Biodiversity Risk Filter

Water Risk Filter

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riskfilter.org



BIODIVERSITY RISK FILTER

Understand, assess and respond to your biodiversity risks for enhancing resilience

Corporate and portfolio-level screening tool to help companies and investors to prioritize action on what and where it matters the most to address biodiversity risks for enhancing business resilience and contributing to a sustainable future





OUR MODULES

The WWF Biodiversity Risk Filter is a free online tool that enables companies and financial institutions to Inform, Explore, Assess, and Respond to biodiversity risks

To learn more about the tool's modules and how biodiversity loss can result in business risk, please read below and latest [WWF report](#)

1 INFORM

Dependencies and impacts on biodiversity

2 EXPLORE

Maps for physical and reputational biodiversity risks

3 ASSESS

Biodiversity risks across your operations, value chain and investments

4 RESPOND

Mitigate your biodiversity risks and enhance resilience

[Download full weightings table](#)

BRF INDICATORS	BRF SECTORS	Agriculture (animal products)	Agriculture (plant products)	Appliances & General Goods Manufacturing	Automotive, Electrical Equipment & Machinery Production	Chemicals & Other Materials Production	Construction Materials	Electric Energy Production - Coal, Gas, Nuclear, Oil, Geothermal Energy	Electric Energy Production - Biomass, Coal, Gas, Nuclear, Oil, Geothermal Energy	Electric Energy Production - Hydropower	Electronics & Semiconductor Manufacturing	Fishing and aquaculture	Food & Beverage Production	Food Retailing	General or Speciality Retailing	Health Care, Pharmaceuticals and Biotechnology	Hospitality Services	Land Development & Construction	Metals & Mining	Offices & Professional Services	Oil, Gas & Consumable Services	Paper & Forest Product Production	Telecommunication services (including wireless)	Textiles, Apparel & Luxury Good Production	Transportation Services	Water utilities / Water Service Providers	Other (Average of all sectors)
Water Scarcity		5	5	4	4	4	5	5	5	3	4	5	5	2	2	4	4	3	5	2	4	5	2	5	4	5	4
Limited Timber Availability		/	/	/	/	/	4	4	/	/	/	/	/	/	/	2	4	4	/	4	5	2	5	2	/	1	
Limited Wild Flora & Fauna Availability		1	1	/	3	1	1	/	/	/	3	3	/	/	3	2	2	/	/	/	3	/	2	/	/	1	
Limited Marine Fish Availability		/	/	/	/	/	/	/	/	/	5	/	/	/	/	2	/	/	/	/	/	/	/	/	/	1	
Soil Condition		4	5	/	/	/	/	/	/	/	1	/	/	/	/	1	1	/	/	/	5	/	/	/	1	1	
Water Condition		5	4	2	2	3	2	2	3	2	2	5	4	2	2	3	4	2	2	2	2	4	2	2	2	4	3



WHICH BIODIVERSITY RISK ASPECT DO YOU WANT TO SEE?

Scape Physical Risk

Show more settings

WHAT AM I SEEING HERE?

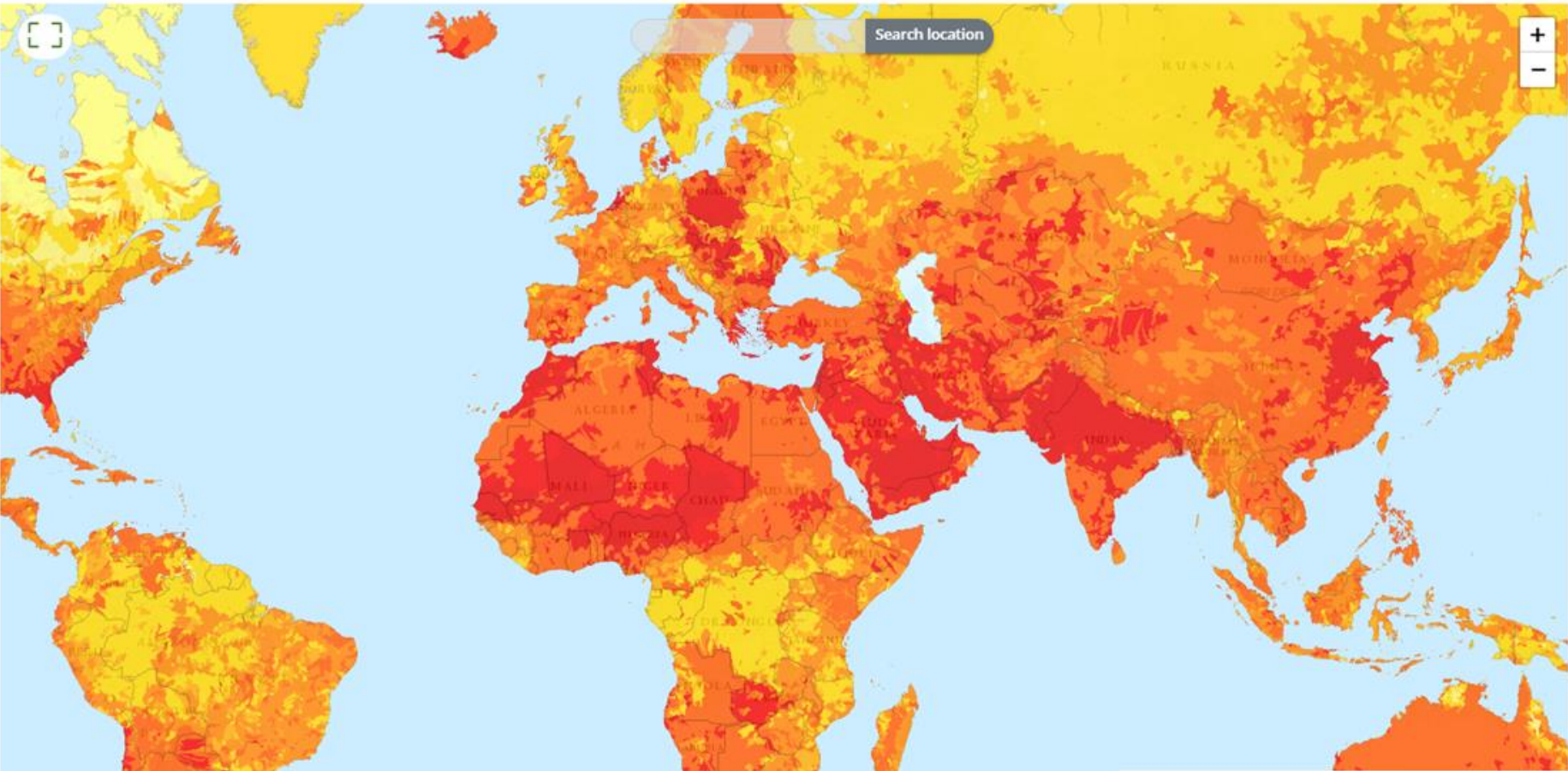
Physical Risk

Physical Risk is driven by the ways in which a business depends on nature and can be affected by both natural and human-induced conditions of land- and seascapes. It comprises the risk categories: 1) Provisioning Services, 2) Regulating & Supporting Services - Enabling, 3) Regulating Services - Mitigating, 4) Cultural Services and 5) Pressures on Biodiversity. Therefore, physical risks account for the status of the ecosystem services that companies, or their suppliers, rely on. See the specific risk type layers for more details.

WWF Biodiversity Risk Filter (2023)



You are currently viewing risk layers for terrestrial areas only. To view also marine area risk layers, use the switch:





Add a new site



Company name ?

Company A



Site name ?

Industry ?

Agriculture (plant products)



Commodity (optional) ?

Nothing selected



Group (optional) ?

Nothing select



Business Importance ?

High



Location ?

[37.261420596040566,-6.180865992033063]



Please note that sites uploaded into marine areas will only have analysis data for Biodiversity.



Risk analysis for: Company A

Map

Details

WHICH BIODIVERSITY RISK ASPECT DO YOU WANT TO SEE?

Scape Physical Risk

Show more settings

WHAT AM I SEEING HERE?

Physical Risk

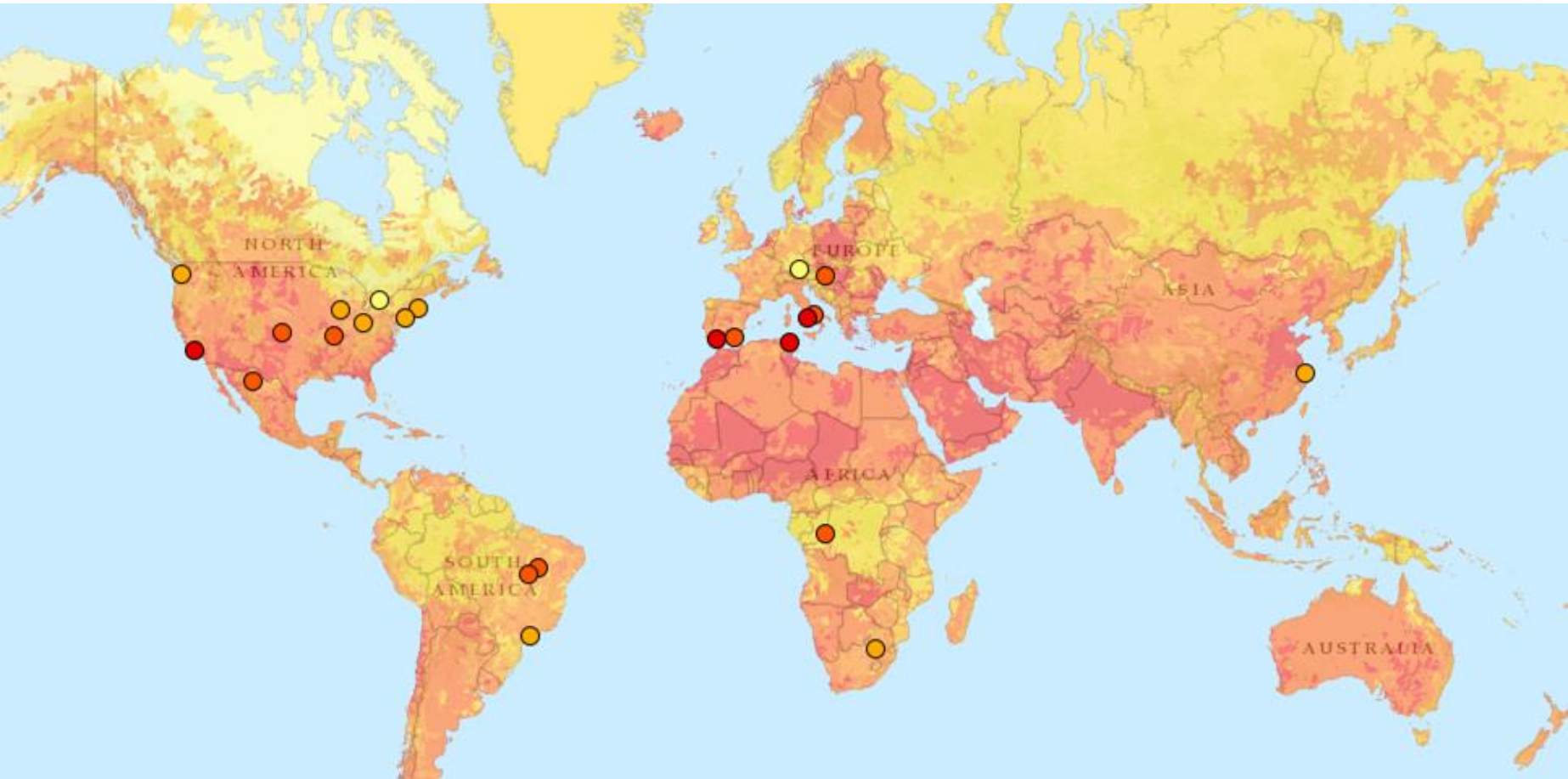
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WWF Biodiversity Risk Filter (2023)



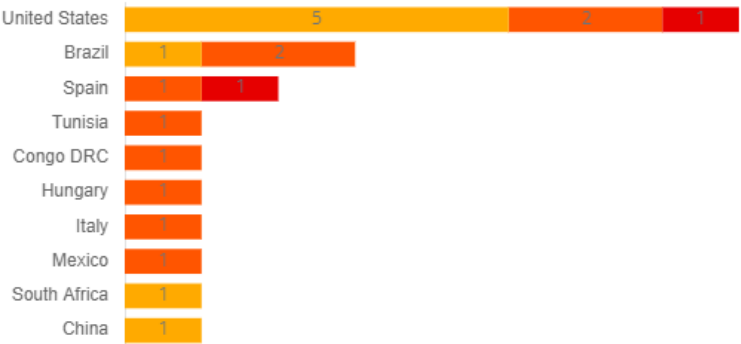
n/a Very low risk

Very high risk





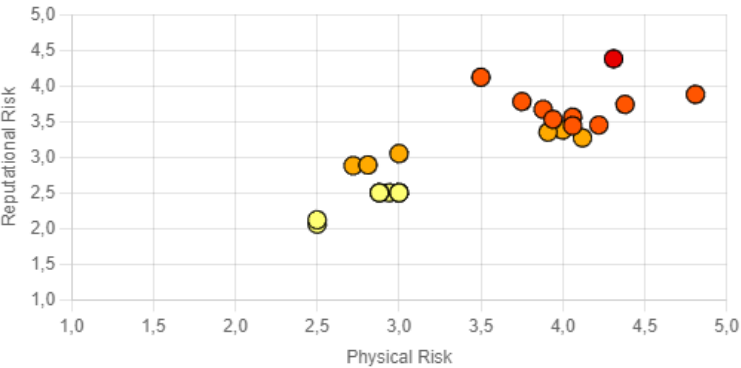
Number of Sites by Country



Which chart do you want to see?

Sites by country

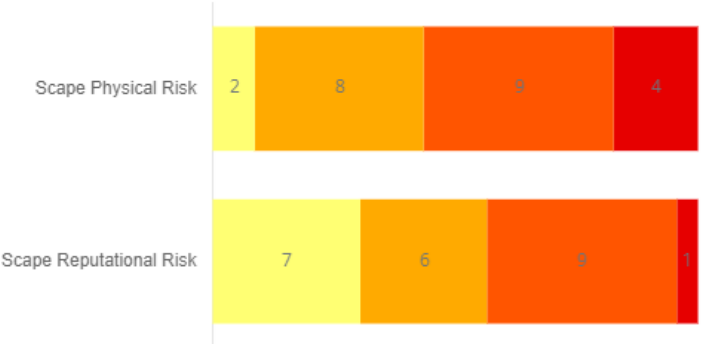
Physical Risk vs. Reputational Risk



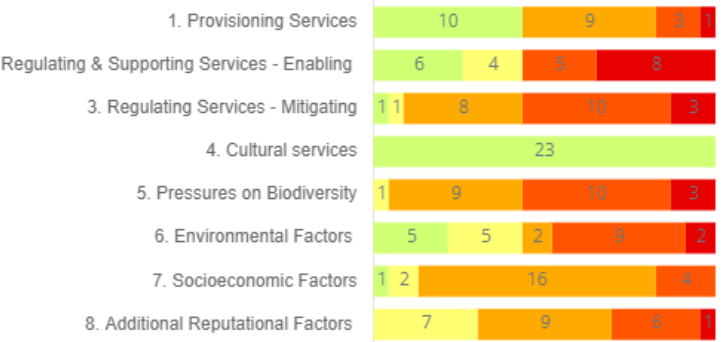
Use Ctrl+Scroll to zoom in and out on the chart.



Number of Sites by Risk Type



Number of Sites by Risk Category



See your top 10 risk indicators





Risk analysis for: Site 15

Agriculture (plant products)

Details

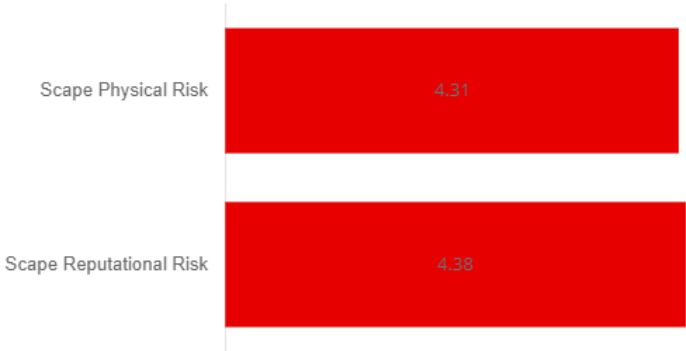
Scape Risk

Export to Excel

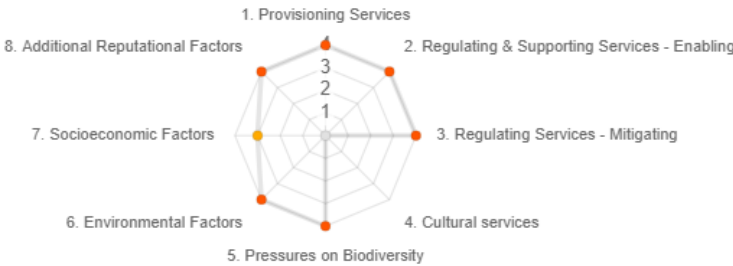
Site Location



Scape Risk Scores



Risk Categories



Top 10 risk indicators





Risk analysis for: Site 15

Agriculture (plant products)

Details

Scape Risk

Export to Excel

Risk Type	Risk Category	Indicator	Risk Score
Scape Physical Risk	1. Provisioning Services	1.1 Water Scarcity	4.7
		1.2 Limited Timber Availability	-
		1.3 Limited Wild Flora & Fauna Availability	3.0
		1.4 Limited Marine Fish Availability	-
	2. Regulating & Supporting Services - Enabling	2.1 Soil Condition	4.5
		2.2 Water Condition	4.5
		2.3 Air Condition	2.5
		2.4 Ecosystem Condition	3.2
		2.5 Pollination	4.5

What the Tool is (and is not)



A user-oriented model of **biodiversity-related risk to business**, supporting companies and financial institutions in identifying the financial materiality of biodiversity



A **spatial risk assessment tool**, helping companies and financial institutions prioritize **high risk areas and issues** for different operations and sourcing sites

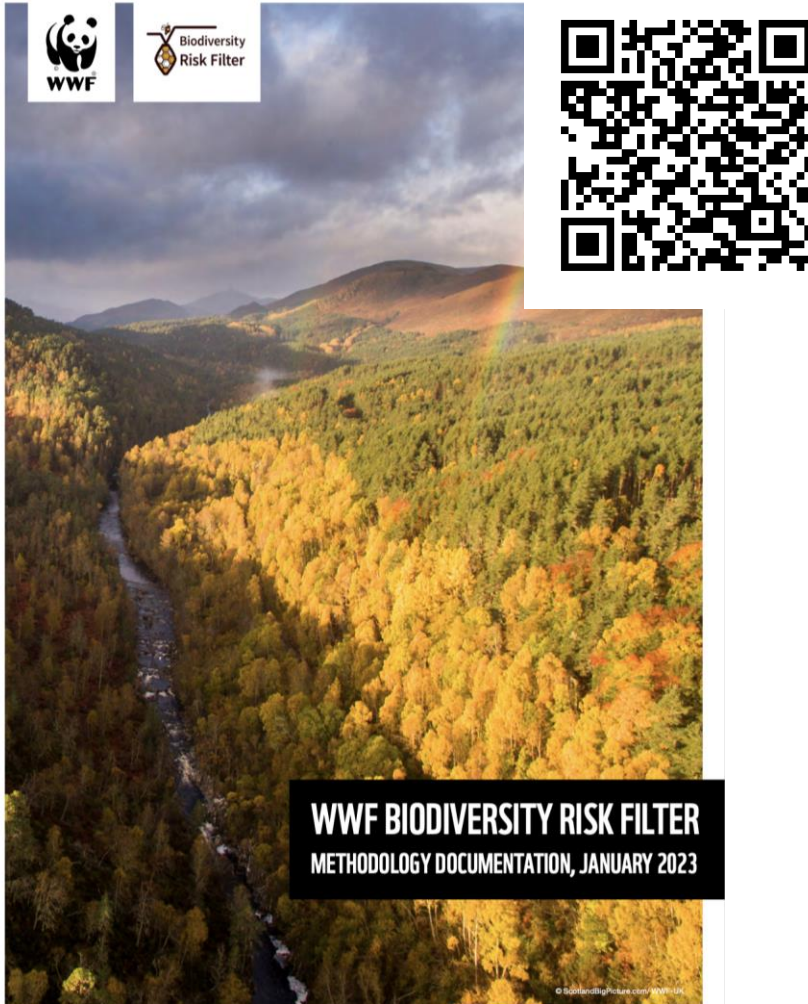


A **comprehensive model** of biodiversity-related risks to nature & people that captures nature in all its facets



A **footprint assessment tool** that provides biodiversity impact scores across private sector spheres of influence

WWF Biodiversity Risk Filter Methodological Guidance



BRF METHODOLOGY

WWF BRF methodology: Details the underlying methodology of the WWF BRF tool, including a description of the risk assessment framework, underlying structure and data and limitations.



GUIDANCE A: COMPANY DATA

Guidance on location-specific company data: Since location-specific company data is required to run the WWF BRF (and WRF) Assess Module, this guidance provides financial institutions with an overview of existing proxy data for company locations and how to collect and prepare them at scale.



GUIDANCE B: SUPPLY CHAIN DATA

Guidance on location-specific supply chain data: Since location-specific supply chain data is required to run the WWF BRF (and WRF) Assess Module, this guidance provides companies and financial institutions with an overview of existing approaches to collect and prepare location-specific supply chain data at scale.



GUIDANCE C: AGGREGATION

Guidance on WWF BRF and WRF tools output: Since the WWF BRF (and WRF) provide an assessment at the site level but not at the company or portfolio level, this guidance provides financial institutions with a description of how the output of the tools can be further processed and aggregated to the company and portfolio level.

WWF Biodiversity Risk Filter Methodological Guidance



Using the WWF BRF and WRF Assess Modules requires the following data inputs:



Geographic location of operational sites

Long/Lat

...

...

Long/Lat



A (physical) site where corporate activities are conducted



Industry classification per site

Industry sector XYZ

...

...

Industry sector XYZ



Similar production processes are grouped into the same “bucket”



Business importance per site

% or High/Med/Low

...

...

% or High/Med/Low



Relative importance of a site to the overall company

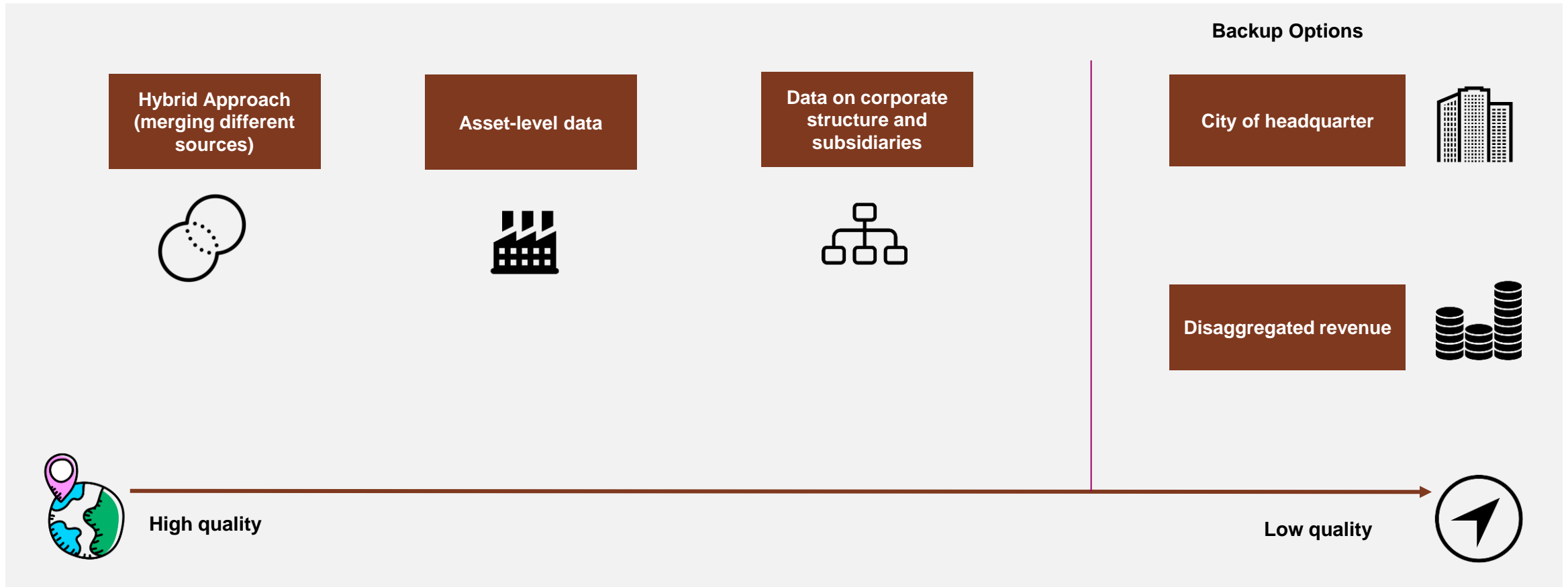


GUIDANCE C: AGGREGATION

GUIDANCE A: Collecting location-specific company data



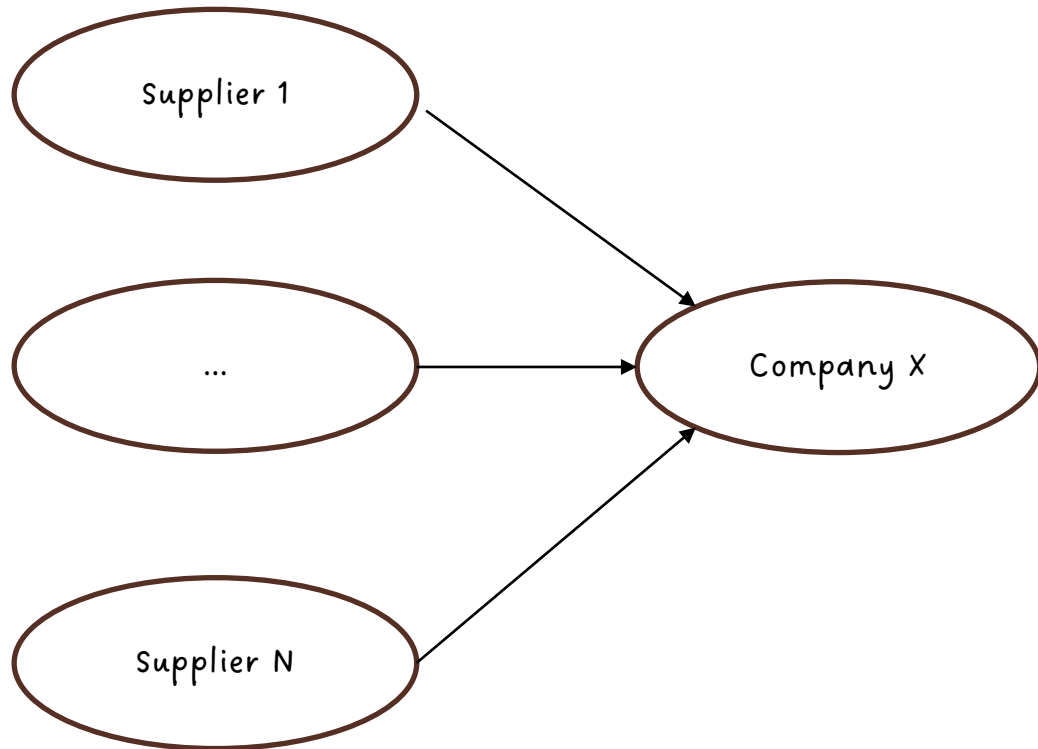
How to collect the data at scale? – Starting with operational sites



GUIDANCE B: Collecting location-specific supply chain data



How to collect supply chain data at scale?



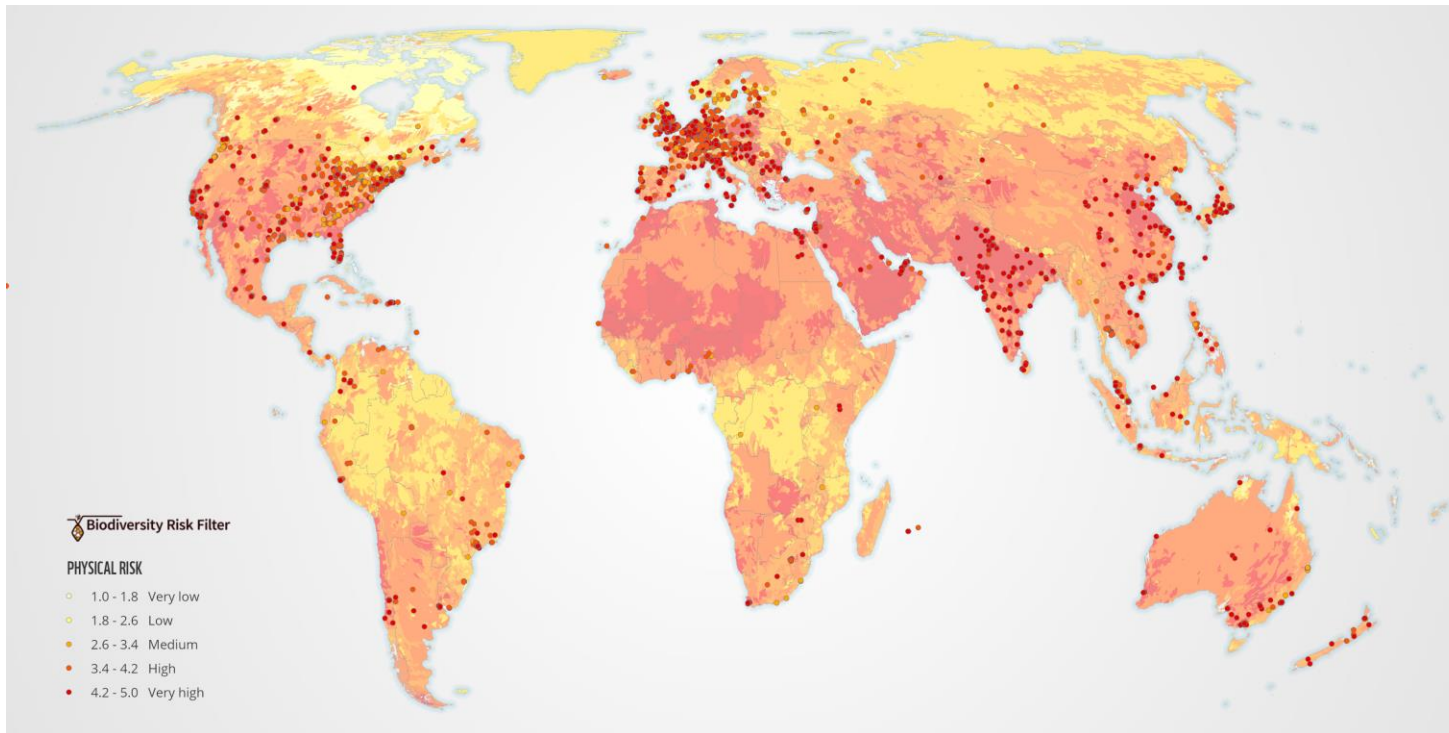
Approach I: Firm-specific supply chain data

- Data products by major data providers (Bloomberg, Refinitiv, FactSet, ...)
- Conceptually straight-forward but currently poor data availability

Approach II: Making use of Input Output models

- Less precise but more pragmatic and applicable approach
- IO models = show supply chains between industries and countries

What can we do with the Collected Data? A Case Study



STEP 1: COLLECTING LOCATION-SPECIFIC COMPANY AND SUPPLY CHAIN DATA

After refining the scope of the assessment in Step 0, collect location-specific data on (portfolio) companies' operational and supply chain sites. The following input data is required to use the Assess Modules of the BRF and WRF tools:

Geographic location of sites
(coordinates, address)

Industry classification of sites
(using WWF Risk Filter industry sector classification)

Business importance of sites
(indicated through high, medium or low importance)

GUIDANCE A: COMPANY DATA

For financial institutions

As a majority of financial institutions do not currently have easily available location-specific company information, WWF and Climate & Company developed guidance on how to collect location-specific proxy data for portfolio companies at scale.

GUIDANCE B: SUPPLY CHAIN DATA

For companies and financial institutions

As a majority of companies and financial institutions do not currently have easily available location-specific supply chain information, WWF and Climate & Company developed guidance on how to collect location-specific proxy data for supply chains at scale.



Data input



STEP 2: ASSESSING BIODIVERSITY-RELATED RISKS

The Assess Module combines the sites' industry materiality rating (0A) and the local biodiversity importance or integrity rating (0B) into a scape risk score for each company location. This comprises 33 biodiversity indicators from "water scarcity" to "terrestrial modification" following the BRF risk hierarchy.

Industry Materiality (0A)

BRF INFORM MODULE

Biodiversity integrity (0B)

BRF EXPLORE MODULE

Biodiversity risk score (2)

BRF ASSESS MODULE

STEP 2: ASSESSING WATER-RELATED RISKS

[See WWF Water Risk Filter Methodology.](#)



Data Output



STEP 3: AGGREGATING BIODIVERSITY RISK TO THE COMPANY AND PORTFOLIO LEVEL

GUIDANCE C: AGGREGATION

For addressing the needs of financial institutions, WWF and Climate & Company developed guidance on how to aggregate scape risk per indicator to the company and portfolio level using the site-specific WWF BRF data outputs. While this guidance focuses on biodiversity risk, the same aggregation approach can be applied with the outputs of the WWF WRF data outputs.

Applying the WWF BRF to Portfolio Assessment



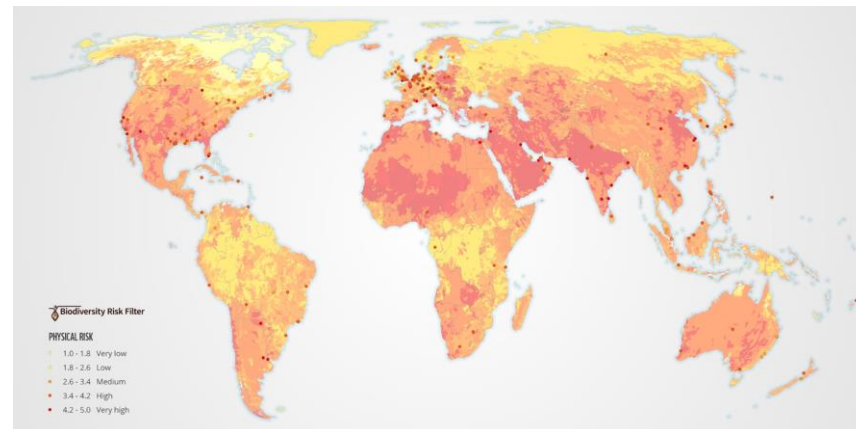
Industry-level overview

Industry (WWF Risk Filter industry sector classification)	Physical risk score	Reputational risk score
Fishing and aquaculture	4.40	3.66
Agriculture (plant products)	4.37	3.97
Agriculture (animal products)	4.29	4.03
Electric energy production (geothermal or combustion)	3.81	3.46
Transportation services	3.75	3.58
Paper and forest product production	3.64	3.43
Health care, pharmaceuticals and biotechnology	3.62	3.17
Water utilities / Water service providers	3.61	3.29
Metals and mining	3.57	3.59
Oil, gas and consumable fuels	3.54	3.71
Food and beverage production	3.51	3.40
Hospitality services	3.50	3.26
Construction materials	3.48	3.47
Textiles, apparel and luxury good production	3.45	3.29
Automotive, electrical equipment and machinery production	3.43	3.19
Chemicals and other materials production	3.42	3.43
Food retailing	3.35	3.32
Appliances and general goods manufacturing	3.26	3.28
Telecommunication services (including wireless)	3.25	3.16
General or speciality retailing	3.25	3.20
Land development and construction	3.24	3.17
Electronics and semiconductor manufacturing	3.22	3.19
Electric energy production (solar, wind)	3.21	3.34
Offices and professional services	3.19	3.18

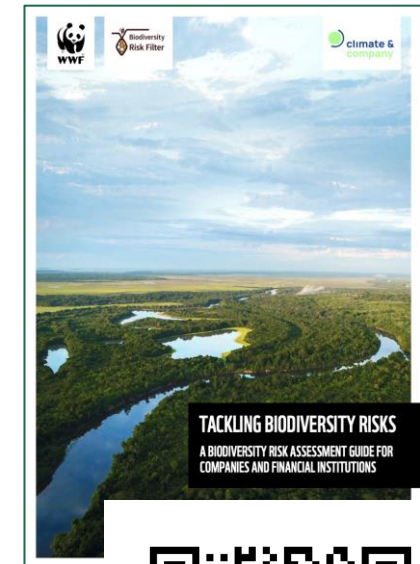
Company-level overview

Risk score		Physical risk		Reputational risk	
		Nr. of companies	% of companies	Nr. of companies	% of companies
1.0 - 1.4	very low risk	0	0.00%	0	0.00%
1.4 - 1.8		0	0.00%	0	0.00%
1.8 - 2.2		0	0.00%	0	0.00%
2.2 - 2.6	low risk	2	0.33%	5	0.83%
2.6 - 3.0		151	24.96%	137	22.64%
3.0 - 3.4	medium risk	250	41.32%	313	51.74%
3.4 - 3.8		141	23.31%	99	16.36%
3.8 - 4.2		34	5.62%	30	4.96%
4.2 - 4.6	very high risk	16	2.64%	19	3.14%
4.6 - 5.0		11	1.82%	2	0.33%

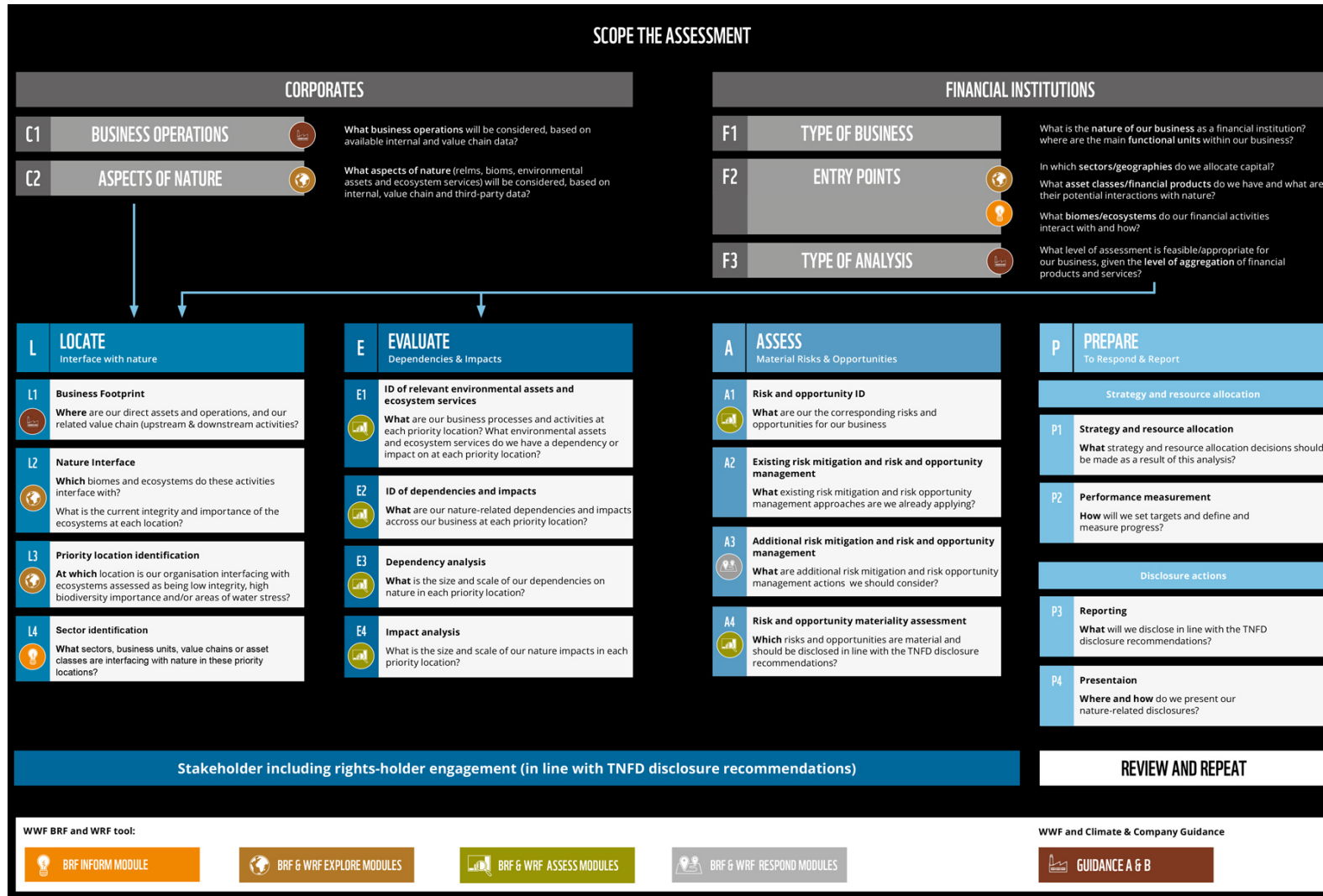
Site-level overview



Case study presented in the following report::



Alignment with TNFD and TNFD-LEAP Approach



Suggested outputs of LOCATE phase:

- **Geospatial map** of the organisation's operational locations, and upstream and downstream value chain locations, overlaid on geospatial biodiversity data
- A list of the organisation's **priority locations** (direct, upstream and downstream)

Suggested outputs of EVALUATE phase:

- A list of the **relevant environmental assets and ecosystem services** at each priority location;
- A list of relevant **nature-related dependencies and nature impacts**, according to the selected scope;

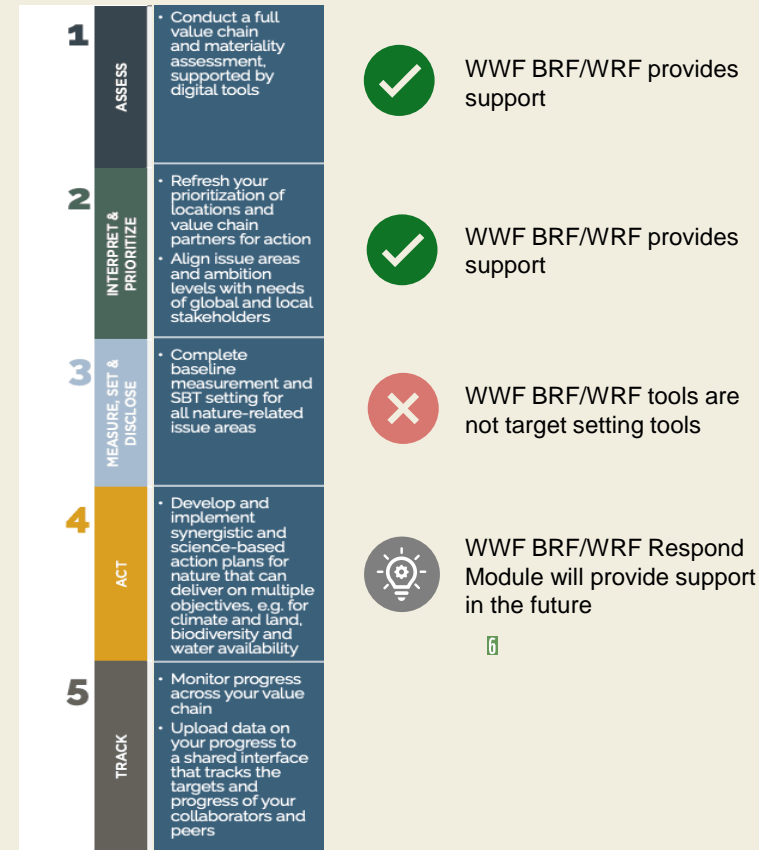
Suggested outputs of ASSESS phase:

- A 'long list' of **relevant nature-related risks and opportunities** the organisation should act on
- A **matrix of material risks** consistent with the enterprise management framework of the organisation (e.g. significance by sector, business line, location, value chain, etc).

Alignment with other Initiatives



SBTN 5-step approach:



DRAFT EUROPEAN SUSTAINABILITY REPORTING STANDARDS

ESRS E3: WATER AND MARINE RESOURCES	Water Risk Filter	ESRS E4: BIODIVERSITY AND ECOSYSTEMS	Biodiversity Risk Filter
E3-1: POLICIES RELATED TO WATER AND MARINE RESOURCES		E4-1: TRANSITION PLAN ON BIODIVERSITY AND ECOSYSTEMS	
E3-2: ACTIONS AND RESOURCES RELATED TO WATER AND MARINE RESOURCES		E4-2: POLICIES RELATED TO BIODIVERSITY AND ECOSYSTEMS	
E3-3: TARGETS RELATED TO WATER AND MARINE RESOURCES		E4-3: ACTIONS AND RESOURCES RELATED TO BIODIVERSITY AND ECOSYSTEMS	
E3-4: WATER CONSUMPTION		E4-4: TARGETS RELATED TO BIODIVERSITY AND ECOSYSTEMS	
E3-5: POTENTIAL FINANCIAL EFFECTS FROM WATER AND MARINE RESOURCES-RELATED IMPACTS, RISKS AND OPPORTUNITIES		E4-5: IMPACT METRICS RELATED TO BIODIVERSITY AND ECOSYSTEMS CHANGE	
		E4-6: POTENTIAL FINANCIAL EFFECTS FROM BIODIVERSITY AND ECOSYSTEM-RELATED IMPACTS, RISKS AND OPPORTUNITIES	
WWF WRF/BRF provides support		WWF WRF/BRF Respond Module (currently under development) will provide support in the future	

Building on and aligning with existing solutions





Panel Discussion

Britt Hammer – Project Manager Biodiversity, EDEKA Zentrale Stiftung & Co. KG

Madelyn Shikh-Salim – ESG Impact Executive and Biodiversity Lead, British International Investment plc

Michal Kulak – Senior Sustainable Investing Analyst, Robeco Switzerland

Moderated by: Silke Düwel-Rieth – Director, Sustainable Business and Markets, WWF Germany



Food expertise in entrepreneurial hands.

The EDEKA Group is organised in the form of a co-operative and is backed by about

3,500

independent retailers

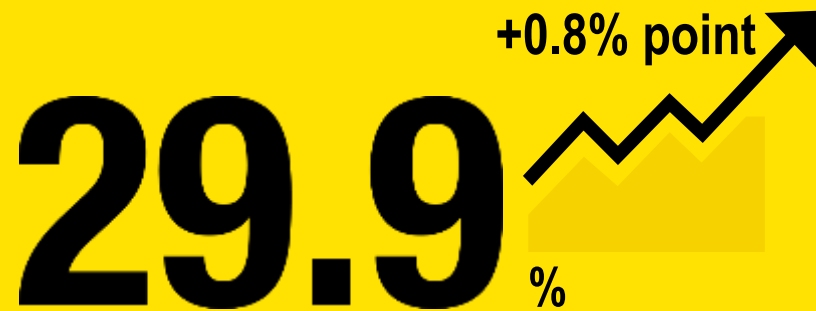
They give EDEKA a face and assume the role of the local supplier that stands for variety, quality and enjoyment.



Strong market presence in Germany.

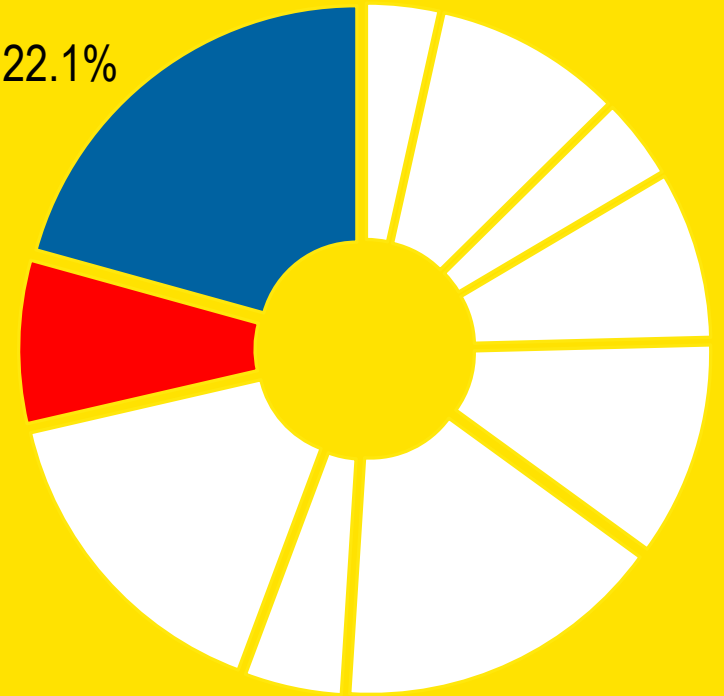
Market share

in the food retail segment in
2021



EDEKA 22.1%

Netto Marken-
Discount 7.8%



Source: GfK; own calculations

Our objectives

for more sustainability

- Reduction of greenhouse gas emissions by 33.5% by the year 2025
- Preservation of ecosystems along with their biodiversity
- Responsible use of water and protection of freshwater ecosystems
- More sustainable packaging design and resource conservation in supply chains



Targeted field projects in crop-growing countries.

For valuable ecosystems

- Citrus project: focus on less water consumption and more biodiversity in conventional orange cultivation in Spain
- Banana project: making conventional farming in Colombia and Ecuador more environmentally and socially compatible
- “Agriculture for biodiversity”: promoting biodiversity in Germany – e.g., through flower strips on field margins
- Our new cocoa project in Ghana is set to launch in 2022



We are the UK's Development Finance Institution and impact investor with nearly **75 years'** experience investing in the emerging markets

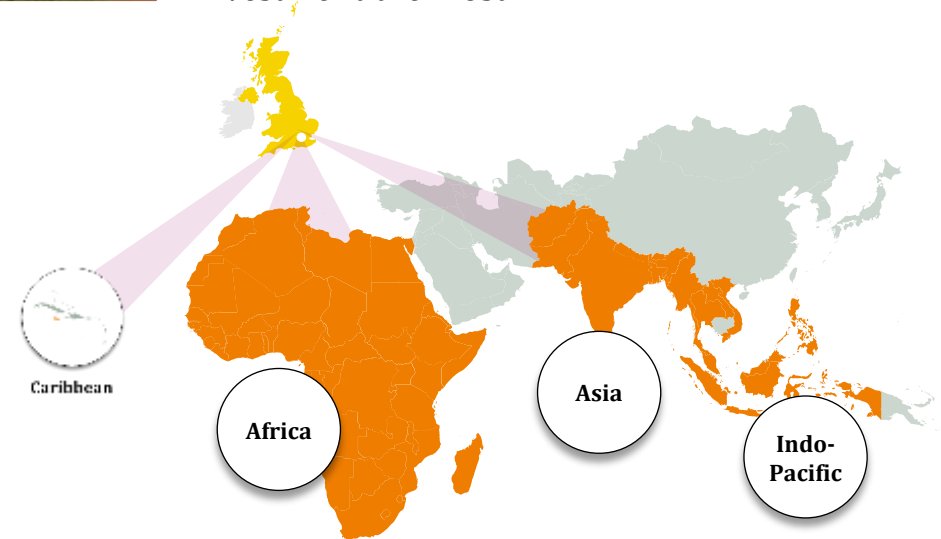


Our mission



To continue to solve the biggest global development challenges by investing patient, flexible capital to support private sector growth and innovation. We will help to alleviate poverty by building productive, sustainable and inclusive economic outcomes for those that need fair and transparent investment the most.

- ❖ We invest to create more productive, sustainable and inclusive economies in Africa, Asia and more recently, the Caribbean, enabling people in those countries to build better lives for themselves and their communities.
- ❖ We focus on investing in sectors where growth leads to better economic, inclusive and sustainable outcomes, including financial institutions, infrastructure, healthcare, manufacturing, food and agriculture, construction and education.



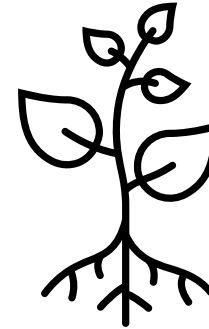


Future Directions



Regulatory Risk

How can changing laws, regulation and enforcement create risk for companies and FIs?



Respond Module

How can companies and FIs respond to identified nature-related risks?

A scenic landscape photograph showing a river with white water rapids flowing over a bed of smooth, rounded stones. The river is surrounded by dense, vibrant green forest. A large, dark, craggy rock formation stands prominently on the right bank. The background shows more forested hills under a slightly hazy sky.

Questions?

Contact Us



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Biodiversity Risk Filter

Water Risk Filter

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<https://riskfilter.org/>



Or contact us: [*riskfilter@wwf.de*](mailto:riskfilter@wwf.de)