



Source

Business & Nature Day Zero Toolkit



An overview

Aim: This guide provides you with the essential business-nature concepts & frameworks you need to start taking action today.

This guide will:

- Outline key nature-in-business related concepts
- Introduce nature related risks & impacts
- Provide examples of business-nature interfaces across a value chain
- Provide a high-level framework for locating & assessing nature impacts across your value chain

Business & Nature

All businesses are dependent on nature.

From the soil in which we grow agricultural commodities, to coastal ecosystems we use for ports, to minerals we mine for electronics. **There is no business on the planet that doesn't rely on nature.**

However, **this relationship is often misunderstood and/or hidden within supply chains** and manufacturing processes that businesses do not necessarily see.

As our societies and businesses consume more and more products & services and increase rates of urbanisation, the **global pressure on nature is mounting.**

Many species and ecosystems are **threatened with extinction or have already suffered this fate.**

The systematic degradation of nature is placing all businesses and societies at **serious risk of not having the resources** in the sufficient quality or quantities we need to survive.

Businesses have both **a responsibility and an imperative** to address this tension.

All supply chains are nature intensive: however, we often do not see this intensity, when interacting with the final product or service...

Agriculture accounts for **86% of global land use change**.



Beef, soy (for cattle feed), **palm oil & wood products** (inc. paper) drives most global deforestation. Annually, **an area the size of Switzerland** is **deforested** just for the above.



Mining negatively impacts 33% of forest ecosystems globally, with tropical rainforests the most impacted.



Commercial exploitation of 'wild ingredients' is a key driver of **species decline** inc. Brazil nuts, Liquorice, Gum Arabica & Argan Oil.



Agricultural pollution is **the largest cause of eutrophication & contamination of waters** (inland and coastal).



90% of marine fish stocks are either fully exploited or **overexploited**.



16-35% of microplastics released into oceans are from (washing) **synthetic textiles**.



20% of all **global water pollution** comes from the **dyeing of textiles**.



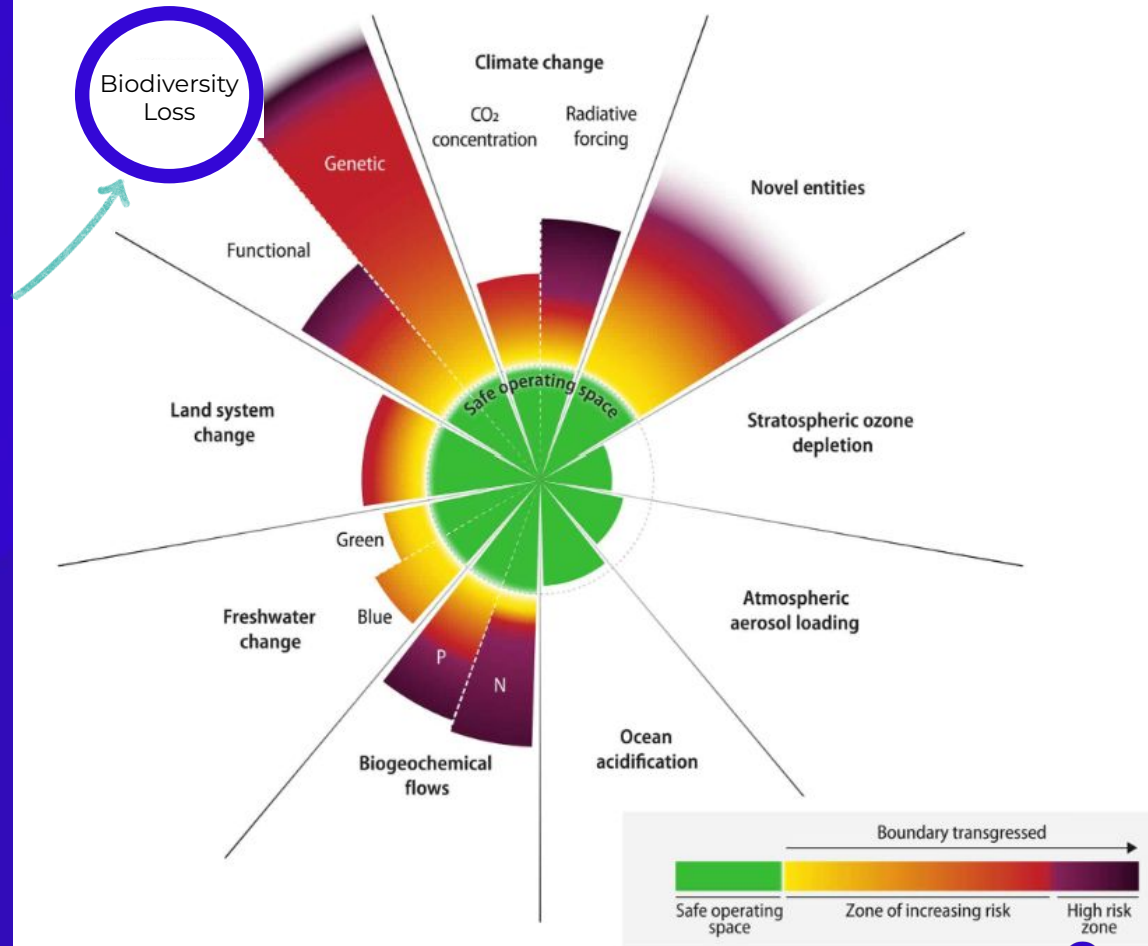
Why should we care? 9 reasons:

Intensive nature use by businesses is the primary reason humanity has **breached 7 out of the 9 planetary boundaries**.

Staying within these planetary boundaries is considered by scientists as **necessary for our collective survival**.

Breaching the 'biodiversity loss' boundary matters to business, as all businesses heavily rely on nature in their value chains.

What would happen to your business if it no longer had access to the natural resources it needs to operate?



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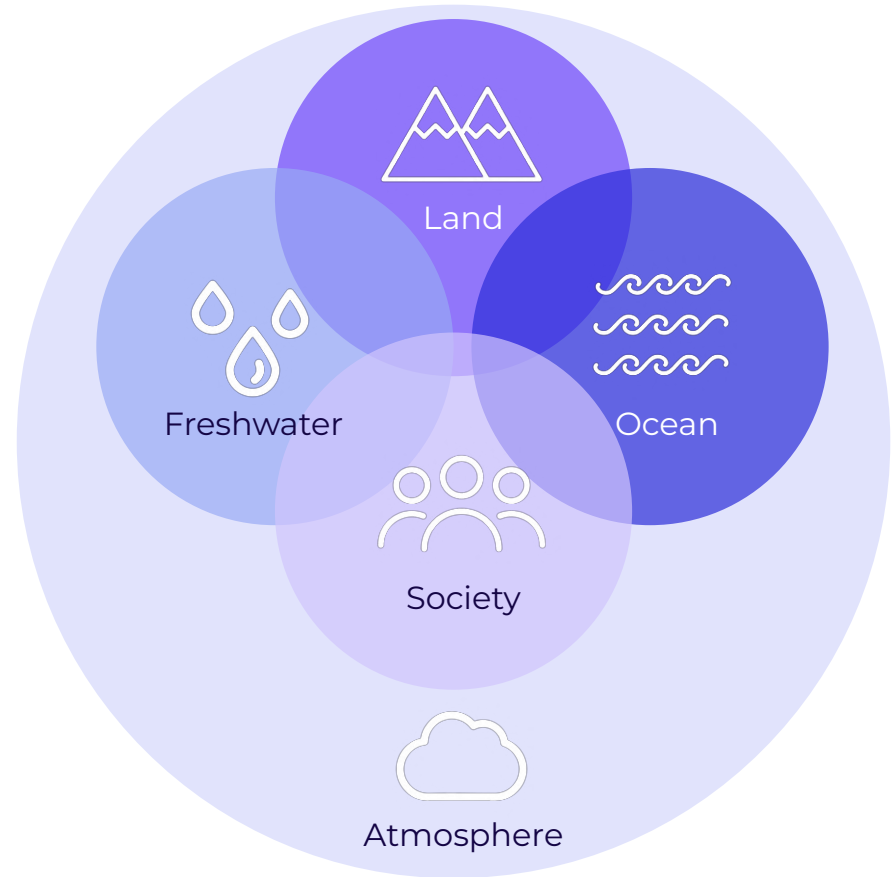


What is nature?

Nature refers to everything in the natural world (living or otherwise).

It comprises of four realms:

- Land
- Ocean
- Freshwater
- Atmosphere



What is nature?

Each realm comprises of **biodiversity** & **ecosystems** - these are the building blocks of the natural world.

These building blocks provide all the resources we use in our supply chains.

Ecosystem services is the collective term for all the benefits businesses & society derive from nature.

Biodiversity

The variety of life on the planet, including the diversity of species, genetic variation within species, and the range of ecosystems in which these species live and interact.



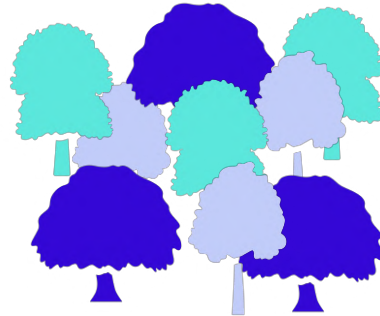
Oak tree



Alder tree



Ash tree



Deciduous woodland

Ecosystem

A community or group of living organisms that live in and interact with each other in a specific environment.

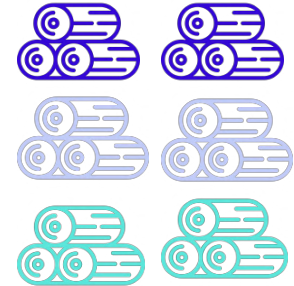
E.g. a woodland, a rainforest, a river, the ocean

An ecosystem can also be 'human-manipulated' meaning it has been created by people. E.g. farmland & urban areas

Ecosystem Service

The benefits or 'services' that people derive from nature. They are underpinned by biodiversity.

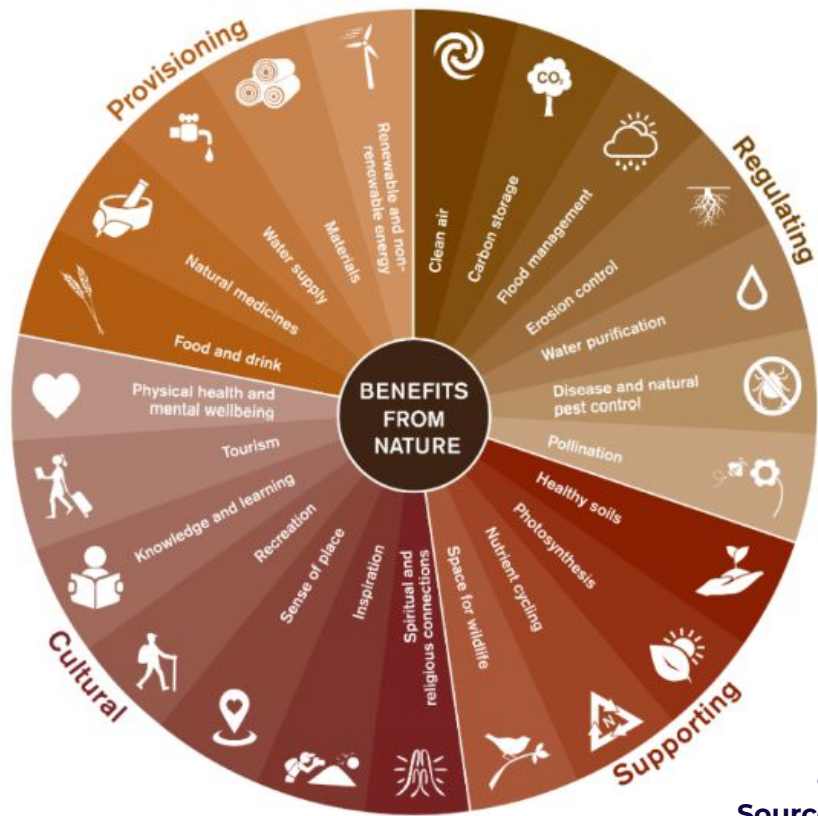
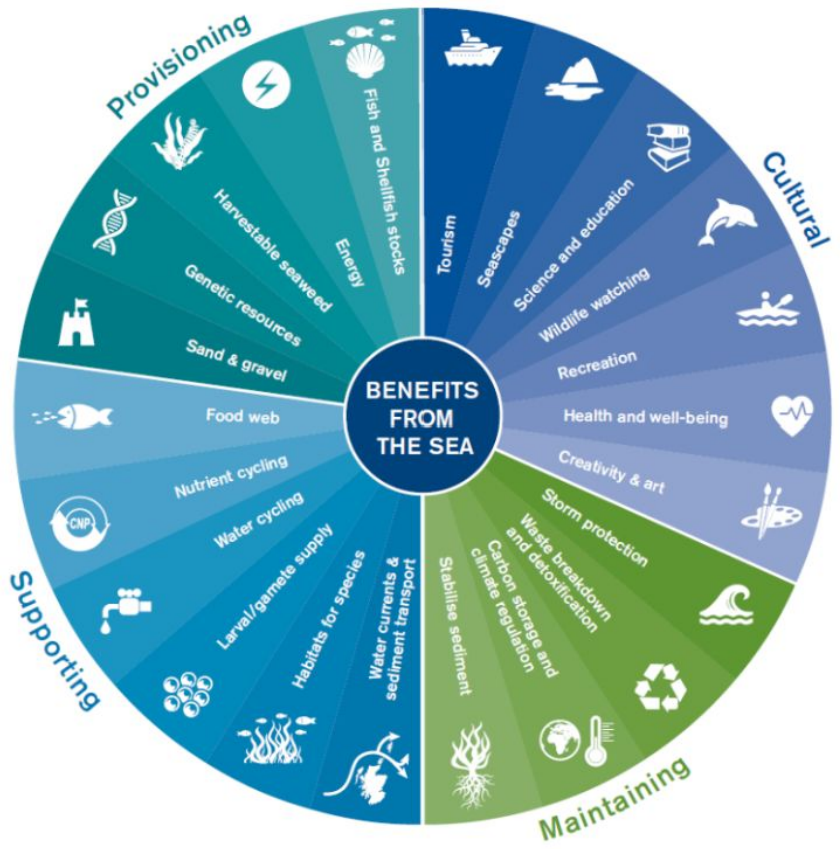
E.g. timber, food, fibre, pollination & water regulation



Hardwood timber

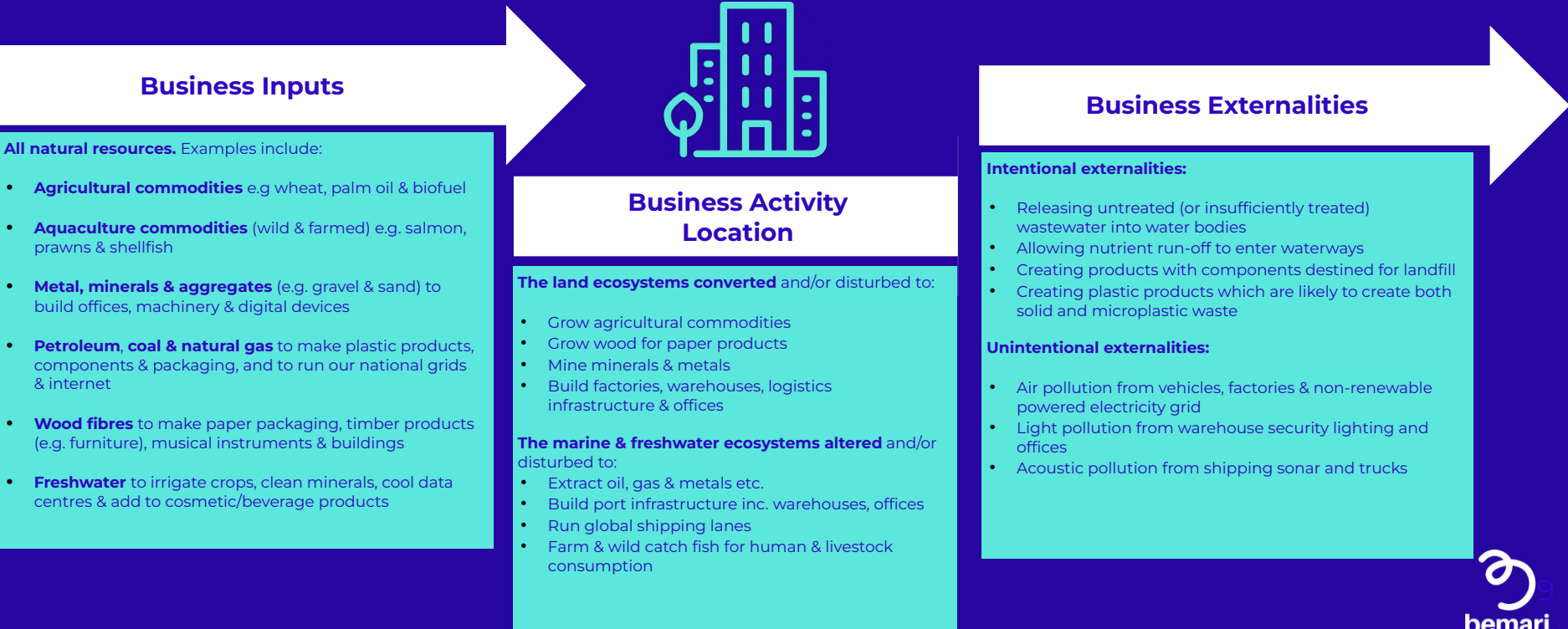


Ecosystem Services come in many forms. They can provide both direct and indirect services to businesses. Below are examples of ecosystem services from the sea & land.



How does your business interface with nature?

Every business relies on nature even if the direct usage occurs deep in its supply chain. Whilst **business inputs are the most obvious** business-nature interface, it's important to remember that the **location** at which business activities occur count as a nature interface, as do any **business externalities** that interact with the environment e.g. pollution.



Product-based business: Example of nature interfaces in a cosmetics value chain

It is important to first **identify the nature interfaces** within a supply chain. After this is complete, you can start to **evaluate impacts**. Here is an example of nature interfaces for a **face cream, with both marine & agriculture-based ingredients**:

Interface

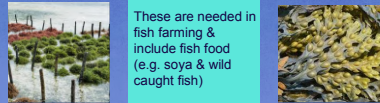
Land



Primary commodities sourcing

Land Acreage for crops
Agricultural inputs for crops
Crop e.g. rose flowers

Sea



Sea Acreage for crops
Aquaculture inputs for crops
Crop e.g. Seaweed

These are needed in fish farming & include fish food (e.g. soya & wild caught fish)

Commodity & product manufacturing



Land acreage for factory
Metals in machinery



Water for processing
Water for essential oil distilling
Sand: glass packaging
Petroleum: plastic packaging

Logistics & transportation



Land & sea acreage for logistics infrastructure



Light pollution e.g. warehouse security lighting
Acoustic pollution e.g. shipping sonar
Paper pulp for secondary & tertiary packaging

Consumer



Associated use of water (in the skincare routine when the product is used)
Incineration or landfill of non-recyclable / single use packaging

Service-based business: Examples of nature interfaces across digital value chains

Services also rely on nature, even if the interfaces aren't immediately obvious. Most services rely on at least electronic devices, data centres and the internet. All of these inputs require large quantities of land, minerals and water for production and operation. Here is an example of interfaces within **a digital services business**.



The LEAP approach to reducing nature risks & impacts.

To start reducing your nature risks & impacts, we recommend the following 4 step 'LEAP' approach. This is in line with TNFD recommendations.

1

Locate your interface with nature

2

Evaluate your dependencies & impacts

3

Assess your nature-related risks & opportunities

4

Prepare to respond to your risks & opportunities



Locate.

Firstly, you need to understand where in your value chain your business interfaces with nature. Start with locating nature interfaces in your own operations, then expand out to your supply chain and customers.

1

Locate your interface with nature

The following questions will help you to locate your nature interface:

- **What inputs** in your value chain are **dependant on natural resources & land**, freshwater and/or marine **ecosystems**?
- What activities in your value chain are **natural resource-intensive** or may result in **pollution** (or even just emissions) to water, air or soil?
- Where you or your critical inputs rely on water (e.g. manufacturing supplier), is it drawn in **areas of high water-stress or ecological-stress**?

Example

Artificial lighting (especially bright white LED) is an often-overlooked interface with nature - many nocturnal animals are guided by moonlight (e.g. bats & sea turtles). Artificial light causes confusion and changes in behaviour including changes in migration patterns, wake-sleep habits, and breeding. Over time, light pollution can have serious consequences on specific species, including humans. If a facility operates 24 hours and uses a lot of light - this is an interface to explore.



Evaluate.

Once you've located your interfaces, you can start to evaluate your dependencies & impacts to determine how significant they are (materiality).

This step is critical for developing an objective understanding of your nature impacts and to focus your action plan.

2

Evaluate your dependencies & impacts

The following questions will help you to evaluate your dependencies and impacts:

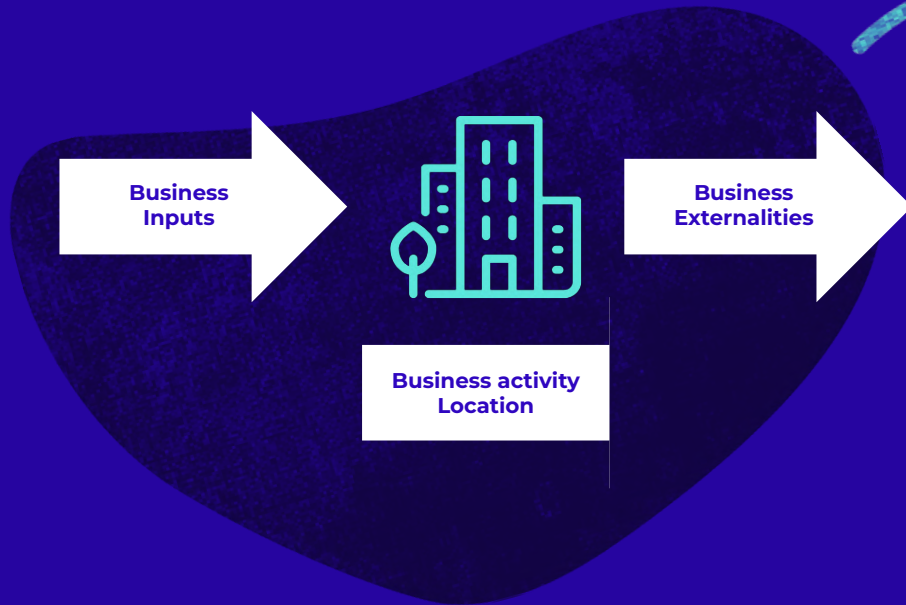
- **Which** of the identified **nature interfaces** are a **critical dependency for your business? How significant** are they for your business activities to be able to continue?
- **What quality & quantity** of natural resource or ecosystem service is your businesses **dependent on?** Do you rely on a stable climate for your customer experience or perhaps your products are dependent on consistent supply of mined raw materials?
- **What** are the **impacts** on nature from the activities - both **positive and negative?** Is there a direct link to increased pollution or extraction of natural resources or does your business support restoration of habitats as part of its business model?



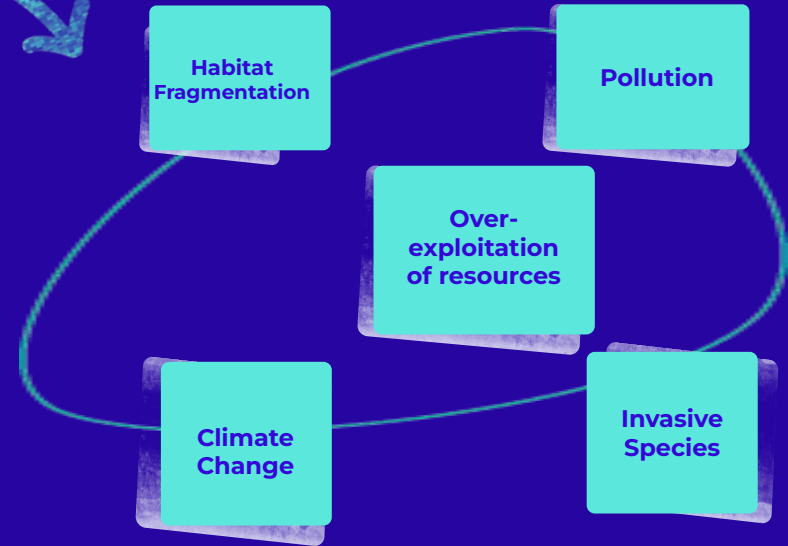
Evaluating business interfaces & biodiversity loss drivers

Where you have a nature interface, it is important to evaluate whether it is contributing to one of the five drivers of nature loss. The greater the contribution, the greater the impact on nature.

A business' interfaces with nature



Drivers of nature loss



The five drivers of nature & biodiversity loss

1st

Land & Sea Use change

Land use change is the first direct driver of biodiversity erosion.

Use change (e.g. to make way for a farm, mine or a road) leads to habitat destruction and fragmentation. When this happens, the wildlife that depends on it has to move.

2nd

Direct Overexploitation

The direct over-exploitation of natural resources refers to the excessive removal of species for economic growth (animal, plant, etc.) from their environment for commercial or personal use e.g. industrial fishing or medicinal plants.

3rd

Climate Change

Climate change directly modifies the living environment of species through increased temperatures, changes in precipitation and ocean acidification.

4th

Pollution

Human activities are a source of various pollution: chemical, physical, sound, light or electro-magnetic.

5th

Invasive Species

The direct or indirect introduction of a species outside its native environment can make it invasive and thus destabilise ecosystems.

The introduction could be accidental or for direct commercial uses.

Example

When a mangrove is removed & drained for a new port, the plants & animals that depended on the mangrove must find a new home.

A proboscis monkey and/or a rainbow parrotfish can't survive on the tarmacked surfaces of the new port.

The overhunting of Atlantic cod led to the species population collapsing in 1993. Cod is still highly vulnerable to collapse again.

Cod isn't just hunted for seafood supply chains. The fish is also used in supplement and cosmetics industries e.g. for cod liver oil & marine collagen.

Extreme weather events like summer droughts can reduce the survival rates of young animals, birds and plants.

Increased ocean and river temperatures "boil" fish and other species.

A baby hare born in a year with a climate-induced summer drought is more likely to die than if the weather had been 'normal'.

Pollution is an externality of a human activity and comes in many forms.

A cargo ship can cause:

- **Water pollution:** from engine discharge
- **Light pollution:** from night lighting
- **Acoustic pollution:** from navigation sonar.

All of these types of pollution have serious impacts on marine wildlife.

In 1929, the American Mink was introduced to the UK for the fur industry. Many escaped into the wild.

Mink predation on seabird eggs and chicks has resulted in widespread breeding failures and a decline in breeding bird numbers in some colonies.

In-land mink are also suspected to contribute to falling salmon populations.

Assess.

Once you have quantified your impact and understand your dependencies, you need to understand how these translate into risks to your business.

3

Assess your
nature-related
risks & impacts

The following questions will help you assess your nature-related risks & opportunities:

- **What risks arise** from your nature dependencies and impacts?
- **Which** risks and opportunities **are material** and should be **prioritised**?
- **What risk management structures** are in place to mitigate these risks? What mitigations need to be implemented?

Example

A confectionary company identifies that it is highly dependent on cocoa (a natural resource) from West Africa. This dependency is a growing financial risk, as cocoa prices are increasingly volatile due to climate-induced poor harvests. In March 2024, cocoa prices surged to \$10,000 a tonne and price volatility continues.



Nature-related risks to business

When a business is dependent on a natural resource, it becomes not only **vulnerable** to any changes in the quality and quantity of that resource, but also to the changes in the overall access to and quality of **ecosystem services** that the business relies on to function.

Here are some examples of such risks for a business:

Reputational

Shift in customer perception

Perception that specific inputs are unsustainable and/or irresponsible e.g. fur, palm oil. Potential to favour a competitor's product or service.

Negative publicity

Image of not caring / destroying nature. Activist and legal action for ecocide.

Regulatory

Reporting and disclosure requirements

These are already being introduced e.g. CSRD, TNFD, BNG. Some may shift from voluntary to mandatory over time.

Changes in laws and regulation

- Mandating a change in natural resource or ecosystem usage (e.g. watershed limits)
- Ban on imports or use of certain species of plants.

Operational

Changes in quantity

Droughts can cause the level of water in canals to go down making it difficult for cargo ships to pass, disrupting supply chains.

Changes in quality

Pollution may impact the quality of a resource. e.g. mussels polluted with certain waste pollution are poisonous, and hops affected by wildfires can change the taste of beer.

Financial

Increased costs due to any of the risks on the left

Loss of revenue due to supply chain disruption or loss of customers

Fines & litigation for breaching nature related regulation.



Prepare.

Once you understand your risks, impacts & dependencies you need to put in place the governance, resources, risk management and metrics to reduce prioritised risks & impacts.

4

Prepare to respond to your risks & impacts

The following questions will help you prepare a response to your nature related risks and impacts.

- What **governance structures** can you put in place to respond to nature risks & impacts? Who will be involved in the process?
- What measures can you apply to **minimise or eliminate the risks** associated with nature impacts & dependencies?
- How will you **track progress**? What **targets and metrics** have you put in place to track the effectiveness of your actions?
- What **resources** have you put in place, financial and human, to deliver your identified risk & impact reduction and management activities?

Example

A cosmetics company makes a face cream containing palm oil. A nature assessment reveals that the palm oil is contributing to deforestation in Indonesia.

They set a target of 100% certified Sustainable Palm oil (RSPO) by 2025 and 100% palm oil phase out by 2030.



What next?



Go deeper with our Day Zero Toolkits

The ocean covers 71% of Earth, and all businesses are dependent on water. It is important to consider the impact of business activity on both **freshwater** and **marine resources**:

- Globally, only 1,000 rivers are responsible for nearly 80% of marine plastic pollution
- Agricultural run-off & wastewater is the primary factor in the creation of 500 marine dead-zones (collectively covering an area greater than the UK)
- The majority of this pollution enters oceans via rivers.

Why not [download](#) our Day Zero Water and Marine Resources Toolkits to find out more?



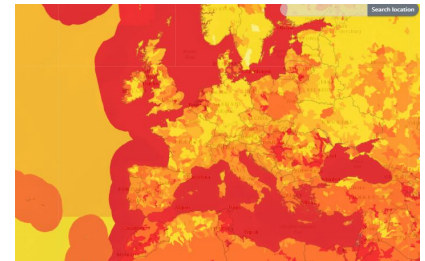
Join us for a Biodiversity Collage

Want to better understand the drivers of biodiversity loss? Our **three hour Biodiversity Collage workshop** helps you understand how your business contributes to nature loss, and the steps you can take to reduce your impact. Join our **interactive regular sessions** or [request a workshop](#) especially for your team.



Explore the WWF Biodiversity Risk Filter

The WWF [Biodiversity Risk Filter](#) includes a **screening tool** which can help you assess nature risks. This is very helpful for understanding where your **biodiversity impact hotspots** are likely to be.



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or discuss how we can
help you?

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