

The Nature-based Solutions Map



Introduction and function *of the Nature-based Solutions Map*

Welcome to version 0 of the Nature-based Solutions Map (the “Map”). The aim of the Map is to support companies in identifying where and how different NbS can address a variety of business challenges relating to:

- *core business,*
- *climate,*
- *nature,*
- *water and*
- *equity (including Social).*

The primary function of this Map is to organize available categories or groups of NbS in terms of the outcomes they can offer to businesses. The output of this Map is intended as a first step, to help users shortlist the most suitable NbS to resolve the business challenges/opportunities in question. In doing so, the Map enables the user to focus rapidly on the NbS types most likely to be relevant. The Map is not intended to present an exhaustive catalogue of individual NbS activities.

Importantly, realizing all potential benefits from any given NbS or NbS group listed in the Map will require extensive work on design and delivery, which is beyond the scope of this tool.

How to use the Map

Users should start with the actions outlined in Stage 1 of [the NbS Blueprint](#), the associated guidance on building business cases for Nature-based Solutions. This will generate a list of priority business challenges and/or opportunities, as well as the biomes/regions where each challenge/opportunity occurs. With these two pieces of information, companies can use the Map to identify the most relevant NbS.



What is included in *the Nature-based Solutions Map*

The “Map”

The Map is on pages 4 to 6. On each page, there are three key elements:

- the business challenges,
- the biomes, and
- the Nature-based Solutions.

In order to use the Map, readers **find the row** associated with the priority business challenge/opportunity in question **and the column** of the biome in which the challenge/opportunity is located. **The intersection shows the list of suitable NbS types.**

Element 1: business challenges

The first two columns list the business challenges typically faced by companies, tested and reviewed by companies operating in different sectors. The list is not exhaustive, but is considered to be reflective of the most relevant challenges across different business types and sectors; this list will be refined and developed in future iterations of the Map.

The third column provides summary descriptions of these business challenges.

Element 2: biomes

The first row lists the ecosystem groupings that are included in this version of the Map.

The second row demonstrates how the groupings broadly align with the International Union for the Conservation of Nature (IUCN) taxonomy of biomes known as the Global Ecosystem Typology (GET), referenced in the Taskforce on Nature-related Financial Disclosures (TNFD). The ecosystem groupings used in the Map have been developed to simplify the user journey for this tool. The list of ecosystems included in the Map is not exhaustive but is considered to cover the major ecosystems of relevance to businesses. This list will be refined and developed in future iterations of the Map.

Element 3: Nature-based Solutions

Each cell lists the suitable NbS types related to the row (business challenge) and column (biome). Once the user has identified suitable NbS types using the Map, they can proceed to the NbS List (page 7).

The “NbS List”

Once companies have identified suitable NbS types in the Map, they can refer to the NbS List for more detailed descriptions of the relevant NbS.

NbS activities are grouped as follows:

- freshwater and wetlands NbS,
- urban NbS,
- terrestrial NbS and
- marine and coastal NbS.

Note: This list is not considered to be exhaustive. However, it reflects the NbS that occur most frequently in guidance documents, case studies and academic literature. This list will be a ‘living’ resource and will be refined and developed in future iterations of the Map.

The Nature-based Solutions Map

Element 2: Biomes			Forests & woodland	Savannas, grassland & deserts	Intensive land use systems	Urban and Industrial	Rivers & lakes	Wetlands	Open ocean	Coastal	
		Descriptions of business challenge/opportunity	<ul style="list-style-type: none"> → T1 (Tropical and sub-tropical forests), → T2 (Temperate and boreal forests and woodlands) → T3 (Shrublands and shrubby woodlands) 	<ul style="list-style-type: none"> → T4 (Savannas and grasslands) → T5 (Deserts and semi-deserts) 	<ul style="list-style-type: none"> → T7 (Intensive land use systems) → F3 (Artificial wetlands) 	<ul style="list-style-type: none"> → T7.4 (Urban and industrial ecosystems) → F3 (Artificial wetlands) 	<ul style="list-style-type: none"> → F1 (Rivers and streams) → F2 (Lakes) 	<ul style="list-style-type: none"> → TF1 (Palustrine/vegetated wetlands) 	<ul style="list-style-type: none"> → M2 (Pelagic open waters/open ocean waters) → M3 (Deep sea floors) 	<ul style="list-style-type: none"> → M1 (Marine shelf) → MT1 (Shoreline systems) → MT2 (Supralittoral coastal/ Maritime vegetation) → MT3 (Anthropogenic shorelines/ Artificial shorelines) → FM1 (Semi-confined transitional waters/Coastal inlets and lagoons) → MFT1 (Backish tidal systems) 	
Element 3: Nature-based Solutions											
Element 1: Business Challenges	Core Business	New and improved raw materials, products and services	Actions to advance existing products, materials, and services, and to explore new revenue streams through the application of Nature-based Solutions, e.g. utilizing regenerative agriculture to enhance long-term yields and generate new/improved agricultural products.	Forest protection, restoration, and management	Grassland protection, restoration and management	Regenerative agriculture; Engineered wetlands; Grassland protection, restoration and management; Forest protection, restoration, and management; afforestation	Engineered wetlands	River and floodplain rehabilitation and restoration; Lake restoration	Wetland protection, restoration & management	Offshore ecosystem protection, restoration and management	Onshore and transitional water ecosystem protection, restoration, and management
		Cost reduction	Actions taken to manage and reduce CAPEX and/or OPEX, improving business performance by limiting expenditure on maintenance, raw materials, regulatory compliance, etc.; e.g. using engineered wetlands to decrease cost of water treatment and maintaining infrastructure.	Forest protection, restoration and management	Grassland protection, restoration and management	Regenerative agriculture; Grassland protection, restoration and management, Engineered wetlands	Engineered wetlands; creation of urban green spaces; Forest protection, restoration, and management	River and floodplain rehabilitation and restoration	Wetland protection, restoration & management		Onshore and transitional water ecosystem protection, restoration, and management
		Increased asset value	Actions taken to improve the quality and reduce the risk profile of assets such as property, facilities, and land holdings that are impacted by natural ecosystems and processes, e.g. using mangrove restoration to reduce disaster risk for coastal facilities and properties.			Regenerative agriculture	Creation of urban green spaces; green space protection, restoration and management	River and floodplain rehabilitation and restoration	Wetland protection, restoration & management		Onshore and transitional water ecosystem protection, restoration, and management
		Resilience of operations and supply chain	Actions taken to improve resilience and reduce business risk, protecting companies from negative impacts such as stopped operations, damaged assets and disrupted supply chains, e.g. changing agricultural practices to use less water, increasing resilience of supply in water-stressed areas.	Forest protection, restoration, and management	Grassland protection, restoration and management	Regenerative agriculture; Engineered wetlands; Grassland protection, restoration and management	Engineered wetlands; Creation of urban green spaces; green space protection, restoration and management	River and floodplain rehabilitation and restoration; Lake restoration	Wetland protection, restoration & management	Offshore ecosystem protection, restoration and management	Onshore and transitional water ecosystem protection, restoration, and management
		Regulatory compliance	Actions taken to comply with current and prepare for future regulations, such as air and water quality standards or required sustainability disclosure, e.g. using wetland restoration as part of treating discharged water to meet local standards.	Forest protection, restoration and management	Grassland protection, restoration and management	Regenerative agriculture; Engineered wetlands; Grassland protection, restoration and management	Engineered wetlands	River and floodplain rehabilitation and restoration; Lake restoration	Wetland protection, restoration & management	Offshore ecosystem protection, restoration and management	Onshore and transitional water ecosystem protection, restoration, and management
		Social licence to operate and meeting consumer expectations	Actions taken to affirm social licence to operate from local communities and consumers, e.g. through investing in landscape-scale NbS to demonstrate the company's commitment to local environmental stewardship and global sustainability efforts.	Forest protection, restoration and management	Grassland protection, restoration and management	Regenerative agriculture; Grassland protection, restoration and management	Creation of urban green spaces; green space protection, restoration and management; Forest protection, restoration, and management	River and floodplain rehabilitation and restoration; Lake restoration	Wetland protection, restoration & management	Offshore ecosystem protection, restoration and management	Onshore and transitional water ecosystem protection, restoration, and management
		Increase brand value and equity	Actions to boost the monetary value of a brand and amplify the benefits gained from its recognition, e.g. demonstrating participation in landscape-scale NbS with investors, peers, and consumers.	Forest protection, restoration and management		Regenerative agriculture; Grassland protection, restoration and management; Forest protection, restoration and management	Creation of urban green spaces; green space protection, restoration and management	Lake restoration; River and floodplain rehabilitation and restoration	Wetland protection, restoration & management	Offshore ecosystem protection, restoration and management	Onshore and transitional water ecosystem protection, restoration, and management
		Increase circularity	Actions to minimize the waste or emissions of a company's operations and supply chain, e.g. through the implementation of circular water systems for water reuse and resource recovery in urban environments.				Creation of urban green spaces; Green space protection, restoration and management	River and floodplain rehabilitation and restoration			

Element 2: Biomes												
		Forests & woodland	Savannas, grassland & deserts	Intensive land use systems	Urban and Industrial	Rivers & lakes	Wetlands	Open ocean	Coastal			
Descriptions of business challenge/opportunity		→ T1 (Tropical and sub-tropical forests), → T2 (Temperate and boreal forests and woodlands) → T3 (Shrublands and shrubby woodlands)	→ T4 (Savannas and grasslands) → T5 (Deserts and semi-deserts)	→ T7 (Intensive land use systems) → F3 (Artificial wetlands)	→ T7.4 (Urban and industrial ecosystems) → F3 (Artificial wetlands)	→ F1 (Rivers and streams) → F2 (Lakes)	→ TF1 (Palustrine/vegetated wetlands)	→ M2 (Pelagic open waters/open ocean waters) → M3 (Deep sea floors)	→ M1 (Marine shelf) → MT1 (Shoreline systems) → MT2 (Supralittoral coastal/ Maritime vegetation) → MT3 (Anthropogenic shorelines/ Artificial shorelines) → FM1 (Semi-confined transitional waters/Coastal inlets and lagoons) → MFT1 (Backish tidal systems)			
Element 3: Nature-based Solutions												
Element 1: Business Challenges		Climate	Emissions avoidance/reduction	Actions focused on avoiding operational activities with a high carbon footprint or reducing the current carbon footprint of existing operations, e.g. by conserving a forested area that would otherwise be exploited for resource extraction.	Forest protection, restoration and management	Grassland protection, restoration and management	Regenerative agriculture; Grassland protection, restoration and management; afforestation		Wetland protection, restoration & management		Onshore and transitional water ecosystem protection, restoration, and management	
		Emissions removals	Actions to sequester carbon from the atmosphere and store it, e.g. through new growth of biomass or soil carbon sequestration.	Forest protection, restoration and management	Grassland protection, restoration and management	Regenerative agriculture; Grassland protection, restoration and management; Forest protection, restoration and management; afforestation	Creation of urban green spaces; Green space protection, restoration and management	River and floodplain rehabilitation and restoration	Wetland protection, restoration & management	Offshore ecosystem protection, restoration and management	Onshore and transitional water ecosystem protection, restoration, and management	
		Climate adaptation	Actions to reduce a company's vulnerability to the impacts of climate change, e.g. through the protection of coastal ecosystems to mitigate the risk of flooding in regions susceptible to rising sea levels.	Forest protection, restoration and management	Grassland protection, restoration and management	Regenerative agriculture; Engineered wetlands; Grassland protection, restoration and management; Forest protection, restoration and management; afforestation	Creation of urban green spaces; Green space protection, restoration and management, Engineered wetlands	River and floodplain rehabilitation and restoration	Wetland protection, restoration & management		Onshore and transitional water ecosystem protection, restoration, and management	
		Nature (Incl. Biodiversity)	Avoid/reduce nature impacts and/or dependencies	Actions to avoid a company's future impacts or dependencies on nature and/or reduce the existing impacts and dependencies of its operations, e.g. avoiding biodiversity loss by preventing deforestation within supply chains.	Forest protection, restoration and management	Grassland protection, restoration and management	Regenerative agriculture; Grassland protection, restoration and management; Forest protection, restoration and management; afforestation	Creation of urban green spaces; Green space protection, restoration and management; Engineered wetlands	River and floodplain rehabilitation and restoration; lake restoration	Wetland protection, restoration & management	Offshore ecosystem protection, restoration and management	Onshore and transitional water ecosystem protection, restoration, and management
		Restore/regenerate natural ecosystems	Actions to support the recovery of degraded ecosystems, e.g. reversing human-induced impacts to restore a forest habitat for native species.	Forest protection, restoration and management	Grassland protection, restoration and management	Regenerative agriculture; Grassland protection, restoration and management; Engineered wetlands; Forest protection, restoration and management	Green space protection, restoration and management; Engineered wetlands; forest protection, restoration, and management	River and floodplain rehabilitation and restoration; Lake restoration	Wetland protection, restoration & management	Offshore ecosystem protection, restoration and management	Onshore and transitional water ecosystem protection, restoration, and management	

Element 2: Biomes		Descriptions of business challenge/opportunity	Forests & woodland	Savannas, grassland & deserts	Intensive land use systems	Urban and Industrial	Rivers & lakes	Wetlands	Open ocean	Coastal	
			→ T1 (Tropical and sub-tropical forests), → T2 (Temperate and boreal forests and woodlands) → T3 (Shrublands and shrubby woodlands)	→ T4 (Savannas and grasslands) → T5 (Deserts and semi-deserts)	→ T7 (Intensive land use systems) → F3 (Artificial wetlands)	→ T7.4 (Urban and industrial ecosystems) → F3 (Artificial wetlands)	→ F1 (Rivers and streams) → F2 (Lakes)	→ TF1 (Palustrine/vegetated wetlands)	→ M2 (Pelagic open waters/open ocean waters) → M3 (Deep sea floors)	→ M1 (Marine shelf) → MT1 (Shoreline systems) → MT2 (Supralittoral coastal/Maritime vegetation) → MT3 (Anthropogenic shorelines/Artificial shorelines) → FM1 (Semi-confined transitional waters/Coastal inlets and lagoons) → MFT1 (Backish tidal systems)	
Element 3: Nature-based Solutions											
Element 1: Business Challenges	Water	Flood management	Actions to alleviate current and future flood risks and damages in flood-prone areas, e.g. by installing living breakwaters (like saltmarshes) along coastlines to absorb wave energy and decrease flood risk.	Forest protection, restoration and management	Grassland protection, restoration and management	Regenerative agriculture; Engineered wetlands; afforestation	Creation of urban green spaces; Green space protection, restoration and management; Engineered wetlands	River and floodplain rehabilitation and restoration; Lake restoration	Wetland protection, restoration & management		Onshore and transitional water ecosystem protection, restoration, and management
		Managing water stress	Actions to decrease the water consumption of existing operations and pre-emptively avoid high water consumption in future water-stressed areas, e.g. by using watershed-scale NbS to improve water availability.	Forest protection, restoration and management	Grassland protection, restoration and management	Regenerative agriculture, Grassland protection, restoration and management	Creation of urban green spaces; Green space protection, restoration and management	River and floodplain rehabilitation and restoration; Lake restoration	Wetland protection, restoration & management		
		Water treatment	Actions to enhance the quality of water used and discharged throughout a company's operations and supply chain to become suitable for specific end-uses (such as discharge into the environment) e.g. the establishment of engineered wetlands that employ natural mechanisms (like wetland vegetation and soils) to treat stormwater runoff or industrial wastewater.	Forest protection, restoration and management		Regenerative agriculture; Engineered wetlands; afforestation	Creation of urban green spaces; Green space protection, restoration and management; Engineered wetlands	River and floodplain rehabilitation and restoration; Lake restoration	Wetland protection, restoration & management		Onshore and transitional water ecosystem protection, restoration, and management
	Equity (Incl. Social)	Employee engagement	Actions to increase the emotional commitment and involvement employees have toward their organization, as well as their enthusiasm and dedication toward their job, e.g. by designing accessible green spaces for employees to mitigate stress and enhance overall engagement and productivity.				Creation of urban green spaces; Green space protection, restoration and management				
		Improving supplier livelihoods	Actions to strengthen the capabilities and assets of suppliers both now and in the future, e.g. by adopting regenerative agriculture practices to improve production and enhance the asset value of their land.	Forest protection, restoration and management	Grassland protection, restoration and management	Regenerative agriculture; Grassland protection, restoration and management; Forest protection, restoration and management		Lake restoration; River and floodplain rehabilitation and restoration	Wetland protection, restoration & management	Offshore ecosystem protection, restoration and management	Onshore and transitional water ecosystem protection, restoration, and management
		Economic development for local communities	Actions to improve the economic conditions for local communities and other stakeholders in and around the company's spheres of influence and control, e.g. by engaging in lake restoration activities to boost tourism and support local fisheries.	Forest protection, restoration and management		Regenerative agriculture, Grassland protection, restoration and management		Lake restoration; River and floodplain rehabilitation and restoration	Wetland protection, restoration & management		Onshore and transitional water ecosystem protection, restoration, and management
Human health and well-being	Actions to enhance the physical, mental, and social well-being of employees, suppliers, and local communities, e.g. by creating or restoring nature in urban areas to mitigate the heat island effect, improve air quality, and increase access to green spaces.	Forest protection, restoration and management	Grassland protection, restoration and management	Regenerative agriculture; Grassland protection, restoration and management; Forest protection, restoration and management; afforestation, engineered wetlands	Creation of urban green spaces; Green space protection, restoration and management	Lake restoration; River and floodplain rehabilitation and restoration	Wetland protection, restoration & management	Offshore ecosystem protection, restoration and management	Onshore and transitional water ecosystem protection, restoration, and management		

The NbS List

NbS

Short NbS descriptions

Freshwater & wetlands

Wetland protection, restoration, and management	Effective wetland protection, restoration, and management practices can range from spatially large-scale interventions that affect the entire wetland (such as re-establishing the hydrological connection between restored wetlands or the installation of ditches for rewetting) to small-scale interventions that only affect a part of the wider wetland area (such as changing cultivation practices in an adjacent landscape). Next to the multitude of ecosystem services that wetlands provide, effective wetland protection and restoration activities can reduce a company's impact on nature, lower maintenance and land management costs, control water quantity, and enhance water quality.
Engineered wetlands	Constructed wetlands refer to the creation of new wetland landscapes, which are affordable, artificial treatment systems that employ natural mechanisms (such as wetland vegetation and soils) to treat stormwater runoff or industrial wastewater and improve water quality.
River and floodplain rehabilitation and restoration	River and floodplain rehabilitation and restoration activities represent an integrated approach aimed at reversing artificial river modifications and restoring natural river functions. Restoring and rehabilitating rivers and floodplains involves a range of activities that companies can engage in, including the removal of legacy sediment, creating lakes or ponds in the floodplain, establishing grassy basins and swales, removing invasive species, installing and developing riparian buffers, reviving old channels or developing different water retention areas. The business benefits of these activities include (but are not limited to) flood risk reduction, water quality improvement, and groundwater recharge.
Lake restoration	The term 'lake restoration' refers to the reversal of human-induced impacts to restore a lake's former structure and functioning as a natural water retention area. Lake restoration practices can include the reduction of external nutrient loading (e.g., by modifying land-use practices in surrounding areas) or the fixation of nutrients (e.g., by enhancing sediment binding capacity). Finally, the business benefits that can be derived from lake restoration activities can be direct (e.g., enhanced water quality, carbon sink capabilities, and flood control) or indirect (e.g., irrigation, fisheries, tourism, and recreation).

Urban

Green space protection, restoration and management	Green space protection, restoration and management techniques encompass all activities that enhance the quality, quantity and accessibility of existing green spaces in urban areas. Green space management involves safeguarding and restoring various types of urban green areas, including roadside greenery and vegetation barriers, small urban green spaces like gardens and pocket parks, green roofs and facades, parks and urban meadows, greenways and corridors for walking or cycling, coastal, riverside, or lakeside trails connecting green and blue spaces, recreational and urban gardening facilities such as community gardens, sports and play areas, and school grounds, as well as providing facilitated access to urban woodlands, forests, and natural wildlife areas. By safeguarding and sustainably managing current green areas, businesses can offer their employees various health and wellbeing benefits, mitigate the heat island effect in densely populated urban settings, and sequester substantial amounts of carbon while decreasing their impact on nature.
Creation of urban green spaces	Created urban green spaces come in many different forms and functions and include community gardens and urban farms, rain gardens, green roofs, street trees, bioswales, as well as buffer zones/strips. For businesses, new green spaces can increase property value, reduce the heat island effect in urban environments, boost staff engagement, and improve water and air quality which leads to positive health outcomes in urban areas.

NbS *Short NbS descriptions*

<i>Terrestrial</i>	
Forest protection, restoration, and management	Forest protection, restoration (including reforestation), and management practices encompass a great variety of different activities, such as sustainable logging practices, community-based forest management, agroforestry, silvicultures, or the management of green firebreaks, watersheds and local wildlife. Investing in forest conservation and restoration practices safeguards raw materials from being depleted, increases business resilience, and helps businesses stay ahead of future policy changes aimed at protecting forests for future generations.
Afforestation	The term 'afforestation' refers to the practice of planting trees in previously non-forested areas. Well-managed afforestation can generate jobs and income (e.g., from high-quality timber sales) and also provides health benefits, an increase in supply chain resilience, carbon emissions reductions, and the substantial decrease of a company's impact on nature.
Regenerative agriculture	Despite a plethora of different definitions, regenerative agriculture aims to transition agriculture from being a primary source of environmental degradation to a primary source of regeneration of modified ecosystems. It includes a set of activities that can be employed in the same agricultural area, such as reduced or no-till farming practices, cover cropping, composting, increasing crop diversity, animal integration, managed grazing, silvopasture, and agroforestry. Regenerative agriculture can boost business resilience and climate adaptation capabilities, while also increasing crop yields, sequestering significant amounts of carbon, and decreasing water consumption.
Grassland protection, restoration, and management	Grasslands are some of the least protected and most threatened ecosystems worldwide, making grassland protection, restoration, and management practices crucial for safeguarding and reviving these landscapes and enhancing native biodiversity. Grassland restoration management strategies involve activities such as replanting with deep-rooted forbs and grasses, creating green firebreaks, implementing low-intensity grazing practices, and, where appropriate, reintroducing controlled fire regimes to stimulate nutrient cycling and increase grassland productivity. For businesses, investing in grassland protection, restoration, and management activities can sequester significant amounts of carbon, improve crop yields, and contribute to greater supply chain resilience.
<i>Marine & coastal</i>	
Offshore ecosystem protection, restoration, and management	Making up approximately two-thirds of the global surface area, offshore (or marine) ecosystems are typically characterized by high levels of dissolved salt and encompass the open ocean, deep-sea regions, and marine ecosystems, each exhibiting distinct physical and biological traits. Offshore ecosystem protection, restoration, and management practices include the establishment of marine protected areas and rebuilding stocks of marine life (including plants and/or animals). Businesses can benefit from these practices by producing (and selling) new raw materials and increasing their social license to operate, especially when involving local stakeholders throughout the restoration and management efforts.
Onshore and transitional water ecosystem protection, restoration, and management	Thriving at the interface between land and ocean, onshore and transitional water ecosystems are distinctive habitats shaped by plants and other organisms accustomed to the challenges of saltwater and tide fluctuations. These types of ecosystems are safeguarded, restored, and managed through various practices, including mangrove conservation and restoration, rehabilitation of coral/oyster reefs, and sustainable management of saltmarshes and dunes. Investments in these activities can sequester significant amounts of carbon, while enhancing a company's operational resilience and contributing to climate adaptation strategies. When implemented in collaboration with local stakeholders, companies engaging in onshore and transitional water ecosystem protection, restoration, and management activities can also strengthen their social license to operate and foster the creation of new or improved products.

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