

A framework to prioritise risks in business projects





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Purpose & Approach

The purpose of the Biodiversity Risk Scan is to help companies **identifying and prioritizing the potential biodiversity impacts of a project.** The assessed project may be a manufacturing activity, a product, or supply chain. It may also be a new development or an activity under way for which no biodiversity management has been set up so far.

The aim is to map all the key impacts and hotspots in order to implement the adequate measures. It is not about the detailed assessment of the real alterations to biodiversity itself.



Figure 1: The approach of the Biodiversity Risk Scan



The Five-Steps of the Biodiversity Risk Scan

The Biodiversity Risk Scan is divided into five main steps (see Figure 1). Firstly, the company is invited to scope the areas of the value chain that could potentially impact biodiversity. Secondly, it is guided through an insightful internal assessment that estimates the ecosystem sensitivity in the local context and offers specific weighted evaluation of the potential impacts.

Afterwards, the company is encouraged to **engage** with stakeholders and create valuable interactions with relevant actors. The results of the internal assessment and external engagement are then summarized in a **Materiality matrix**, which offers an overview of the main issues.

Finally, the company is supported in taking and implementing the right decisions thanks to **decision-making guidelines**, which guide the management of the biodiversity impacts of the project during and after its realisation.

STEP 1: SCOPING

The first step in the Biodiversity Risk Scan regards the project assessment scoping. Aim of this step is to identify in which areas of the value chain the project could potentially impact biodiversity. Three main steps are considered within the value chain of a project or product, each with two subcategories that can be used if applicable. Depending on its activities, the company can decide to use the columns "upstream", "operations" and "downstream" or the respective subcategories. "Upstream" relates to all activities linked to sourcing of (raw) materials, energy sourcing and transport and storage of materials. Typically, companies engage with suppliers in upstream activities. "Operations" include all company activities or facilities within the scope of the project. "Downstream" reflects all the steps taken after a product left the company facilities, including transport, product use, reuse of old products, end of life treatment, etc.

Figure 2: Scoping the assessment of a project

| Pr | oject Name: | | Upstr | eam | Opera | ations | Downs | stream |
|----|--------------------------------------|---------------------------------------|--|--|---|---|---|---|
| | PRIMA | RY IMPACTS: | MATERIAL & ENERGY SOURCING* Extraction, production processing of raw materials / product components upstream company's operations | TRANSPORT & STORAGE* Transport and storage of product of raw materials / product components upstream company's operations | Running the company's operations to produce the products/services | Construction and presence (land use,) of company's operations | TRANSPORT & STORAGE* Transport & downstream storage of products/services | Use, reuse of sold product / service, end-of-life treatment |
| | | 1. Land use | | | | | | |
| 1. | LAND, WATER, SEA USAGE/ CHANGE | 2. Freshwater use | | | | | | |
| | | 3. Marine ecosystem use | | | | | | |
| 2. | CLIMATE CHANGE | Greenhouse gas | | | | | | |
| 3. | POLLUTION | 1. Non-greenhouse gas | | | | | | |
| | | 2. Emissions to water | | | | | | |
| | | 3. Emissions to land & soil | | | | | | |
| 4. | DISTURBANCE & OTHERS | Ecosystem disturbance (incl. species) | | | | | | |

^{*} Indicate in the appropriate column(s) where the project could have an impact and should thus be assessed.

Scoping may also involve a pre-selection of the impact drivers to be assessed at step 2.

Land, water, sea usage and change; climate change; pollution; disturbance are the impact drivers that companies will take into account at the start of the assessment. They represent the key pressures through which a project (or a company) will potentially impact biodiversity and natural capital. This is why they are used as key factors to be assessed. The primary impacts listed in the table of this first step are inspired by the **Science Based Target Network (SBTN) guidelines for Business** and are based on all key recognized biodiversity impact drivers. All impact drivers should be examined, before deciding if some of them can be considered as negligible. For more information about the impact drivers listed, check Annex I.

Companies may be willing to go more into details or be more specific about the project with the inclusion of additional impact drivers for a deeper analysis on specific aspects. In this case, the team can decide to write a brief description in the dedicated column - note that if some impact drivers are added, they need to be reflected also in the next steps of the Biodiversity Risk Scan exercise.

The company may choose on the scope of the assessment between two different approaches:

- All impact drivers for all considered value chain steps
- Selected impact drivers for each of the value chain steps

With this first step, companies should gain a **clear** idea about the focus area of their assessment before they proceed in the deeper analysis of the project.

Example:

| Pr | oject Name: | | | Upst | ream | Oper | ations | Down | stream |
|----|------------------------------|----|---------------------------------------|---|---|---|---|---|--|
| | | | | MATERIAL & ENERGY SOURCING* | TRANSPORT & STORAGE* | ACTIVITIES* | FACILITIES* | TRANSPORT & STORAGE* | PRODUCT USE* |
| | PRIMA l Explanatio | | | Extraction, production processing of raw materials / product components upstream company's operations | Transport and storage of product of raw materials / product components upstream company's operations | Running the company's operations to produce the products/services | Construction and presence (land use,) of company's operations | Transport & downstream storage of products/ services | Use, reuse of sold product / service, end-of-life treatment |
| | | 1. | Land use | | | Х | | | |
| 1. | LAND, WATER, SEA USAGE/ | 2. | Freshwater use | | | | | | |
| | CHANGE | 3. | Marine ecosystem use | | | Х | | Х | |
| 2. | CLIMATE CHANGE | | Greenhouse gas | | | Х | | | |
| | | | Non-greenhouse gas | | | | | | |
| 3. | POLLUTION | 2. | Emissions to water | | | | | | |
| | | 3. | Emissions to land & soil | | | Х | | Х | |
| 4. | DISTURBANCE & OTHERS | | Ecosystem disturbance (incl. species) | | | Х | | Х | |

^{*} Indicate in the appropriate column(s) where your project will have an impact.

STEP 2: INTERNAL ASSESSMENT

The second step of the Biodiversity Risk Scan consists in the **internal assessment of the project**. It does so by allowing the business to concentrate on **two fundamental aspects**.

Firstly, in STEP 2.A, it draws the attention towards the ecosystem value and sensitivity in the local context of the project. Secondly, in step 2B, it proposes a scoring system to evaluate the level of risk of each of the specific biodiversity impact drivers. The outcome of these two phases of the internal assessment should allow the company to gain a good picture of the significance of each impact driver in all concerned segments of the value chain. It is highly recommended to start engaging with stakeholders in this step by first identifying them and including their approach and knowledge in this assessment exercise.

STEP 2.A: BIODIVERSITY & ECOSYSTEM SENSITIVITY

An ecosystem can be defined as a dynamic complex of plant, animal, and micro-organism communities and their non-living environment, and their interactions (see Annex II for more detailed information about biodiversity & ecosystem sensitivity). Assessing the ecosystem's criticality means to get a sufficient knowledge of the local natural context in order to assess its value and fragility before evaluating the intensity of the pressures exerted by the project on the concerned environments. Indeed, the overall risk for biodiversity will ultimately result from the

characteristics of the impacted ecosystem(s) in terms of biodiversity value and fragility and from the impact drivers caused by the project.

Step 2.A assesses the sensitivity of the potentially impacted environment. This should be taken into account in Step 2.B. The goal is to acknowledge and recognise the fragility and richness of the environment.

The assessment of the criticality of the concerned ecosystem(s) should rely on the maximum information available about the local environment and on interaction with local stakeholders. Prioritization highly depends on the availability of information and studies on the local ecosystems concerned by the project.

The biodiversity criticality should be assessed from 2 perspectives :

- 1. The presence of rare or endangered species in the concerned natural environment(s)
- 2. The criticality/fragility of the concerned ecosystem(s) as a whole, as species depend on ecosystems and vice-versa.

First, companies should map the presence of protected, endangered, or rare species, starting with identifying the local fauna and flora.

Figure 3: Acknowledging biodiversity and ecosystem sensitivity

| Biodiversity & Ecosystem | Sensitivity | Description | Criticality (0-4) |
|--------------------------------------|---------------------------------|-------------|-------------------|
| ENDANGERED SPECIES | Protected/rare/endangered fauna | | |
| (See Annex II) | Protected/rare/endangered flora | | |
| | Ecosystem criticality | | |
| ECOSYSTEM SENSITIVITY (See Annex II) | Forest criticality | | |
| | Water criticality | | |

The Biodiversity Risk Scan arDelta

Example:

| Biodiversity & Ecosystem | Sensitivity | Description | Criticality (0-4) |
|--------------------------------------|---------------------------------|---|-------------------|
| ENDANGERED SPECIES | Protected/rare/endangered fauna | Forest is home to different species of frogs listed on the <u>IUCN list of endangered amphibian</u> , such as the Karpathos Frog. | 3 |
| (See Annex II) | Protected/rare/endangered flora | Presence of 10 horse-chestnut trees (listed on the IUCN Red List of Trees) and is a European endangered endemic tree. | 3 |
| | Ecosystem criticality | Critically Endangered ecosystem listed in the IUCN red list of ecosystems. | 3 |
| ECOSYSTEM SENSITIVITY (See Annex II) | Forest criticality | Critically Endangered ecosystem listed in the IUCN red list of ecosystems. | 3 |
| | Water criticality | Low risk as the forest is located in an area where there is a high presence of fresh water. | 3 |

The presence of threatened species in the area affected by the activity can increase the risks for biodiversity and the attention to be paid to the project on some specific impacts.

Second, the ecosystem sensibility reflects the biodiversity value of the ecosystem as a whole interconnected system. The characteristics, richness and fragility of the concerned ecosystems can be approached via existing studies and mapping of areas at risk, which are referred to in Annex 2 and Annex 4. However, the criticality scoring remains a qualitative judgement between not relevant and highly critical.

Forests are assessed as a specific category to reflect their importance and specificity as a particular ecosystem - they currently occupy approximately 31% of the Earth's land surface and are estimated to contain more than half of all terrestrial animal and plant species. Forest ecosystems can be very vulnerable with a high risk of biodiversity loss, such as tropical rainforests.

Lastly, water criticality refers to the abundance, or lack thereof, of freshwater resources. In terms of ecosystems, water scarcity can affect biodiversity, as sensitive species might not be able to cope with reduced freshwater availability. The identified criticalities will have to be taken into account, whenever relevant, as aggravating factors when assessing impacts (Step 2B).

The third column reflects the **level of criticality of the** assessed criteria on a scale from 0 to 4, ranging from not critical (0), negligible (1), marginal (2), critical (3) and very critical (4).

STEP 2.B: BIODIVERSITY IMPACT WEIGHT

After having defined the scope of the analysis and

assessed the ecosystem's sensitivity of the concerned areas, this step focuses on an **in-depth evaluation of** the biodiversity impact drivers.

The aim is to weight and prioritize each of the biodiversity impacts drivers caused by the project in a qualitative and systematic way. For more information on the scoring criteria see Annex III (The Scoring System). This, however, remains a qualitative exercise aimed at establishing a biodiversity materiality mapping that will guide the management of the biodiversity issues.

It is necessary to weight biodiversity impacts considering local specificities of the ecosystems, as assessed in Step 2.A.

Companies can approach Step 2.B in two ways:

- Assign a score for each relevant impact driver and bring these scores to Step 4 (Materiality Matrix). See example.
- 2. As it might be too detailed on the Materiality matrix, companies can define an overall score/weight per primary impact (from 0 to 4). This will allow to reduce the number of impact drivers in the Materiality matrix and have a better overall readability of the project impacts. Please note, however, that this overall scoring should best reflect the overall impact, not necessarily using the average of the individual impact drivers scores. Besides, companies should pay attention to the fact that overall scores may hide individual impact drivers of concern. So, when presenting overall scores it is always advised to keep track of all identified individual impact drivers with a high score ("hotspots"). See example.

Figure 4: Weighting the biodiversity impact drivers

| Pro | Project Name: | me: | | | Upstream | am | Opera | Operations | Downs | Downstream |
|-----|----------------|---------|------------------------------------|--|---|---|---|---|--|--|
| | | | | | MATERIAL & ENERGY SOURCING* | TRANSPORT & STORAGE* | ACTIVITIES* | FACILITIES* | TRANSPORT & STORAGE* | PRODUCT USE* |
| | PRIM | IARY II | PRIMARY IMPACTS: | Impact Drivers/ Pressures | Extraction, production processing of raw materials product components upstream company's operations | Transport and storage of product of raw materials / product components upsteam company's operations | Running the company's operations to produce the products/services | Construction and presence (land use,) of company's operations | Transport & downstream storage of products/services | Use, reuse of sold product / service, end-of-life treatment |
| | | | | | (SCORE 0-4) | (SCORE 0-4) | (SCORE 0-4) | (SCORE 0-4) | (SCORE 0-4) | (SCORE 0-4) |
| | | 1.1 | Land use | Land use | | | | | | |
| | | | | Land fragmentation | | | | | | |
| 1; | LAND, | | Primary land use score (0-4) | core (0-4) | | | | | | |
| | WATER, SEA | 1.2 | Freshwater use | Freshwater use | | | | | | |
| | USAGE/ | | Primary freshwater use score (0-4) | r use score (0-4) | | | | | | |
| | | 1.3 | Marine ecosystem use | Marine ecosystem use | | | | | | |
| | | | Primary marine ec | Primary marine ecosystem use score (0-4) | (1 | | | | | |
| 2. | CLIMATE | 2. | Greenhouse gas | Greenhouse gas emissions | | | | | | |
| | CHANGE | | Primary climate change score (0-4) | nange score (0-4) | | | | | | |
| | | 3.1 | Non-greenhouse gas | Acidifying or eutrophying substances to air | | | | | | |
| က် | POLLU- TION | 3.2 | Emissions to water | Eutrophying substances to water | | | | | | |
| | | 3.3 | Emissions to land & soil | Ecotoxic substances in natural environment | | | | | | |
| | | | | Ecotoxic waste | | | | | | |
| | | | Primary climate change score (0-4) | nange score (0-4) | | | | | | |
| 4. | DISTUR- | | | Presence of infrastructure | | | | | | |
| | OTHERS | 4 | Frosystem | Exploitation of ecosystems | | | | | | |
| | | | disturbance | Exploitation of fauna | | | | | | |
| | | | (incl. species) | Exploitation of flora | | | | | | |
| | | | | Exploitation of forests | | | | | | |
| | | | Primary climate change score (0-4) | nange score (0-4) | | | | | | |

Example:

| PRIMARY Methods: Primary month of the control of the contr | Pro Road | Project Name: Road construction | me: uction | Project Name: Road construction to company's facility | facility | Upstream | 'n | Opera | Operations | Downstream | tream |
|--|-------------|------------------------------------|---------------|--|--|---|--|---|---|---|---|
| PRIVATE MANACES PRIVATE PRIV | | | | | | MATERIAL & ENERGY SOURCING* | TRANSPORT & STORAGE* | ACTIVITIES* | FACILITIES* | TRANSPORT & STORAGE* | PRODUCT USE* |
| Table Particular Particul | | PRIM | IARY IM | IPACTS: | Impact Drivers/ Pressures | Extraction, production processing of raw materials / product components upstream company's operations | Transport and storage of product of raw materials / product components upstream company's operations | Running the company's operations to produce the product/service | Construction and presence (land use,) of company's operations | Transport and downstream storage of product/service | Use, reuse of sold products, end-of-life treatment etc. |
| 11 Annior Wanter Annior | | | | | | (SCORE 0-4) | (SCORE 0-4) | (SCORE 0-4) | (SCORE 0-4) | (SCORE 0-4) | (SCORE 0-4) |
| WATER WATER BY MATER CHANGE | | | 1.1 | Land use | Land use | | | 2 | | | |
| VANDER SEARCH AND AND LINE STATE CORE (0-4): Treshwater use recognition and produced to the constitution of the natural and \$5.00 II. Treshwater use recognition and produced to the constitution and the natural and \$5.00 II. Treshwater use recognition and produced to the constitution and the natural and \$5.00 II. Treshwater use recognition and produced to the constitution and the natural and \$5.00 II. Treshwater use recognition and the natural and shown and the natural and \$5.00 II. Treshwater use recognition and the natural and \$5.00 II. Treshwater use recognition and the natural and \$5.00 II. Treshwater use recognition and the natural and \$5.00 II. Treshwater use recognition and the natural and \$5.00 II. Treshwater use recognition and the natural and \$5.00 II. Treshwater use recognition and the natural and the natural and the natural and \$5.00 II. Treshwater use recognition and the natural and the natural and \$5.00 II. Treshwater use recognition and the natural and the | | | | | Land fragmentation | | | 3 | | | |
| Polithary impact score (0-4): Envisions to Innary impact connection of the state o | | LAND, | | Primary impact s | core (0-4): | | | | | | |
| Light City And Early Impact score (0-4): Light City And Early I | | WATER, SEA | 1.2 | Freshwater use | | | | | | | |
| 1.3 Marine 1.3 | | USAGE/ | | Primary impact s | core (0-4): | | | | | | |
| CLINATE CHANCE 2. Greenhouse gas Greenho | | | 1.3 | Marine ecosystem use | Marine ecosystem use | | | | | | |
| CHANGE CHANGE Primary impact score (0.4): Pottor Cutching or europhying speechhouse gas Primary impact score (0.4): Primary impact score (0.4): Primary impact score (0.4): Primary climate change score (0.4): Primary climate score (0.4): Primary climate change score (0.4): Prima | | | | Primary impact s | core (0-4): | | | | | | |
| This part This | | CLIMATE | | Greenhouse gas | Greenh | | | က | | 2 | |
| 3.1 Non | | CHANGE | | Primary impact s | core (0-4): | | | | | | |
| Polluture and Polluture and Polluture and Polluture and Polluture and Polluture and Resolution of forest polluture and Resolution of | | | 3.1 | Non- greenhouse gas | Acidifying or eutrophying substances to air | | | 1 | | | |
| Pollulumental Final Matter Primary limpact score (0-4): Ecotoxic substances and infrastructures Ecotoxic substances and infrastructures Ecotoxic substances and infrastructures Ecotoxic substances and infrastructures Institutures | | | | Primary impact s | core (0-4): | | | | | | |
| Primary impact score (0-4): 3.3 Emissions to Inad & soil Ecotosic substances in natural and & soil Ecotosic waste 2 P. Cook in natural and & soil Image: environment and & soil Image | | POLLU- | 3.2 | Emissions to water | Eutrophying substances to water | | | | | | |
| 3.3 Emissions to Inatual Inard & soil Inard & soil In a matural Inard & soil In a matural Inard & soil Inard & Ecotor waste | | | | Primary impact s | core (0-4): | | | | | | |
| DISTUR- BANCE & OTHERS Exotoxic waste 1 | | | 3.3 | | Ecotoxic substances in natural environment | | | 2 | | 2 | |
| DISTUR-BANCE & GANCE (D-4): Presence (D-4): Presence (D-4): Presence (D-4): Presence (D-4): Presence (D-4): Presence (D-4): Primary climate change score (D-4): Primary change score (D-4): Primary change score (D-4): Primary change score (D-4): Pr | | | | | Ecotoxic waste | | | 1 | | | |
| DISTUR-BANCE & Footstation of THERS of THERS (incl. Species) Exploitation of forest Exploitation of forest <td></td> <td></td> <td></td> <td>Primary climate</td> <td>change score (0-4):</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> | | | | Primary climate | change score (0-4): | | | | | | |
| 4. Ecosystem disturbance (incl. Species) Exploitation of forest Exploitation of forest Exploitation of forest 3 Exploitation of forest Exploitation of forest 3 Exploitation of forest Exploitation of forest 3 Exploitation of forest | | DISTUR- BANCE & | | | Presence of infrastructures | | | | | 1 | |
| Exploitation of founa 3 2 Exploitation of forest are change score (0-4): 2 | | OTHERS | 4 | Ecosystem | Exploitation of ecosystems | | | | | | |
| 3 3 | | | | disturbance (incl. Species) | Exploitation of fauna | | | | | | |
| | | | | | Exploitation of flora | | | 3 | | | |
| Primary climate change score (0-4): | | | | | Exploitation of forest | | | 2 | | 2 | |
| | | | | Primary climate | change score (0-4): | | | | | | |

STEP 3: EXTERNAL STAKEHOLDER ENGAGEMENT

The next step is the analysis of the **biodiversity impact** of a project for external stakeholders. The aim is to map the key stakeholders, and prioritize their concerns regarding the identified impact drivers.

In order to facilitate the company in the identification and inclusion of different actors, the Scan provides a list of the **main stakeholders**; advice on how to ensure their participation in the project evaluation; the key questions to address during the assessment (Annex 3); and a final table to summarize the importance of each main impact driver for the different stakeholders.

Stakeholder analysis and engagement is a delicate phase of the assessment but very important. Each project will involve different stakeholder categories, and different biodiversity aspects. Moreover, national regulations (Annex 4) as well as local internal company policies may guide the examination, offering specific advices or establishing obligations.

Companies should consider all these elements and use the available tools in the way they consider most appropriate for their situation. However, the importance of stakeholder consultation and engagement should not be overlooked. Therefore, companies are encouraged to establish a **structured process to enable active interaction between the parts**.

Conducting an efficient stakeholder engagement is key to the correct validation of the project assessment. It is only by getting out of its internal environment that the company can truly understand the reality and challenges that characterise the context. A good stakeholder assessment facilitates the analysis of the biodiversity impacts of the project and the identification of possible solutions to answer its risks. Promoting the interaction of multiple parts of the society help the company to be recognised as a **responsible partner**, gaining respect and acceptance from the local, national and international community.

STEP 3.1: Definition and list of stakeholders

Stakeholders are individuals, groups or organisations that are affected by the activity of the business. As far as this Biodiversity Risk Scan is concerned, these stakeholders should have an **interest on the proposed**

project and in the biodiversity impact of the company's activities in the local context.

They may include:

- Local communities
- Local authorities
- Environmental NGOs
- Other environmental partners
- Social organisations
- Governmental institutions (national, regional or global)
- Investors
- Creditors
- Industry associations
- Suppliers
- Business partners
- Clients
- Trade groups
- Competitors
- Intermediaries
- Consumers
- Media groups

STEP 3.2: Ways to engage with stakeholders

Depending on external regulations or local internal policies of the company, there might be different ways to engage with external stakeholders. In every case, the company is encouraged to promote the most appropriate actions towards the **creation of an effective knowledge sharing process**.

Establishing a structured process allows the business to collect informed feedback and to prevent possible risks whilst gaining positive visibility within the communities and regions of operations. In particular, the business can implement one or more of the following:

- Ask to relevant stakeholders to conduct an assessment using the Biodiversity Risk Scan and assigning for each main driver a score from 0 to 4.
- Conduct interviews to gain information about stakeholders' perspectives over some biodiversity impact of the project and the ecosystem sensitivity of the area.
- Organise a stakeholder dialogue, bringing relevant

stakeholders together to obtain their feedback on the project and its impacts.

- Send a survey able to collect answers to important questions for the development of the business project. The survey can be followed by more focused and personal calls.
- Tailor questions according to the stakeholder and engage them in different parts of the project, considering the different interests.
- Promote a formal agreement with an NGO focused on the environment that can guide the company through the engagement with other local stakeholders and ensure an informed assessment of their interests/priorities.

STEP 3.3: Summary Table

In the last step of stakeholder engagement, the following table can help to create a summary of the stakeholders' concerns.

The company should assign a score from 0 to 4 to each main driver, according to the feedback gained from the various actors. More columns may be added in the evaluation.

The last column asks to assign an overall score for each driver, in order to facilitate the creation of the Materiality matrix in the fourth step of the analysis.

Figure 5: Mapping stakeholders concerns regarding impacts on the natural environment

| MAIN DRIVERS | Importance to Stakeholder 1 Score (0-4) | Importance to Stakeholder 2 Score (0-4) | Importance to Stakeholder 3 Score (0-4) | Importance to Stakeholder 4 Score (0-4) | Importance to Stakeholder 5 Score (0-4) | Importance to Stakeholder 6 Score (0-4) | Importance to Stakeholder 7 Score (0-4) | OVERALL Score (0-4) |
|----------------------------|---|---|---|---|---|---|---|---------------------|
| Land use | | | | | | | | |
| Fresh water use | | | | | | | | |
| Marine ecosystem use | | | | | | | | |
| Greenhouse gas | | | | | | | | |
| Non-Greenhouse gas use | | | | | | | | |
| Emissions to water | | | | | | | | |
| Emissions to land and soil | | | | | | | | |
| Ecosystem disturbance | | | | | | | | |

Regarding the **scoring system**, the following general guidelines might be considered:

- O → The activities' consequences on the specific impact driver are irrelevant and have no significance for the stakeholder.
- 1 → The activities' consequences on the specific driver are not critical to the stakeholder. According to the gained feedback, although the company should keep it in mind the stakeholder does not recognise a threat to the biodiversity of the area.
- The activities' consequences on the specific driver have marginal significance to the stakeholder. According to the gained feedback, the company should monitor the situation, since its effects are not fully under control and can become a threat to the biodiversity of the area.
- 3 > The activities' consequences on the specific impact driver have a significant potential effect on the nature and biodiversity of the area in the stakeholders' opinion. According to the feedback, the company should consider it carefully and design an action plan to mitigate the impact.
- The activities' consequences on the specific impact driver have high and immediate effects to the biodiversity of the area in the stakeholder's opinion. According to the feedback, the causes of the loss should be further analysed and specific mitigation actions should be implemented in order to minimise the negative impact.

Example:

| Project Name: Ro | ad construction to co | ompany's facility | | | |
|----------------------------|---------------------------------------|------------------------------------|---------------------------------|-------------------------------------|---------------------|
| MAIN DRIVERS | REGIONAL GOVERNMENT Score (0-4) | LOCAL GOVERNMENT Score (0-4) | VILLAGE INHABITANTS Score (0-4) | ENVIRONMENTAL NGO Score (0-4) | OVERALL Score (0-4) |
| Land use | 2 | 3 | 4 | 4 | 4 |
| Fresh water use | | | | | |
| Marine ecosystem use | | | | | |
| Greenhouse gas | 2 | 1 | 1 | 1 | 3 |
| Non-Greenhouse gas use | 1 | 1 | 0 | 1 | 1 |
| Emissions to water | | | | | |
| Emissions to land and soil | 2 | 2 | 3 | 4 | 3 |
| Ecosystem disturbance | 0 | 3 | 3 | 4 | 3 |

STEP 4: MATERIALITY MATRIX

The fourth step of the Biodiversity Risk Scan allows the company to summarise the assessment.

The Materiality matrix can be generated by combining the results obtained in the second and third step and illustrates the main concerns and priority areas in the development of the project.

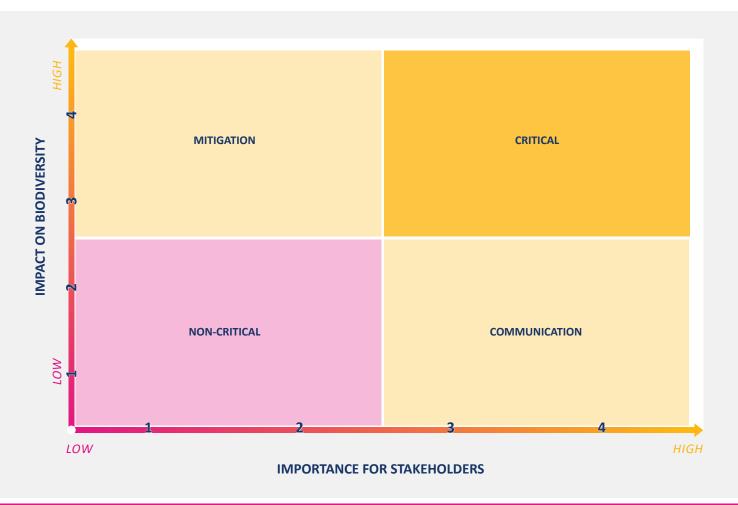
The Materiality matrix is divided into four areas:

- **1. CRITICAL**: high impact on biodiversity and important for stakeholders
- **2. NON CRITICAL**: low impact on biodiversity and low importance for stakeholders
- **3. MITIGATION**: high impact on biodiversity and low importance for stakeholders
- **4. COMMUNICATION**: low impact on biodiversity but important for stakeholders

Every relevant driver is located in the graph - *see* **Figure** 6 - according to their impact (y-axis) and stakeholder evaluation (x-axis).

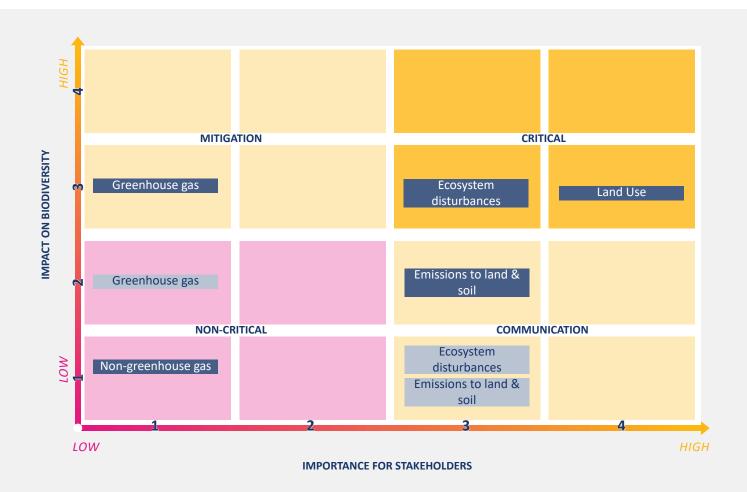
The outcome of this exercise will enable to quickly visualise the main areas of concern.

Figure 6: Materiality Matrix



Example:

| Pr | oject Name | : Road constru | ction to compa | ny's facility | | | | |
|----|---|---|---|---|---|---|---|-----------------------|
| | | Upst | ream | Opera | ations | Downs | stream | |
| : | MAIN DRIVERS | MATERIAL & ENERGY SOURCING* | TRANSPORT & STORAGE* | ACTIVITIES* | FACILITIES* | TRANSPORT & STORAGE* | PRODUCT USE* | OVERALL IMPORTANCE TO |
| | | Extraction, production processing of raw materials / product components upstream company's operations | Transport and storage of product of raw materials / product components upstream company's operations | Running the company's operations to produce the product/service | Construction and presence (land use,) of company's operations | Transport and downstream storage of product/service | Use, reuse of sold product / service, end-of-life treatment, etc. | STAKEHOLDERS |
| 1. | Land use | | | 3 | | | | 4 |
| 2. | Fresh water use | | | | | | | |
| 3. | Marine ecosystem use | | | | | | | |
| 4. | Greenhouse gas | | | 3 | | 2 | | |
| 5. | Non-greenhouse gas | | | 1 | | | | 1 |
| 6. | Emissions to water | | | | | | | |
| 7. | Emissions to land & soil | | | 2 | | 1 | | 3 |
| 8. | Ecosystem disturbance (incl. species) | | | 3 | | 1 | | 3 |



STEP 5: DECISION-MAKING GUIDELINES

This last step of the Biodiversity Risk Scan aims at supporting companies in taking decisions regarding the management of the biodiversity aspects of the project prioritized in the previous steps thanks to two sets of questions.

First, the company is invited to consider the relevant biodiversity aspects of the project in light of its existing policies and strategies on biodiversity and sustainability. The company should also consider how to manage and mitigate possible impacts.

As a second step, the company should **establish** an action plan based on decisions taken. Internal management, relationship and communication to stakeholders and mitigation actions need to be put in place in the project implementation phase.

Here below you can find relevant questions to examine.

Group 1: Evaluation of the project and its alignment with the company existing strategies.

Internal management

- 1. Does the company have objectives and a highlevel commitment to Biodiversity? If yes, is the project and its impacts in line with it?
- 2. Does the company have a strategy on biodiversity? If yes, is the project and its impacts aligned?
- 3. Is the company strategy able to cover and adequately manage all hotspots identified in the project?
- 4. Does the company have targets on biodiversity? If yes, is the project and its impacts aligned?
- 5. Does the company have dedicated personnel in place to manage, monitor and report on project impacts on biodiversity?
- 6. Is the project and its impacts on biodiversity in line with internal and external communication?
- 7. Can the project affect the company's relationship with its employees?

External engagement

- 8. Can the project affect the company's relationship with investors?
- 9. Can the project affect the company's relationship with local communities?
- 10. Can the project affect the company's image and relationship with customers?
- 11. Does the company have strategies in place to anticipate and manage stakeholders' reactions?
- 12. Does the national context facilitate the engagement of stakeholder establishing specific regulations?

Mitigation strategies

- 14. Can some or all impacts of the project be compensated by other positive actions on biodiversity?
- 15. Considering present technological advancement, can the project use fewer natural resources?
- 16. Can the project be modified to avoid or reduce key biodiversity hotspots?

Group 2: Implementation of an action plan to respond to the biodiversity risks and impacts

Internal management

- 1. Develop a strong biodiversity strategy with quantifiable targets / KPIs, starting from the acknowledgment of impacts.
- 2. Promote actions which can allow to efficiently control and mitigate the identified threats.
- 3. Identify the team responsible to monitor and report on biodiversity impacts during and after the project implementation.
- 4. Define an action plan to follow the project and its impacts with the right timeline.



- 5. Regularly measure, monitor and report on biodiversity impacts linked to the project.
- 6. Establish a clear internal communication strategy.

External engagement

- 7. Regularly communicate to external stakeholders about taken decisions and actions to compensate negative impacts on biodiversity.
- 8. Involve local communities in the monitoring and evaluation of the project.
- 9. Inform investors according to biodiversity commitment and strategy.
- 10. Inform customers regarding the company perspective on biodiversity and environment protection.

Mitigation strategies

- 11. Take initiative starting from stakeholders advice on actions to implement in order to compensate the loss of biodiversity caused by the business actions.
- 12. Engage in green and social programmes to help the environmental and community development in the area of operation.
- 13. Invest in innovation, research and technology so that the company can develop sustainable solutions in the short, medium, and long term.

Annex I: Impact Drivers Definition

LAND USE

Expansion and intensification in the use of natural areas for human activities. In particular, it refers to the management and modification of natural environment or wilderness into built environments, such as settlements and semi-natural habitats.

LAND FRAGMENTATION

Landscape fragmentation is the breaking up of larger areas of natural land cover into smaller, more isolated patches, independent of a change in the total area of natural land cover. It has a direct effect on organism's habitat and, therefore, causes population fragmentation and ecosystem decay.

FRESHWATER USE

Abstraction of water from the natural ecosystem. Freshwater includes any naturally occurring water except seawater and brackish water, such as ice sheets, ice caps, glaciers, icebergs, bogs, ponds, lakes, rivers, streams, and groundwater.

MARINE ECOSYSTEM USE

Fishing pressure is more widespread than ever before and now covers over half the ocean. Fisheries have the largest footprint globally - The Aichi target on marine protected area coverage will likely be missed.

EMISSIONS OF GREENHOUSE GAS

Climate change results from global greenhouse gas emissions. It affects biodiversity by potentially causing shifts in the distribution ranges of species. Ecosystem perturbation may also stem from increases in storms, flooding, extreme temperatures or drought that exceed background variability, sea-level rise, etc. For example, a recent report by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) finds that the distribution of 47% of the proportion of terrestrial flightless mammals and 23% of threatened birds may have already been negatively impacted by climate change. Even for global warming of 1.5 to 2 degrees Celsius, the majority of terrestrial species ranges are projected to shrink profoundly. Models exist that estimate biodiversity loss per degree of global mean temperature increase.

ACIDIFYING OR EUTROPHYING SUBSTANCES TO AIR

Eutrophication of terrestrial ecosystems can be caused by emissions of airborne ammonia, nitrogen oxides and sulphur dioxides that are then returned back to land by rainfall. If more nitrogen becomes available, some species start to dominate. Typically, reeds, tall grasses, brambles and nettles will displace the more diverse original vegetation. Read more.

EUTROPHYING SUBSTANCES TO WATER

The elements mainly responsible for eutrophication are nitrogen and phosphorous compounds. Unused fertilisers, sewage and detergents – all containing nitrogen or phosphorous – wash into rivers, lakes and eventually the sea. Here they cause ecosystem disturbance and asphyxiation. The visible effect of eutrophication of waters ecosystems is often nuisance algal blooms that can cause substantial ecological degradation in the water body and in the streams flowing from that water body. This process may result in oxygen depletion of the water body after the bacterial degradation of the algae. On land, weeds, tall grasses, brambles and nettles will displace the more diverse original vegetation.

ECOTOXIC SUBSTANCES IN NATURAL ENVIRONMENT

Ecotoxicity is caused by natural or synthetic pollutants, impacting constituents of ecosystems, animal (including human), vegetable and microbial. Typical ecotoxic substances include for ex: Plasticizers, personal hygiene products, Pesticides, Oil spills, etc.

ECOTOXIC WASTE

Ecotoxicity is caused by natural or synthetic pollutants, including waste, impacting constituents of ecosystems, animal (including human), vegetable and microbial. Typical ecotoxic substances include for example, plasticizers, personal hygiene products, pesticides, oil spills, etc.

EXPLOITATION OF FAUNA / FLORA

Natural animals and plants can be over-exploited. Amongst the 8,000 species of animal that are considered threatened with extinction on the Red List by the International Union for the Conservation of Nature (IUCN). 72% are being overexploited for commerce, recreation or subsistence. The EU Biodiversity strategy for 2030 identifies and strives to tackle the five main drivers of biodiversity loss: overexploitation, sea and land use change, climate change, pollution and invasive alien species.

EXPLOITATION OF FORESTS

IUCN estimates that over 80% of the world's terrestrial biodiversity can be found in forests - from pine trees in the boreal North to the rainforests in the tropics. The degradation and loss of forests threaten the survival of many species, and reduce the ability of forests to provide essential services such as clean air and water, healthy soils for agriculture, and climate regulation. Forests are globally important in regulating climate and locally important in sustaining communities and supporting biodiversity. The High Conservation Value approach developed by FSC (The Forest Stewardship Council) as part of its standard to ensure maintenance of significant or critical environmental and social values in the context of forest certification. In some cases, the HCV assessment may be carried out by the company management team. In others cases, a standard may require that HCV assessments be carried out by an independent team (e.g. new plantings for RSPO certification). Read more

PRESENCE OF INFRASTRUCTURE

Infrastructure affects biodiversity via habitat fragmentation, but also noise, light, etc. Infrastructure disturbance is largest in the direct vicinity of the infrastructure and shows a steep decrease with increasing distance. For this reason, long infrastructures (roads, etc.) may have significant impacts. In GLOBIO for example, it is assumed that disturbance by infrastructure is confined to an impact zone of 1 km around infrastructural elements. Read more

Annex II: Biodiversity and Ecosystem Sensitivity

PROTECTED/RARE/ENDANGERED FAUNA AND FLORA

Rare animals and plants are present in the ecosystems where the project is taking place. The presence of threatened species in the area affected by the activity increases the risks for biodiversity and the attention to be paid to the impact drivers caused by the activity.

The following classification is established:

- Extinct or Extinct in the Wild.
- Critically Endangered and Vulnerable: species threatened with global extinction.
- Near Threatened: species close to the threatened thresholds or that would be threatened without ongoing conservation measures.
- Least Concern: species evaluated with a lower risk of extinction.

Ecosystem criticality reflects the biodiversity value and fragility of the concerned ecosystems, hence the increased risk of a detrimental effect resulting from exposure to the impact pressures: some ecosystems are more rich in species than others and some are more fragile than others. Ecosystems can be at particularly high risk, requiring more specific conservation measures in terms of resource use and management decisions. Typically, wetlands for example can be particularly sensitive to human intervention. The IUCN Red List of Ecosystems Categories and Criteria help identifying ecosystems most at risk of biodiversity loss. They help evaluate whether ecosystems have reached the final stage of degradation (a state of Collapse), whether they are threatened at Critically Endangered, Endangered, or Vulnerable levels, or if they are not currently facing significant risk of collapse (Least Concern).

Ecosystems may more effectively represent biological diversity as a whole than individual species:

- 1. They include fundamental abiotic components that are only indirectly included in species assessments.
- 2. Declines in ecosystem status may be more apparent than extinctions of individual species.
- 3. Ecosystem-level assessments may be less time consuming than species-by-species assessments.
- 4. Red lists of ecosystems may suggest areas in which extirpations are likely to result from extinction debt in response to loss and fragmentation of species' habitats, because decline in the extent and status of an ecosystem may precede the loss of its species.

FOREST BIODIVERSITY DEGRADATION RISK

Forest biodiversity degradation risk means the sensitivity of the concerned forest biodiversity to the impact impacts at stake - some ecosystems are more fragile than others, some impacts more impactful than others. A system for environmental risk assessment in FSC-certified tropical forests has been developed and similar systems can be developed for temperate, boreal and plantation forests, and for socio-economic values. Simpler checklists can be used to indicate the approximate level of risk found in individual MUs. The IFL Methodology was proposed by Greenpeace in 2001 as an approach for mapping and monitoring the extent of forest degradation. The essence of the approach is to establish the boundaries of large undeveloped forest areas, or Intact Forest Landscapes (IFL), and to provide timely monitoring of forest conversion and degradation within them. WRI considers five categories of forest that are important for biodiversity conservation. Other forest value classification schemes exist, notably the one by Proforest.

WATER SCARCITY RISK

This is the risk of water scarcity in areas where freshwater is abstracted. Freshwater is scarce in some areas, regions, countries, or even continents. Using freshwater can impact local water availability. In terms of ecosystems, water scarcity can affect biodiversity, as sensitive species might not be able to cope with reduced freshwater availability. For example, wetlands (areas where the water table is at or near the surface level, or the land is covered by shallow water) are particularly important for biodiversity. Water scarcity may also impact water availability for human activities and life. A local assessment is necessary, since the impacts of water use vary greatly as a function of location and ecosystem characteristics.

Annex III: The Scoring System

The scoring system requires to allocate a numeric value, from 0 to 4, to each biodiversity impacts driver in the scope of the project assessment. Generally speaking, the scores should match with the following definitions:

- The activities of the proposed project do not cause a significant impact on the particular driver and on the specific value chain step. The **consequences are irrelevant** to the biodiversity of the area.
- The consequences of the activities on the specific driver and value chain step are **not critical and under control**. Although the company should keep these impact drivers in mind, they do not represent a real threat to the biodiversity of the area.
- The consequences of the activities on the specific driver and value chain step are **low but not fully under**control and could potentially increase. The company should keep these impact drivers carefully in mind even if they do not represent an immediate threat to the biodiversity of the area.
- The consequences of the activities on the specific driver and value chain step have a **significant potential**effect and can contribute to the partial loss of the biodiversity in the area. Companies should consider these impact drivers carefully in the project design and management; in the decision-making process; and when they engage with internal and external stakeholders.
- The consequences of the activities on the specific driver and value chain step have the potential to provoke

 high and immediate threats and contribute to a significant biodiversity loss. The causes of this loss should be further analysed and deserve dedicated management and specific mitigation actions in order to minimise the negative impact.

More specifically, the table below may help the prioritization of the specific impact drivers:

| SCORE SYSTEM | 0 | 1 | 2 | 3 | 4 |
|-------------------------|---|---|---|---|--|
| LAND USE | No use of land, no modification of natural environment of wilderness. | Marginal modification of natural environment and use of land. | Marginal modification of natural environment and use of land. | Significant use of land with potential modification of ecosystem on the used land. | Intensive use of land (agriculture, forestry, etc.). |
| LAND FRAG- MENTATION | No land fragmentation. The project has no effects on organisms' habitat. | Very limited risk of fragmentation - no risk of spatially separated individuals/ populations. | Low risk of spatially separated organisms. | Significant land fragmentation with substantial risk of spatially separated populations, directly affecting organisms' habitat. | High risk of spatially separated populations due to high land fragmentation with immediate and relevant effects on organisms' habitat. |

| SCORE SYSTEM | 0 | 1 | 2 | 3 | 4 |
|---|---|--|--|---|--|
| FRESHWATER USE | No use of freshwater resources. | Marginal use of freshwater resources, with no relevant consequences on the local context availability (under control). | Significant fresh water use from natural environment, with no risk of modification of local ecosystem water balance. | Significant fresh water use, with risk of modification of the water availability for the local ecosystem. | Intensive fresh water use from natural environment. |
| MARINE ECOSYSTEM USE | No use of marine resources with no effect on its ecosystem. | Marginal abstraction of resource from marine areas - not central to the activity. | Marginal abstraction of resource from marine areas - not core to the activity. | Significant abstraction of resource from marine areas – is a core element of the activity. | Intensive abstraction of resource from marine areas - core of the activity. |
| EMISSION OF GREENHOUSE GASSES | Marginal energy production or use and GHG emissions. | Project in Low energy intensity sector - or project with marginal energy consumption / greenhouse gas emissions. | Project in Middle energy intensity sector / with medium greenhouse gas emissions. | High energy intensity sector - high greenhouse gas emissions associated with project. | High energy intensity sector - project with exceptionally high energy consumption / greenhouse gas emissions. |
| ACIDIFYING OR EUTROPHYING SUBSTANCES TO AIR | No acidifying or eutrophying substances to air. | Project resulting in marginal emissions of acidifying substances. | Project resulting in significant emissions of acidifying substances, respecting best available techniques limits. | Project resulting in high emissions of acidifying substances, respecting best available techniques limits (typically BAT-BREFs in Europe). | Project resulting in high emissions of acidifying substances, not in line with best available techniques limits. |
| EUTROPHYING SUBSTANCES TO WATER | No eutrophying substances to water. | Project resulting in marginal emissions of eutrophying substances. | Project resulting in significant emissions of acidifying eutrophying, (but typically respecting best available techniques limits). | Project resulting in high emissions of eutrophying substances (typically respecting best available techniques limits (typically BAT-BREFs in Europe). | Project resulting in high emissions of eutrophying substances (typically not in line with best available techniques limits). |

| SCORE SYSTEM | 0 | 1 | 2 | 3 | 4 |
|--|--|--|--|---|--|
| ECOTOXIC SUBSTANCES IN NATURAL ENVIRON- MENT | Not relevant - no ecotoxic sub- stances to land or soil. | Very limited emissions of ecotoxic substances to land or soil. | Significant ecotoxic substances to land or soil, but within legal environmental quality standards and permits. | Significant ecotoxic substances to land or soil, with a risk of trespassing legal environmental quality standards or permits. | Intensive ecotoxic substances to land or soil (typically pesticides). |
| ECOTOXIC WASTE | No ecotoxic waste. | Waste not classified as toxic. | Waste classified as toxic, plastic waste, managed via approved waste management companies with clear CSR policies. | Significant amounts of waste, ecotoxic waste, with risk of inadequate management or risk of ocean pollution. | Very large amounts of waste, ecotoxic waste, with risk of inadequate management or risk of ocean pollution. |
| EXPLOITATION OF SPECIES (FLORA / FAUNA) | No exploitation of animals which can cause a threat to local species | Marginal exploitation of animals which can cause a threat to local species (under control) | Limited exploitation of animals with effects on local species not fully under control and could potentially increase | Significant exploitation of animals with direct threat to local species | High risk of overexploitation with immediate and relevant threat to local species |
| DEFORESTA- TION | No production or use of wood/ wood products. | Limited use of wood or wood products from certified forests. | Significant use of wood or wood products but zero net deforestation and certified forests. | Significant use of wood but zero net deforestation and risk of noncertified forests. | Net deforestation, non-certified forests. |
| PRESENCE OF INFRASTRUC- TURE | No new road / rail / infrastructure in project. | Very limited new road / rail / infrastructure construction. | Limited new road / rail / infrastructure construction. | Significant road / rail / infrastructure construction. | Long distance road / rail / infrastructure construction. |

Annex IV: Key Questions to External Stakeholders

The stakeholder engagement could start with an **overview of the project** followed by a **brief explanation of the main activities** intended to be developed in the specific area and the impact assessment done by the company.

Taking inspiration from the Framework, the following questions can guide your the engagement with external stakeholders:

- The project is expected to use X amount of land/water. Do you believe the local context would be able to positively respond to the loss of this resource?
- The emissions of non/greenhouse gasses are expected to cause marginal/significant/high impact on the climate change of the local context. What can we do to reduce this risk?
- The use of substances which can pollute water/air/soil is expected to be marginal/significant. How can our company minimise the effects on the local biodiversity?
- The project will produce a new infrastructure, which will increase the ecosystem disturbance of the local context. What are the mitigation strategies we can implement to face this impact?
- How important/relevant is for you/ your organisation the land/freshwater/marine resources of this specific area?
 Do you believe the community has high risk of suffering of resource scarcity?
- What is the availability of basic resources, such as water and land, in the area and how fragile is the ecosystem of the local environment?
- Are there any endangered species populating the local context? How can we implement the project taking into consideration their protection?
- What is the waste management system of the local area? How is toxic waste handled? Is there the capacity to deal with waste emissions?

The questions should help you gain a **deeper understanding of the local context, its biodiversity**, as well as the company's capacity to deal with the consequences of its business actions. It should facilitate an **informed dialogue between the parties** and allow the achievement of a consensual agreement regarding the practical operations of the project.

It is fundamental to obtain an overview over the weaknesses and strengths of the area, as well as mitigation strategies which could be put into place in order to minimise biodiversity loss and restore the environment equilibrium.

Annex V: Reference documents and Tools

| Title | Author | Driver Summary | Link |
|---|---|--|---|
| Science for Biodiversity - Policy and Action | Intergovernmen- tal Science-Policy Platform on Bio- diversity and Eco- system Services (IPBES) | A general introduction to biodiversity. | https://www.europarl.europa.eu/ cmsdata/217344/Anne%20Lar- igauderie_IPBES_presentation.pdf |
| Natural Capital Protocol | Natural Capital Coalition | A broad framework on the measurement, valuing and integration of natural capital impacts into existing business processes. | https://capitalscoalition.org/capitals-approach/natural-capital-protocol/?fwp_filter_tabs=training_material |
| CMP Unified Classifica- tion of Direct Threats | International Union for Con- servation of Nature (IUCN) | The IUCN - CMP standardized classification of human activities involving threats to biodiversity. | https://www.qwant.com/?cli- ent=ext-chrome-sb&q=IUCN+-+C- MP+Unified+Classification+of+Di- rect+Threats&t=web |
| The global assessment report on Biodiversity and Ecosystem Services | IPBES | An overview of the status and trends of the natural world, the social implications of these trends, their direct and indirect causes. | https://oursharedseas.com/ oss_downloads/ipbes-the-glob- al-assessment-report-on-biodiver- sity-and-ecosystem-services/ |
| Global Biodiversity Outlook 5 | UN Environment Programme | Global world trends on biodiversity | https://www.cbd.int/gbo5 |
| Mainstreaming Agrobio- diversity in Sustainable Food Systems Scientific Foundations for an Agrobiodiversity Index | Biodiversity International | Evidence on how to use agrobiodiversity to provide nutritious foods through harnessing natural processes. | https://www.bioversityinterna- tional.org/mainstreaming-agro- biodiversity/ |
| Measuring business impacts on nature - A framework to support better stewardship of biodiversity in global supply chains | University of Cambridge Insti- tute for Sustainability Leadership | A guide on the impacts of raw material sourcing on nature, using a Biodiversity Impact Index. | https://www.cisl.cam.ac.uk/ resources/natural-resource-secu- rity-publications/measuring-busi- ness-impacts-on-nature |
| Assessment of biodiver- sity measurement ap- proaches for businesses and financial institutions | EU Business@ Biodiversity Plat- form | A guide to select an approach/tool to assess the risk/impact of a Business activity for nature | https://ec.europa.eu/environ- ment/biodiversity/business/ assets/pdf/European_B@B_plat- form_report_biodiversity_assess- ment_2019_FINAL_5Dec2019.pdf |
| Valuing Biodiversity in Life Cycle Impact Assess- ment - the pizza case | Lindner et all | An introduction to using Life cycle assessment for measuring biodiversity impacts | https://www.mdpi.com/2071- 1050/11/20/5628/htm |
| LIFE TECHNICAL GUIDE – 02 - Evaluation of Per- formance in Biodiversity Conservation Actions | Life | Scoring a biodiversity conservation action to prioritize initiatives with greater potential in a shortest time | http://institutolife.org/wp-content/uploads/2018/11/LIFE-BR-TG01-Technical_Guide_01-3.2-English.pdf |
| LIFE TECHNICAL GUIDE - 01 - Measuring the Biodiversity Pressure Index and definition of Biodiversity Minimum Performance | Life | A guide in the elaboration of Action Plan for Biodiversity through a hierarchy of priority and effective actions | https://institutolife.org/wp-content/uploads/2021/02/LIFE-EU-TG02-Technical_Guide_02-00-English.pdf |

| Title | Author | Driver Summary | Link |
|---|---|--|---|
| Global Biodiversity Score | CDC Biodiver- sity | The Globio Model : measuring a com- pany's biodiversity footprint with an LCA based index built on pressures | https://www.globio.info/glob- al-biodiversity-score |
| Biodiversity indicators for site-based impacts and aggregated approach for assessing corporate biodiversity performance - Methodology V3.2 | UNEP | An approach to screen sites with high significance regarding biodiversity impacts based on sensitivity and pressure | https://www.unep-wcmc. org/system/comfy/cms/files/ files/000/001/771/original/ Biodiversity_Indicators_for_Site- based_Impacts_Methodology_ V3.2_%281%29.pdf |
| Improving nature's visibility in financial accounting | Capitals Coalition | Biodiversity financial accounting | https://naturalcapitalcoa- lition.org/wp-content/up- loads/2020/04/NatCap_VisFinAc- count_final_20200428.pdf |
| Deforestation and forest degradation | IUCN | An introduction to global deforestation | https://www.iucn.org/resourc- es/issues-briefs/deforesta- tion-and-forest-degradation |
| The High Conservation Value Forest Toolkit | Proforest | A guidance on how to take the defi- nition of "High Conservation Value Forest" and develop specific interpreta- tions for a particular country or region. | https://www.parliament.tas.gov. au/CTEE/Council/Submissions/ Sub%201.21-%20TEA%20at- tach%2019.pdf |
| Common Guidance for the Identification of HCV | HCV Resource- network | A guidance to identify High Conservation Value forests via understanding Species diversity / Landscape-level ecosystems and mosaics / Ecosystems and habitats/Ecosystem services / Community needs / Cultural values | https://hcvnetwork.org/library/ common-guidance-for-the-identi- fication-of-high-conservation-val- ues/ |
| World Database of Key Biodiversity Areas | IUCN | The entry point to initiatives identifying Key biodiversity areas | https://www.iucn.org/resources/ conservation-tools/world-data- base-of-key-biodiversity-areas |
| A Global Standard for the Identification of Key Biodiver- sity Areas | IUCN | A guidance to harmonise existing approaches by institutions identifying key biodiversity areas, ensuring the identification is objective, transparent and rigorous through application of quantitative thresholds | https://portals.iucn.org/ library/sites/library/files/docu- ments/2016-048.pdf |
| Discover the world's protected areas | Integrated Biodiversity As- sessment Tool (IBAT) | Lists and map of protected areas country by country | https://www.protectedplanet. net/en/search-areas?geo_ type=country |
| IUCN Red List of Ecosystems | IUCN | Tools to classify the conservation status of ecosystems, based on scientific criteria of the risk of ecosystem collapse (Collapsed, Critically Endangered, Vulnerable, Near Threatened. | https://iucnrle.org/blog/first- ever-global-catalogue-of-ecosys- tems-by-the-iucn/ |
| Biodiversity and Ecosystem Services A business case for re/insurance | Swiss Re Institute | A Biodiversity Ecosystem Services Index aimed at providing a comparative geographical view by aggregating ten service categories | https://www.swissre.com/dam/ jcr:a7fe3dca-c4d6-403b-961c- 9fab1b2f0455/swiss-re-insti- tute-expertise-publication-biodi- versity-and-ecosystem-services. pdf |
| IUCN's views on the proposed European Biodiversity Strat- egy to 2030 launched jointly with the European Farm to Fork Strategy on 20 May 2020 | IUCN | IUCN's views on the European Biodiversity Strategy to 2030 | https://www.iucn.org/sites/dev/files/content/documents/2020/iucn_europe_reaction_to_the_eu_biodiversity_strategy_to_2030.pdf |
| Introduction to the EU Tax- onomy on Biodiversity and Ecosystems | Forum Ökologisch- Soziale Mark- twirtschaft | An introduction to the EU Taxonomy | https://www.nabu.de/imperia/ md/content/nabude/sustainable- finance/210412_nabu_taxono- my_biodiversity-and-ecosystems. pdf |

| Title | Author | Driver Summary | Link |
|--|--|---|--|
| Materiality in corporate reporting | WBCSD | An insight into how materiality facilitates the exchange environmental, social and governance information between companies in the food and agriculture sector and investors | https://www.wbcsd.org/Programs/ Redefining-Value/Resources/A- White-Paper-focusing-on-the-food- and-agriculture-sector |
| The Agrobiodiversity Index Methodology Report v.1.0 | Biodiversity Inter- national | An approach to obtain an Agrobiodiversity Index that would measures progress in using and safeguarding agrobiodiversity to create sustainable food systems. | https://cgspace.cgiar.org/han-dle/10568/106478 |
| Indicators of biodiversity and ecological services | World Resources Institute (WRI) | The WRI defines and monitors asustainability of indicators to characterize forest sustainbility | https://research.wri.org/gfr/ indicators-monitoring-global-for- est-trends/indicators-biodiversi- ty-and-ecological-services/biodiver- sity-conservation |
| European forest ecosystems - State and trends | EEA | Report on facts and figures about Europen forests and their man- agement | https://www.eea.europa.eu/publications/european-forest-ecosystems |
| Habitat fragmentation and biodiversity conservation: key findings and future challenges | Wilson et all. | A brief insight into the relation- ship between land fragmentation and biodiversity | https://link.springer.com/arti- cle/10.1007/s10980-015-0312-3 |
| The Globio Model, The Global Biodiversity Score: measuring a company's biodiversity footprint with an LCA based index built on pressures | PBL Netherlands Environmental Assessment Agency | LCA-based meaurement of pressures | https://www.globio.info/glo- bio-3-5-technical-model-description |
| Global guidance on environ- mental life cycle impact assessment indicators (GLAM) | UNEP-GLAM (Life Cycle Initiative) | A website under the UN Environmental Programme aimed at enhancing global consensus on life cycle impact assessment indicators, generating tangible and practical recommendations for different environmental indicators and characterization factors used in Life Cycle Impact Assessments (LCIA) | https://eplca.jrc.ec.europa.eu/glam. html |
| Agriculture and overharvest- ing are still the main drivers of species loss | IUCN | Exploitation of ecosystems | https://tabledebates.org/re- search-library/agriculture-and-over- harvesting-are-still-main-driv- ers-species-loss |
| IUCN Red List of Threatened Species | IUCN | The world's most comprehensive information source on the global conservation status of animal, fungi and plant species | https://www.iucn.org/resources/ conservation-tools/iucn-red-list- threatened-species |
| Science-Based Targets for Nature Initial Guidance for Business - Executive Summary | SBT network | Biodiversity materiality assess- ment | https://sciencebasedtargets- network.org/wp-content/up- loads/2021/03/SBTN-Initial-Guid- ance-executive-summary.pdf |
| Science-Based Targets for Nature Initial Guidance for Business | SBT network | A very pragmatic guidance on how a company can identify its biodiversity issues | https://sciencebasedtargets- network.org/wp-content/up- loads/2021/03/SBTN-Initial-Guid- ance-executive-summary.pdf |
| Pure Strategies Self-Assess- ment Tool on Science-Based Targets for Nature - Product Sustainability Program assess- ment | The Food Industry Association | High-level assessment of com- pany Biodiversity strategy in 10 questions | https://purestrategies.com/sbtn- tool |

| Title | Author | Driver Summary | Link |
|---|-------------------------------------|---|---|
| Quantis Ecosystem Analytics (QEA) | Quantis | Tool Pressures | https://quantis-intl.com/report/ ecosystem-analytiqs-the-quan- tis-biodiversity-methodology/ |
| Assessment of biodiversity measurement approaches for businesses and financial institutions | EU Commission | A methodology for companies to measure and analyze the biodiversity impacts of their business, based "pressures and life cycle assessment methodologies, enabling the quantification of company-driven biodiversity loss. | https://ec.europa.eu/environ- ment/biodiversity/business/ assets/pdf/European_B@B_plat- form_report_biodiversity_assess- ment_2019_FINAL_5Dec2019. pdf |
| Common ground in biodiversity footprint methodologies for the financial sector | ASN Bank - CDC Biodiver- sity | A document explaining biodiversity foot-printing for financial institutions | https://www.asnbank.nl/web/ file?uuid=b71cf717-b0a6-47b0- 8b96-47b6aefd2a07&own- er=6916ad14-918d-4ea8-80ac- f71f0ff1928e&contentid=2412 |
| WWF Water risk filter | WWF | Maps of different water risks and at different geographical scales from global to local | https://waterriskfilter.org/ |
| Aqueduct water risk frame- work | WRI | A global database and interactive mapping tool that provides information on water-related risks worldwide, based on 12 indicators, to inform stakeholders about geographic exposure to water-related risks. | http://pdf.wri.org/aqueduct_wa- ter_risk_framework.pdf |



FOR MORE INFORMATION

Contact Emma Van Zundert Project Manager CSR Europe

Contact Pierre Coërs Sustainability Advisor

ABOUT CSR EUROPE

CSR Europe is the leading European business network for Corporate Sustainability and Responsibility.

With our corporate members, National Partner Organisations (NPOs), and Associated Partners, we unite, inspire & support over 10,000 enterprises at local, European and global level.

We support businesses & industry sectors in their transformation and collaboration towards practical solutions and sustainable growth. We are for systemic change. Following the SDGs, we want to co-build with the European leaders and stakeholders an overarching strategy for a Sustainable Europe 2030.



A special thank you goes to the members of the Collaborative Platfrom Biodiversity and Industry:



















