



WORKING WITH NATURE: HOW ALL SECTORS CAN BENEFIT FROM AND CONTRIBUTE TO BIODIVERSITY

The European Green Deal invites all sectors and relevant actors to go beyond the ‘doing no harm’ principle and think in terms of how activities and investments can contribute to nature conservation and restoration, either by pro-actively integrating nature conservation in the design of activities or by looking for alternative solutions provided by nature.

The 2022 [Kunming-Montreal Global Biodiversity Framework](#) requires Parties to the Convention to stop loss of biodiversity (target 1), restore degraded areas by at least 30% in 2030 (target 2) and conserve at least 30% of terrestrial, inland water, and coastal and marine areas (target 3).

This requires a fundamentally different way of planning and project design, not sufficing to mitigate negative impacts of standard design, but actively looking for ways to benefit from or enhance nature from the very start. **Having green objectives from the onset is what a green transition is about** (taking into account that green also stands for a just and climate resilient, circular and pollution free transition).

This is the main document of the “Working with Nature” Quick Tips series, further comprising 7 sector specific Quick Tips:

- ▶ [Working with nature in the Water \(Management\) sector](#)
- ▶ [Working with nature in Cities](#)
- ▶ [Working with nature in Disaster Risk Reduction](#)
- ▶ [Working with nature in the Transport sector](#)
- ▶ [Working with nature in the Forestry sector](#)
- ▶ [Working with nature in Agriculture and Livestock](#)
- ▶ [Working with nature in the Renewable Energy sector](#)

This main document focuses on investments in traditional economic sectors that can generate biodiversity co-benefits or use biodiversity as part of a solution. The 7 sector specific Quick Tips, or annexes to this document, complement this information with concrete case evidence.

BIODIVERSITY = biological diversity = genetic diversity within each species + diversity among species + diversity in ecosystems. It is the formalised and quantifiable term for ‘nature’.

ECOSYSTEM = a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit ([Convention on Biological Diversity](#)).

ECOSYSTEM SERVICES = the benefits people obtain from ecosystems ([IPBES](#)).



Biodiversity provides ecosystem services for society

- ▶ **We rely on nature** to provide us with food, water, and basic materials; regulate our climate; maintain nutrient cycles and oxygen production; and contribute to human health and well-being.
- ▶ **Nature is an asset**, just as produced capital and human capital are assets. Over half of the world's GDP is generated by industries that depend on nature and its services.
- ▶ **Both natural and man-made landscapes can provide ecosystem services.** Moreover, some landscapes are created to maximise one ecosystem service (agriculture, hydropower reservoirs, fish ponds), often at the expense of other services (for example regulating services such as erosion control or water infiltration by the original ecosystem, or cultural services such as recreation and aesthetic values).
- ▶ **Diversity in nature works as an insurance** by increasing nature's resilience to shocks. Protected areas (e.g. Natura 2000 and Emerald networks) maintain an essential stock of biodiversity and the potential for restoration of degraded areas.
- ▶ **Climate change and biodiversity are two sides of the same coin.** Ecosystems contribute to carbon uptake and have disaster risk reduction (DRR) potential. Inversely, climate change affects biodiversity with far-reaching and yet often unknown consequences.
- ▶ **Biodiversity loss** is caused by land use change; fragmentation and isolation of ecosystems; over-exploitation and destructive harvesting; pollution with nutrients, chemicals, plastics and waste; climate change; and invasive species ([IPBES 2019](#)).
- ▶ **Restoration of nature is increasingly important** to improve the health and resilience of our planet. Economic sectors can (and need to) play a role in undoing past damage and restoring natural cycles (See [UNEP 2021](#)).



How to work with nature?

Several approaches, with considerable overlap and varying names, have a track record of proven success:

Green (and blue) Infrastructure

[Green infrastructure](#) (GI) is a strategically planned network of natural and semi-natural areas designed and managed to deliver a range of ecosystem services such as erosion control, water storage, improved air quality, space for recreation, mitigation of and adaptation to climate change, and of course the enhancement of biodiversity.

GI intends to provide **ecological connectivity** between natural areas in seriously disturbed and urban landscapes. GI can be a mix of natural areas and human activities, but is explicitly managed for ecological connectivity. Human activity should not interfere with this objective. Ecological corridors can include stepping stones, like a group of trees for birds, small linear elements such as hedgerows or restored streams, or man-made corridors such as fish ladders on rivers or eco-bridges over motorways. **Biodiversity restoration and enhancement** are most effective when fitting in a connected network of natural and semi-natural areas at landscape scale. (Further reading: [EU ENV](#); [USAID 2017](#); [IUCN 2020](#)).

Nature-based solutions

Nature-based solutions are actions to protect, sustainably manage, or restore natural ecosystems, that address societal challenges such as climate change, human health, food and water security, and disaster risk reduction effectively and adaptively, simultaneously providing human well-being and biodiversity benefits ([World Bank](#)). For example, estimates suggest that nature-based solutions can provide 37% of the mitigation needed until 2030 to achieve the targets of the Paris Agreement (IPBES).

Nature-based Solutions (NbS) can (i) **replace**, (ii) **complement** or (iii) **protect** traditional 'grey' infrastructure by natural processes, for example in disaster risk reduction and climate adaptation:

- ▶ Restoring a coral reef or coastal dunes **replaces** traditional breakwater constructions for coastal protection; restoring river floodplains for floodwater storage can replace river dikes;
- ▶ Restoring vegetation in an upstream watershed **complements** dam operation or road protection works, by regulating water flows (flood control) as well as reducing soil erosion;
- ▶ Planting/restoring mangroves **protects** a coastal area against erosion, saltwater intrusion and sea level rise (see case from [Indonesia](#)).

Grey infrastructure is usually rigid and resistant, not resilient. It can be either insufficient, for example with faster than predicted sea level rise, or oversized and too expensive when predictions do not materialise. NbS are more flexible and resilient in the light of an unpredictable future and **usually have co-benefits for**



communities, the economy and biodiversity, and thus represent no-regrets solutions. Hybrid engineering is a combination of nature-based and grey approaches (*green where possible, grey where necessary*). Examples are plentiful. (Further reading: [IDB 2020](#); [EEA 2021](#); [UNEP 2019](#); [EWN 2019](#)).

Payment for Ecosystem Services

The idea behind Payment for ecosystem services (PES) is that a **financial incentive can prevent over-exploitation or conversion of an ecosystem**. PES is a market-based instrument for nature conservation; beneficiaries of an ecosystem service make payments to the providers of that service. Examples of PES schemes are:

- ▶ Internationally traded **Carbon Credits**: reducing greenhouse gas emissions by nature conservation and/or restoration to compensate for emissions made elsewhere;
- ▶ **Watershed protection** for water supply, in which water consumers (e.g. water or hydropower companies) pay upstream land owners to maintain an ecosystem which guarantees water provision;
- ▶ **Biodiversity and landscape protection**: usually initiated by governments that pay land owners for protection; intermediary NGOs are often involved. Frequently with tourism co-benefits.

A PES scheme often requires a long process of negotiation, where the role of intermediaries and participation of stakeholders is key to its success. (Further reading: [CIFOR 2014](#); [EU Science for Environment Policy](#)).

Green financial mechanisms

The full potential of the private sector needs to be used for a green transition. To create private sector leverage in a green transition, and to avoid green washing, certified 'green finance' has to be available. The [EU Taxonomy](#) establishes a list of environmentally sustainable economic activities by sector. It is based on a 'net environmental benefit' approach, so going beyond the 'do not harm'. The EU taxonomy provides a legal framework and common language thus creating security for investors. (See: [EU Taxonomy Compass](#)).

The insurance industry can play an intermediary role. Ecosystems such as coral reefs, dunes and forests can protect coastal and downstream communities from forces of nature. Restoring these ecosystems after natural disaster is expensive for local communities. Transferring such costs to the market via an insurance policy reduces the burden for local authorities and is a cost-effective means to implement post-disaster response (See: [case in DRR note](#)).

Landscape approaches

Sectorial approaches to land management are often insufficient to meet conflicting demands (such as poverty alleviation, biodiversity conservation, and food production). Integrated Landscape Approaches provide a framework for **balancing competing demands and integrating policies for multiple land uses within a given area**.

A multifunctional landscape is linked to different stakeholders, possibly with opposing interests, which creates different perceptions of success in a landscape approach. **In consultation with actors and stakeholders** in a particular area, long-term goal and short-term objectives are agreed. **Different alternative pathways may exist** to reach the objectives.

Sustainability has to be jointly defined. An easy first step is to agree on the desired direction of change. The [Sustainable Development Goals](#) can provide inspiration for the definition of sustainability indicators. A tailored approach is needed for each situation. A principle from resilience theory applies: **one has to learn one's way towards a sustainable future!**

Community-based Natural Resources Management ([CBNRM](#)) is closely related to the landscape approach.

(Further reading: [The Little Sustainable Landscapes Book](#) and [Sayer et al 2014](#)).

Formalised planning instruments and Strategic Environmental Assessment (SEA)

Sector planning deals with the definition of how to implement national development priorities for a sector. It may define a country's energy mix, transport modalities, pattern of urban development, water allocation priorities, etc. An **SEA** can identify the mechanisms (drivers of change) in the sector which may create negative effects on biodiversity and highlight opportunities for net biodiversity benefits at the earliest possible moment when alternative development options are still open.

Spatial planning deals with competing demands for limited space and resources and aims at optimising their use. SEA can inform spatial planning on regional development opportunities and constraints based on a (participatory) inventory of biodiversity and ecosystem services and their status (e.g. under- or overexploited).

River basin management planning can be considered a special form of spatial planning, organising the land and water related interests in a defined catchment.

SEA facilitates thinking in terms of **alternative pathways of development**, creating the possibility to compare alternatives with similar objectives, including climate risk vulnerability and risk assessment. **SEA is a legally embedded process tool** to apply a landscape approach. (Further reading: [SEA in EU development cooperation](#); [IAIA FasTips](#)).



How to create an enabling environment for working with nature?

Mainstream biodiversity and ecosystem services into policy, legislation, and regulations

- ▶ Integrate biodiversity into policy commitments for multiple linked objectives (e.g. national development planning, climate and disaster risk reduction commitments, infrastructure plans).
- ▶ Translate biodiversity-related policy commitments into laws and regulations that govern implementation on the ground.
- ▶ Seek opportunities to use existing coordination mechanisms between different ministries (e.g. environment, finance, planning, sectoral ministries) to ensure that the potential of biodiversity is realised and goals are aligned.
- ▶ Integrate biodiversity into infrastructure planning and procurement processes so downstream actors obtain the necessary expertise to win contracts and deliver policy-compliant projects.

Skills, methodologies, tools, and capacity

- ▶ Develop technical skills and capacities on approaches to work with nature (GI, NbS, PES, etc.)
- ▶ Support education opportunities through integrating biodiversity into vocational education and academic curricula (e.g. TVET, engineering) to equip future project developers and engineers with relevant skills.
- ▶ Develop the business case to create demand for commercial products supportive of biodiversity finance.

Financial Institutions

- ▶ Deploy blended financial instruments to de-risk biodiversity-positive projects (e.g. risk underwriting, first-loss capital, provision of guarantees, and technical assistance), with the support of donor countries.
- ▶ Deploy innovative financial instruments such as green bonds, biodiversity credits or debt-for-nature swaps to crowd-in capital to preserve ecosystems.
- ▶ Provide support to local financial institutions while they build a track record and common understanding of biodiversity positive finance, strengthen their internal E&S management systems (in particular the Biodiversity features) and mainstream biodiversity risks and opportunities into their investment process.

(Further reading: [OECD 2018](#); [IADB, 2019](#); [CBD 2020](#)).

Further information and support

All documents are available on capacity4dev (public group: [Environment, Climate Change and Green Economy](#))



Contact INTPA and NEAR Environment & Climate Change Mainstreaming Facility:
INTPA-GREENING-FACILITY@ec.europa.eu | NEAR-GREENING-FACILITY@ec.europa.eu