Biodiversity (including deforestation)

Expectations towards companies

Objective

Threats and opportunities related to global biodiversity are important for the DNB Group. In pursuit of the achievement of the SDGs, those with direct relevance for biodiversity include SDG 14 (Life Below Water), SDG 15 (Life on Land), and SDG 13 (Climate Action). It has been suggested that biodiversity also underpins the delivery of more than 80% of the SDGs.[1] For DNB Asset Management (DNB AM), the starting point is the DNB Group's Standard for Responsible Investments when considering sustainable investment practices related to biodiversity.[2]

The Standard shall ensure that DNB does not contribute to human or labour rights violations, corruption, serious environmental harm, and other actions which may be perceived to be unethical and/or unsustainable. It shall also ensure that assessments of risks and opportunities arising from Environmental, Social and Governance (ESG) factors are integrated into the investment decision-making process. At DNB AM, we exercise our ownership rights in line with international norms and standards, including the UN Global Compact, UN Guiding Principles on Business and Human Rights, the G20/OECD Principles of Corporate Governance, and the OECD Guidelines for Multinational Enterprises. Our responsible investment approach utilises tools including standard setting, exclusions, active ownership (through engagement and voting), and ESG integration.

Our expectations call for a high level of transparency around how companies identify, assess, and manage their exposure to biodiversity risks and opportunities – both for the company and its supply chain. High levels of transparency give DNB AM the opportunity to utilize the information in our company analysis and as an input to investment decision-making. This document focuses largely on terrestrial biodiversity. We refer to our expectations on ocean sustainability[3], for further detail on how companies should manage risks and opportunities related to marine biodiversity. Other expectations documents DNB AM has published are also relevant for biodiversity efforts, including expectations on climate change[4], water[5], and serious environmental harm[6].

Definition and scope

Biodiversity is a broad concept. The UN Convention on Biological Diversity (1992)[7] contains some useful definitions which are widely accepted, some excerpts from article 2:

- Biological diversity. Variability among living organisms, including:
  - Diversity within species
  - Diversity between species
  - Diversity of ecosystems

- Biological resources have actual or potential use or value for humanity. It Includes:
  - Genetic resources
  - Organisms or parts thereof
  - Populations or any other components of ecosystems with actual or potential use or value for humanity

[1] https://www.unpri.org/download?ac=11357
[2] https://www.dnb.no/portalfront/nedlast/no/om-oss/samfunnsansvar/2020/Standard-Responsible-Investment-KL-approved-September_2019.pdf
[3] https://www.dnb.no/portalfront/nedlast/no/om-oss/samfunnsansvar/2020/Oceans_Expectations_002.pdf
[4] https://www.dnb.no/portalfront/nedlast/en/about-us/corporate-responsibility/2020/Climate_Change_Expectations_2020.pdf
[5] https://www.dnb.no/portalfront/nedlast/no/om-oss/samfunnsansvar/2020/Water_Expectations.pdf
[6] https://www.dnb.no/portalfront/nedlast/en/about-us/corporate-responsibility/2020/Serious_Environmental_Harm__2020.pdf
[7] https://www.cbd.int/doc/legal/cbd-en.pdf

Our scope for biodiversity encompasses all life on earth and all aspects of biodiversity. Our document is relevant for all companies, but the following sectors/activities are especially in focus (see also the discussion below).

- Food systems in general, including:
    - Agriculture in general
    - Palm oil, soy, and cattle
    - Fishing and aquaculture
- Timber/pulp & paper (forest industry)
- Mining (including deep sea mining), production and extraction of fossil energy (coal, oil, and gas)
- Urban development/infrastructure and tourism
- Electrical utilities
- Several types of consumer goods including consumer staples and textiles & apparel
- Pharmaceuticals & biotech
- Transportation (including marine transport, port activities, and ship building/ship recycling)

Introduction to biodiversity (including deforestation)

The Global Risks Report 2021 from World Economic Forum (WEF) highlights biodiversity loss as one of the four most significant risks facing humanity (together with climate action failure, human environmental damage, and infectious diseases).[8] WEF's New Nature Economy Report series highlights that over half the world's total GDP is potentially at risk because of the dependence of business on nature and its services. The window for action is narrowing at an alarming rate, while the cost of inaction is increasing.[9] The same message of urgency is found in "The Global Assessment Report on Biodiversity and Ecosystem Services" from IPBES[10], pointing out that the drivers of change of nature have accelerated during the past 50 years. Transformative changes across economic, social, political, and technological factors are urgently required (see also The Economics of Biodiversity: The Dasgupta Review[11]).

The twin emergencies of loss of nature and climate change

The challenges of the loss of nature (biodiversity) and climate changes are intertwined [12], and the solutions must encompass drastic cuts in greenhouse gases emissions – i.e., a forceful promotion of "net zero 2050" (science-based targets).[13] Promoting biodiversity is also an important part of the solution for climate issues. Nature absorbs large amounts of climate gases and dampens the damaging effects of climate changes (see the IPBES-IPCC Workshop Report on Biodiversity and Climate Change[14]). However, to promote biodiversity, local action and solutions are also required. Here the focus is often on a geographically defined area and its ecosystem - nature needs space. Dealing with the twin emergencies of the loss of nature and climate changes are widely seen as an important prerequisite for achieving most of UNs Sustainable Development Goals (SDGs)[15] for 2030.

The drivers of loss in biodiversity

On a general level, both IPBES and Principles for Responsible Investment (PRI) points to five direct drivers of biodiversity loss – listed below. The largest driver is changes in land and sea use.

Direct drivers of biodiversity loss

1. Changes in land and sea use
2. Direct exploitation of organisms
3. Climate change
4. Pollution
5. Invasive alien species

Source: IPBES/PRI

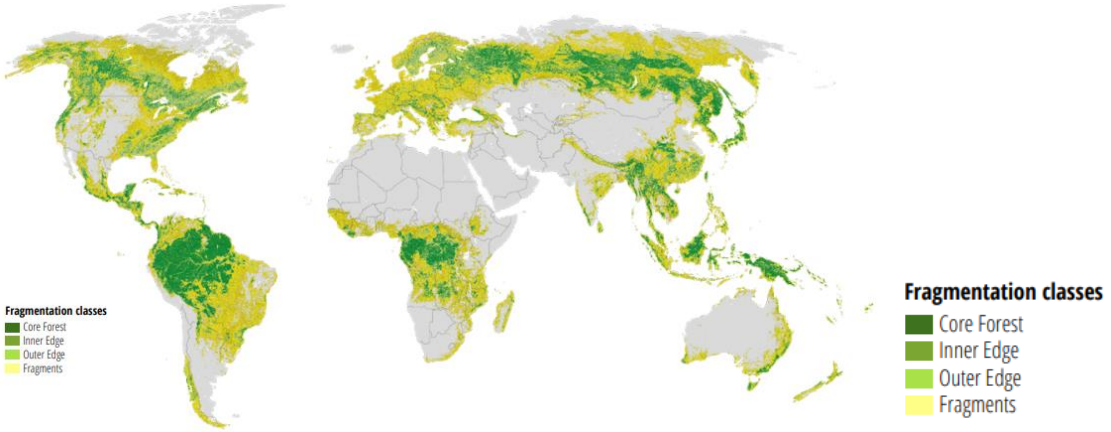
The globe is facing the 6th mass extinction event, and according to WEF approximately 80% of the (near-threatened) species are negatively impacted by three human systems. The systems and the share of the species impacted:

- Food, land, and ocean use: 72% of species impacted
- Infrastructure and the built environment: 29% of species impacted
- Energy and extractives: 18% of species impacted

[8] http://www3.weforum.org/docs/WEF_The_Global_Risks_Report_2021.pdf
[9] http://www3.weforum.org/docs/WEF_The_Future_Of_Nature_And_Business_2020.pdf
[10] https://ipbes.net/global-assessment
[11] https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review
[12] https://wwfint.awsassets.panda.org/downloads/nature_is_too_big_to_fail_en_web.pdf
[13] https://sciencebasedtargets.org/net-zero
[14] https://ipbes.net/events/launch-ipbes-ipcc-co-sponsored-workshop-report-biodiversity-and-climate-change
[15] https://unfoundation.org/what-we-do/issues/sustainable-development-goals/?gclid=EAIaIQobChMI2I_V6Y618gIVEuh3Ch3FQwI5EAAYAyAAEgKddfD_BwE

WEF's view is echoed in "Bringing it Down to Earth" from the Word Wildlife Fund (WWF)[16], which points to the food system as the largest driver of deforestation, water use, biodiversity loss and soil degradation. Agriculture occupies half of our planet's habitable land, whereof 82% is used to produce animal food (directly/indirectly). This enormous scale of land use makes agriculture the largest cause of deforestation, and it is also the largest user, and polluter, of fresh water (linked to 92% of the global water footprint). In the link between foodsystems and deforestation, there are particularly large challenges related to palm oil, soy, and cattle (beef).

There are two main factors to consider in the challenges of deforestation, forest quantity (loss) and forest quality (degradation). Although there are negative trends on both fronts, the most worrisome is that a key measure of quality, forest fragmentation, has a very negative trajectory.[17] Forest fragmentation is widely seen as negative for biodiversity. The illustration from WWF below illustrates how widespread the fragmentation is already globally (see the light colour for forests that have turned into "fragments": forest units too small to contain core forest).



Source: WWF

Although the drivers of deforestation are complex, according to WWF, the most common direct drivers are:

- Agiculture and plantations, including cattle ranching
- Extractive activities, including logging and mining
- Infrastructure expansion, including transport infrastructure, hydroelectric power plants, and urban growth
- Others, such as wildfires

Of special concern is the protection of the so called "deforestation fronts", these are locations facing imminent risk of large-scale deforestation. According to WWF, there are 24 deforestation fronts globally:

- Latin America: 9 (5 connected to the Amazon in 6 countries, 1 in the Cerrado, 1 in the Gran Chaco, 1 in the Choco-Darlen, 1 in the Maya Forest)
- Africa: 8 (In West, Central, and East Africa, these 8 fronts are in Liberia, Ivory Coast, Ghana, Cameroon, Gabon, Republic of Congo, DRC, CAR, Angola, Zambia, Mozambique, Madagascar)
- Asia/Oceania: 7 (3 connected to the Mekong in 3 countries, 1 in Sumatra, 1 in Borneo, 1 in New Guinea, 1 in Australia)

There are vast biodiversity challenges connected to life below water (oceans) as well, paralleling the terrestrials challenges – for example concerning food systems. Industrial fishing has a footprint four times larger than agriculture according to the assessment report from IPBES. IPBES states that nearly 75% of the major marine fish stocks are currently depleted or overexploited.

Solutions

The global community has searched for a solution to the biodiversity challenge for decades, and a key foundation for the efforts is the UN Convention on Biological Diversity (CBD) from 1992. The CBD has been followed up by several protocols, and the Strategic Plan for Biodiversity 2011-2020 (including the Aichi Biodiversity Targets).[18] Unfortunately, the Aichi targets were not met, and the biodiversity challenge continues to become more acute. This is the background for renewed efforts from the UN, labelled the Post-2020 Biodiversity Framework. The aim of the framework is to reverse the negative trend towards 2030 by establishing a set of action targets and milestones (to be finalised in 2022).[19] The longer-term vision of the CBD is "living in harmony with nature by 2050".

[16] https://wwf.panda.org/wwf_news/?2660466/nature-finance-risk-and-agriculture
[17] https://www.worldwildlife.org/stories/deforestation-fronts
[18] https://www.cbd.int/sp/
[19] https://www.cbd.int/conferences/post2020

On a regional level, perhaps the strongest effort is by the EU – by many seen as a leading initiative. Their cornerstone EU Biodiversity Strategy (2030)[20] supports the UN efforts, and there are also other key initiatives from the EU. Examples are the EU Green Deal (including the Farm to Fork strategy) and the taxonomy.[21]

The four pillars in the EU biodiversity strategy are quite similar to the solutions promoted by the UN:

- **Protect nature** (expand legally protected areas to minimum 30% of both the EU's land and sea, integrate ecological corridors)
- **Restore nature** (intensify restoration of nature by developing an ambitious EU nature restoration plan)
- **Enabling transformative change** (strengthen the EU biodiversity governance, framework, knowledge, research, financing, and investments)
- **EU action to support biodiversity globally**

Similarly, PRI promotes the implementation of the mitigation hierarchy:

- **Avoid** negative outcomes from the outset
- **Minimise** negative outcomes that can not be avoided
- **Restore** – where impacts can not be avoided or minimised
- **Actions for positive outcome** – compensation for damage, deliver positive outcomes that would not otherwise have been achieved

Some of the challenges for investors and companies in fighting biodiversity loss have been the local nature of biodiversity challenges, the lack of good data/metrics, no broadly accepted assessment tools, and no globally accepted reporting standards. One key initiative by the G7 might help, the Taskforce on Nature-related Financial Disclosures (TNFD). The TNFD will complement the TCFD's climate-related framework, to give companies and financial institutions a complete picture of their environmental risks. The preliminary launch date is 2023.[22] [23]

The EU taxonomy will also be helpful. As part of the commitment to meeting the ambitions of the 'European Green Deal', The EU seeks to develop a taxonomy on six key environmental objectives. As of 2021, a taxonomy for two objectives had been finalised regarding climate mitigation and adaptation, while the four others including one objective on "the protection and restoration of biodiversity and ecosystems" are yet to be completed. Our expectation on companies will draw on the information obtained using this taxonomy.

In the next section, we will provide some broad expectations to companies that we believe will be helpful in their handling of biodiversity challenges, including deforestation. These will build upon the initiatives and practices discussed above.

Expectations to companies

Our expectations are relevant for all companies within our investment universe and are viewed by us as best-practice guidance. However, companies highly dependent on biodiversity, or impacting biodiversity noticeably, are the main target group for our expectation document. Note that we have highlighted the need for a separate deforestation policy for some companies (especially related to palm oil, soy, cattle, and timber/pulp & paper). See also the appendix for more details on relevant international standards.

1. Governance

a) The management of biodiversity issues should have board-level oversight.

b) Follow and support the development of standards and best practices related to biodiversity. Pay particular attention to:
   - The UN Convention on Biological Diversity (CBD) and the Post-2020 Biodiversity Framework
   - The EU Biodiversity Strategy
   - The developments of the Taskforce on Nature-related Financial Disclosures (TNFD)
   - United Nations Convention on the Law of the Sea (UNCLOS, 1982) – and the initiatives built on UNCLOS

[20] https://eur-lex.europa.eu/resource.html?uri=cellar:a3c806a6-9ab3-11ea-9d2d-01aa75ed71a1.0001.02/DOC_1&format=PDF
[21] https://www.nabu.de/imperia/md/content/nabude/sustainablefinance/210412_nabu_taxonomy_biodiversity-and-ecosystems.pdf#:~:text=The%20European%20Commission%20is%20currently%20translating%20the%20environmental,engage%20in%20the%20ongoing%20development%20of%20the%20Taxon-omy
[22] https://tnfd.info/
[23] https://tnfd.info/wp-content/uploads/2021/07/TNFD-Nature-in-Scope-2.pdf

c) To promote a healthy nature, follow the general mitigation principles for biodiversity:
   - Avoid negative outcomes
   - Minimise negative outcomes that can not be avoided (minimize disturbance from operations)
   - Restore, where impacts can not be avoided or minimised (including disturbed land, ecosystems, or species - at all operational sites)
   - Strive for net positive biodiversity outcome, compensation for damage and/or find solutions that will lead to a net positive outcome (if possible, create reservations and wetlands for protection, plant indigenous vegetation at all major sites)

d) Develop a stand-alone biodiversity policy, that includes provisions on the sustainable management of biological resources and raw materials, and how it is integrated into governance, strategy, risk management, goals/metrics, and reporting. The focus should be on material biodiversity risks and opportunities.

2. Strategy, risk management and engagement

a) When relevant, also develop a deforestation policy (for palm oil, soy, cattle, timber/pulp & paper, extractive activities, etc.). Key elements to include:
   - Have a zero-deforestation target (and as relevant, commit to NDPE - "No Deforestation, No Peat, No Exploitation"). Have strategies for reforestation and restorations
   - Describe how the handling of deforestation challenges and opportunities are incorporated into governance, strategy, risk management, metrics, targets, and disclosure (and report to CDP's Forest Program – if requested by CDP)
   - Refrain from operations that negatively affect High Conservation Value Forests (HCVF), and protect high carbon-stock (HCF) landscapes
   - Obtain the most (relevant) stringent certification (for palm oil, soy, cattle, timber/pulp & paper, and extractive activities)
   - Ensure traceability to the place of origin (palm oil, soy, cattle, and timber/pulp & paper) – taking a full value chain perspective

b) Assess the short- and long-term impact of the company's activities on biodiversity and incorporate such impacts into the strategy, policies, and risk management – taking a full value-chain perspective. Likewise, the company should assess dependencies on biodiversity. In this respect:
   - Conduct biodiversity impact assessment prior to settling in new areas (which also should incorporate community impact)
   - Special consideration should be made of areas of high biological significance or critical habitats (for example the UNESCO World Heritage Sites or IUCN Strict Nature Reserve/Wilderness Area, see also the International Finance Corporation's Performance Standard 6)
   - Avoid contributing to reductions of any endangered species (see IUCN Red List of Threatened Species)
   - Avoid contributing to the introduction or growth of invasive alien species
   - Carefully consider other (relevant) key land and sea use issues including nutrient pollution, the use of neonicotinoids & pesticides, the protection of pollination, the need for erosion control, and deep-sea mining (seabed minerals). Use a precautionary approach
   - For more details on sustainable oceans and biodiversity, please see our expectation document "Sustainable Oceans"

c) Consider biodiversity business opportunities, including those that contribute to livelihoods dependent on the nature.

d) Be aware that protecting biodiversity may come in conflict with human-, labour- and indigenous peoples' rights. In this respect, companies should exercise appropriate due diligence in their supply chain, engage with relevant stakeholders and communities, and address identified impacts (respect the principle of free, prior, and informed consent).

e) Pursue the goal of "net zero 2050" for greenhouse gases (science-based targets, approved by the SBTi).

f) Take action to prevent pollution affecting biodiversity (such as plastics, chemical discharges, and waste), and promote the circular economy.

g) Engage with relevant policymakers and regulatory/enforcement bodies on biodiversity-related laws, regulations, and initiatives.

3. Disclosure, metrics, and targets

a) Be transparent about the company's impact on biodiversity in line with relevant reporting frameworks (for example the EU's SFDR and the taxonomy. Also consider reporting to the Global Biodiversity Information Facility (GBIF), especially as part of adherence to the Equator Principles). These reports should include goals/targets, action plans, and progress made. Strive for a granularity in line with best practice – including being transparent on the supply chain.

b) Consider committing to Science Based Targets for Nature (SBTN).

c) Disclose any ecosystems material for the company.

d) Seek to develop and/or use relevant metrics for site-specific (local) biodiversity, and the impact on vulnerable ecosystems and species there.

e) Where appropriate, share relevant scientific data to support research of relevance to biodiversity.

f) Disclose and regularly review memberships of trade associations.

Appendix: Laws, norms, and standards relevant for biodiversity (including deforestation) that DNB AM expects companies to be compliant with

See also the general norms and standards mentioned in the introduction.

International Standards and Initiatives	Description of Principles
International standards related to climate issues. See our two expectation documents on climate change and serious environmental harm.	*Note particularly the standards and initiatives related to "Net Zero 2050"*
The UN Convention on Biological Diversity (CBD) - and the Post-2020 Biodiversity Framework. See also the Cartagena Protocol on Biosafety and the Nagoya Protocol on Access and Benefit-sharing	The CBD is an international legally-binding treaty with three main goals: Conservation of biodiversity, sustainable use of the components of biodiversity, and fair and equitable sharing of the benefits arising out of the utilisation of genetic resources
The EU Biodiversity Strategy for 2030. See also the EU Wildlife Trade Regulations and the EU taxonomy	The EU's biodiversity strategy for 2030 is a comprehensive plan to protect nature and reverse the degradation of ecosystems. The strategy aims to put Europe's biodiversity on a path to recovery by 2030
The Taskforce on Nature-related Financial Disclosures (TNFD)	TNFD is a global initiative which aims to give financial institutions and companies a complete picture of their environmental risks. It will deliver a framework for organisations to report and act on evolving nature-related risks
United Nations Convention on the Law of the Sea (UNCLOS, 1982)	The "constitution for the ocean". Defines the rights and responsibilities of nations with respect to their use of the world's oceans
Sustainable Ocean Principles (UN Global Compact)	Builds on the UN Global Compact. The nine principles cover the topics: ocean health & productivity, governance & engagement, and data & transparency
The UN Forest Principles (Rio Forest Principles)	The UN Forest Principles is a non-legally binding document that makes several recommendations for conservation and sustainable development of forestry

The CDP Forest – and the questionnaire	CDP Forests provides a framework of action for companies to measure and manage forest-related risks and opportunities, transparently report on progress, and commit to proactive action for the restoration of forests and ecosystems
United Nations Water (UN Water)	The topic of water is not managed by any single UN body, but rather is linked to more than 30 different UN bodies. UN Water coordinates the efforts of UN entities and international organisations working on water
Principles for Responsible Investment (PRI)	The PRI provides a platform for collaborative engagements, also related to biodiversity. They have also produced a range of relevant materials for investors
CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora)	An international agreement between governments. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival
UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage	The convention sets out the duties of States Parties in identifying potential sites and their role in protecting and preserving them
The IUCN Red list Threatened Species	The world's most comprehensive information source on the global extinction risk status of animal, fungus, and plant species
The Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR)	OSPAR is the mechanism by which 15 Governments & the EU cooperate to protect the marine environment of the North-East Atlantic
The International Convention for the Prevention of Pollution from Ships (MARPOL)	The main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes (adopted in 1973 at IMO)
The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships (2009) ("HKC")	The HKC is aimed at ensuring that ships, when being recycled (at the end of their operational lives), do not pose any unnecessary risks to human health, safety, and the environment. Not yet in force, serves as minimum standard
EU Ship Recycling Regulation (2013), including the EU list of approved ship recycling facilities	To be included in the list, any ship recycling facility irrespective of its location must comply with a number of safety and environmental requirements. Builds on the HKC
The International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention)	A treaty adopted by the IMO in order to help prevent the spread of potentially harmful aquatic organisms and pathogens in ships' ballast water
The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal	The object is to protect human health and the environment against the adverse effects of hazardous waste
The Bern Convention on the Conservation of European Wildlife and Natural Habitats	The Convention is a binding international legal instrument in the field of nature conservation, covering most of the natural heritage of the European continent and extending to some States of Africa
The Convention on Wetlands of International Importance (the Ramsar Convention)	An international treaty for the conservation and sustainable use of wetlands. It is also known as the Convention on Wetlands
The Stockholm Convention on Persistent Organic Pollutants	A global treaty to protect human health and the environment from chemicals that remain intact in the environment for long periods, accumulate in the fatty tissue of humans and wildlife, and have harmful impacts on human health or on the environment

The Convention on Long-range Transboundary Air Pollution	The Convention is intended to protect the human environment against air pollution and to gradually reduce and prevent air pollution, including long-range transboundary air pollution. It is implemented by the European EMEP, directed by the UN (UNECE)
Various UN (FAO) frameworks related to food and agriculture	- Principles for Responsible Investment in Agriculture and Food Systems - The United Nation's Principles of Responsible Investment in Farmland - The OECD-FAO Guidelines for Responsible Agricultural Supply Chains
Europe convention on the Protection of Animals kept for Farming Purposes	The Convention applies to animals bred or kept for the production of food, wool, skin, or fur or for other farming purposes. It concerns in particular animals in intensive stock-farming systems
The "Mining Code" issued by the International Seabed Authority. This code is established within the framework of UNCLOS – and its 1994 Implementing Agreement relating to deep seabed mining	A set of rules, regulations, and procedures to regulate prospecting, exploration, and exploitation of marine minerals in the international seabed area (defined as the seabed and subsoil beyond the limits of national jurisdiction)
Various UN (FAO) voluntary guidelines relevant for fishing and aquaculture (seafood)	- The Code of Conduct for Responsible Fisheries (FAO) - Principles for Responsible Shrimp Farming (FAO etc.) - Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (FAO etc.) - Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (FAO)
The Convention of Conservation of Migratory Species of Wild Animals (CMS) or the Bonn Convention	An international agreement that aims to conserve migratory species throughout their ranges. The Agreement was signed under the auspices of the United Nations Environment Programme and is concerned with conservation of wildlife and habitats on a global scale
Sustainable tourism development guidelines and management practices issued by World Tourism Organisation (a United Nations agency)	The sustainability principles refer to the environmental, economic, and socio-cultural aspects of tourism development, and a suitable balance must be established between these three dimensions to guarantee its long-term sustainability

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