INTEGRATING BIODIVERSITY INTO NATURAL CAPITAL ASSESSMENTS

Scoping Guidance

Part of a series of Biodiversity Guidance to accompany the Natural Capital Protocol

CAPITALS COALITION

CambridgeConservationInitiative

Key messages

- Identifying the Business Application and relevant stakeholders can help articulate a clear objective for a biodiversity-inclusive natural capital assessment.
- Identifying biodiversity-related impact drivers and dependencies requires further technical considerations as part of setting baselines and the spatial, temporal, and value-chain boundary of an assessment.
- Traditional approaches for defining materiality may not capture all biodiversity risks and opportunities—the values of biodiversity may be hidden when focusing solely on the flow of goods and services.

SCOPE STAGE

What is the Scope Stage?

The **Scoping Guidance** describes how to set and incorporate biodiversity-inclusive objectives and define the scope of your assessment. This includes aligning **natural capital** assessments with existing corporate biodiversity commitments or policies, and outlining key technical considerations when defining the scope of an assessment that considers biodiversity. Building on the **Framing Guidance**, this document relates to Steps 02–04 of the Natural Capital Protocol and introduces further guidance that has been developed as part of this series on measurement, valuation, and application.

What additional biodiversity guidance is provided for the Scope Stage?

Table S.1 provides an overview of the questions and actions of Steps 02–04, the Scope Stage in the Protocol, indicating the actions for which the **Scoping Guidance** provides additional information.

This Guidance has been developed to address questions related to setting objectives and scope that specifically focus on biodiversity:

Step 02: How can biodiversity **objectives** be set as part of a natural capital assessment?

Step 03: What is an appropriate **scope** to meet my biodiversity objectives and what key technical issues need to be considered?

Step 04: How can the **materiality** of biodiversity-related **impact drivers** and **dependencies** be assessed?

Table S.1:
Key questions addressed and their relation to the Natural Capital Protocol

Protocol Step	Questions this Step will answer	Protocol actions	Additional guidance included?
02 Define the objective	**How can biodiversity objectives be set as part of my natural capital assessment?**	2.2.1 Identify the target audience	**No** Refer to Protocol page 26 for guidance
		2.2.2 Identify stakeholders and the appropriate level of engagement	**Yes** See action 2.2.2
		2.2.3 Articulate the objective of your assessment	**Yes** See action 2.2.3

Protocol Step	Questions this Step will answer	Protocol actions	Additional guidance included?
03 Scope the assessment	**What is an appropriate scope to meet my biodiversity objectives and what key technical issues need to be considered?**	3.2.1 Determine the organizational focus	**Yes** See action 3.2.1
		3.2.2 Determine the value-chain boundary	**Yes** See action 3.2.2
		3.2.3 Specify whose value perspective	**Yes** See action 3.2.3
		3.2.4 Decide on assessing impacts and/or dependencies	**Yes** See action 3.2.4
		3.2.5 Decide which types of value you will consider	**Yes** See action 3.2.5
		3.2.6 Consider other technical issues (baselines, boundaries, and time horizons)	**Yes** See action 3.2.6
		3.2.7 Address key planning issues	**No** Refer to Protocol page 41 for guidance
04 Determine the impacts/ dependencies	**How can the materiality of biodiversity-related impact drivers and dependencies be assessed?**	4.2.1 List potentially material impacts/dependencies	**Yes** See action 4.2.1
		4.2.2 Identify criteria for your materiality assessment	**Yes** See action 4.2.2
		4.2.3 Gather relevant information	**No** Refer to Protocol page 49 for guidance
		4.2.4 Complete the materiality assessment	**No** Refer to Protocol page 50 for guidance

Additional notes

Table S.2 provides a non-exhaustive list summarizing some additional resources to aid in setting the objectives and scope and illustrates how these resources may be useful for your assessment.

Table S.2
Additional resources for setting the objective and scope of a biodiversity-inclusive assessment

Author	Title (Year)	Type	Description
Business for Nature	Businesses' commitments for nature (n.d.)	Webpage	List of international commitments that are relevant for reversing nature loss.
act4nature	Examples of commitments made by companies to integrate biodiversity into their business activities (n.d.)	Database	Individual commitments made by companies to integrate biodiversity in their operations.
Endangered Wildlife Trust	Step 5: Decide how to deal with biodiversity dependencies and impacts of your business (in development)	Report	Part of a larger series of guidelines (Biodiversity Disclosure Protocol) to help businesses disclose their biodiversity performance in a standardized and comparable manner. Step 5, specifically, focuses on setting the scope and ambition of the biodiversity policy of the business.
EU Business @ Biodiversity Platform	Assessment of biodiversity accounting approaches for businesses and financial institutions. Update Report 1 (2018)	Report	The first of a series of update reports assessing biodiversity measurement approaches for businesses and financial institutions. Includes discussion on Business Applications for biodiversity-inclusive assessments.
Cross-Sector Biodiversity Initiative	A cross-sector guide for implementing the mitigation hierarchy (2015)	Report	Describes practical steps to implement the mitigation hierarchy at the site level, to achieve no net loss or net gain targets.
IUCN	The development and use of biodiversity indicators in business: an overview (2018)	Report	Outlines prominent scopes for Business Applications for biodiversity indicators, which range from site-level to corporate-level assessment of biodiversity performance, through to third-party biodiversity performance assessment.
IUCN	Threats classification scheme (n.d.)	Database	Hierarchical breakdown detailing the drivers of species decline. Aids in articulating impact pathways.
UNEP-WCMC	ENCORE (Exploring Natural Capital Opportunities and Risk Exposure) (n.d.)	Decision-support tool	Online platform that aids in exploring the impacts and dependencies of businesses on natural capital and ecosystem services.

02 Step 02 Guidance: Define the objective

2.2.1 Identify the target audience

FOR THIS ACTION, REFER TO THE PROTOCOL PAGE 26 FOR GENERAL GUIDANCE.

2.2.2 Identify stakeholders and the appropriate level of engagement

Your assessment is likely to be more relevant, reliable, and useful in the longer term if you are able to consult and involve the right internal and external stakeholders from the outset. You should consider whether the relevant stakeholders vary when specifically including biodiversity. For example, certain external stakeholders may have specific dependencies on biodiversity (e.g., fishers, farmers). Other examples include regulators who may be responsible for managing biodiversity impacts, financial institutions who may be looking to understand the biodiversity-related impacts and dependencies of their loans or portfolios, and civil society organizations/experts who can help provide information to help undertake and verify your assessment.

REFER TO THE PROTOCOL PAGE 27 FOR FURTHER DETAILS ON STAKEHOLDER IDENTIFICATION.

2.2.3 Articulate the objective of your assessment

Once the biodiversity-inclusive Business Application, target audience, and relevant stakeholders have been identified, you should proceed to articulate the specific biodiversity objectives for the assessment. Some examples are provided in table 2.1.

Table 2.1
Example objectives for a biodiversity-inclusive natural capital assessment which could be developed after selecting the Business Application and identifying the target audience.

Example Business Application from Aligning Measures (EU Business @ Biodiversity Platform 2019)	Example target audience	Example objective
Assessment of current biodiversity performance (BA1)	Internal stakeholders (e.g., environment/ sustainability manager) External regulators (e.g., statutory conservation body)	To assess site-based impacts on biodiversity
Tracking progress to targets (BA3)	Internal operations department External stakeholders (e.g., NGOs, scientific community, customers)	To demonstrate to stakeholders compliance with no net loss biodiversity objectives at the site level
Comparing options (BA4)	Internal procurement teams (e.g., supply chain manager) External stakeholders (e.g., affected communities, indigenous people, farmers/ fishers)	To assess which procurement option has the highest dependence on biodiversity
Assessment/rating of biodiversity performance by third parties, using external data (BA5)	Internal stakeholders (e.g., environmental and social governance teams, higher-level management) External stakeholders (e.g., rating agencies and certification bodies)	To demonstrate whether the company meets certification requirements for acceptable biodiversity performance
Screening and assessment of biodiversity risks and opportunities (BA7)	Internal operations department (e.g., risk officers) External regulators (e.g., statutory conservation bodies)	To assess risk exposure of business operations to risks associated with biodiversity loss

03 Step 03 Guidance: Scope the assessment

3.2.1 Determine the organizational focus

FOR THIS ACTION, REFER TO THE PROTOCOL PAGE 31 FOR GENERAL GUIDANCE

For financial institutions, assessments can be conducted at one of two levels, either individual entity (this may be a single organization, project, activity, or asset) or portfolio (this may be your full portfolio or a subset by asset class or region).

Risks can combine to become significant at portfolio level even if they appear to be of lesser importance at an individual entity level. For example, financial institutions might find that they have significant exposure to biodiversity-related risks because of their aggregated exposure to specific geographies, sectors, or markets, even if these were not identified as significant risks at the individual entity level. Equally, biodiversity may not aggregate into significant impacts/dependencies at portfolio level but could be high-risk considerations within a sector or geographically-specific asset group.

Your choice of organizational focus has implications in terms of the resources you will need to conduct the assessment, especially knowledge, data, time, and skills.

3.2.2 Determine the value-chain boundary

When incorporating biodiversity as part of your natural capital assessment, you should note that many dependencies often lie in the supply chain (i.e., upstream in the value chain). For example, in the food industry crop production supplies the raw materials to make food products, and may be reliant on pollination and nutrient cycling—key ecosystem services supported through biodiverse ecosystems.

Downstream stages of the value chain may represent a significant portion of a business's impacts on biodiversity. For example, a company manufacturing plastic products should also consider its downstream impacts since mismanaged waste (plastic that is not properly disposed of) can end up in rivers, lakes, and oceans, affecting freshwater/marine biodiversity.

REFER TO THE PROTOCOL PAGE 32 FOR KEY CONSIDERATIONS WHEN SELECTING YOUR VALUE-CHAIN BOUNDARY.

3.2.3 Specify whose value perspective

The **value perspective** for a biodiversity-inclusive assessment may vary. As outlined in page 33 of the Protocol, you can carry out natural capital assessments from a **business value perspective**, a **societal value perspective**, or both.

Business and societal value perspectives focus on different aspects of biodiversity's value. Depending on the value perspective that you choose, you will be assessing different aspects of your relationship with biodiversity:

- By choosing a **business value perspective**, you will primarily be assessing:
  1) Consequences of your dependencies on biodiversity (e.g., financial implications for your business of decrease in pollination services);
  2) Consequences of your impacts on biodiversity for your own operations and performance (e.g., reputational damage due to your impacts on biodiversity, or social license to operate and other legal, operational, or reputational risks).
- By choosing a **societal value perspective**, you will primarily be assessing:
  1) Consequences of your biodiversity impacts on society (e.g., loss of earning by fishers affected by an oil spill from your company; depleting coastal fish stocks within a reef community, causing a downturn in tourism revenue).

Glossary :

Value
The importance, worth, or usefulness of something.

Value perspective
The perspective or point of view from which value is assessed; this determines which costs or benefits are included in an assessment.

Business value
The costs and benefits to business, also referred to as internal, private, financial, or shareholder value.

Societal value
The costs and benefits to wider society, also referred to as external, public, or stakeholder value (or externalities).

Definitions are taken from the Natural Capital Protocol (2016). Additional guidance on the different values (direct, underpinning, insurance and options, intrinsic) is provided in **Framing Guidance** action 1.2.1 under "What are the values of biodiversity?".

Since ecosystems deliver both societal values and business values, choosing to adopt only a business value perspective can make it difficult to anticipate how broader societal impacts will affect business operations. Adding a societal perspective allows a company to better understand potential biodiversity issues for society as a whole that may be caused by the company's activities. Such issues can create a societal response that affects business performance, now or in the future. The consequences of your impacts on biodiversity are likely to pose important business risks and opportunities linked to your societal relationships (see the **Framing Guidance** for more information). A more comprehensive assessment may also give you insights that help in gaining preferential access to resources or financing and build better relationships with stakeholders. Looking at business value in the context of societal values provides a more comprehensive view of the relationship between your business and biodiversity than a purely business value perspective. You are therefore encouraged to consider both value perspectives in your assessment.

Even where many consequences related to a value are captured, you may still underappreciate some values. The intrinsic value of biodiversity is not captured from either a business or a societal value perspective. It is therefore important to keep in mind that values are likely to be minimum estimates when examining the results of any valuation assessment.

Click here to see how a sustainable landscape fund and an infrastructure company are enhancing biodiversity as a result of a valuation assessment.

3.2.4 Decide on assessing impacts and/or dependencies

Due to the relationship between biodiversity and the quantity, quality, and resilience of ecosystem services, it is recommended that the scope of a biodiversity-inclusive natural capital assessment seeks to evaluate business dependencies on biodiversity, as well as impacts.

When deciding whether an assessment should include impacts on biodiversity it is important to bear in mind that impacts along the value chain may be **direct**, **indirect**, and **cumulative**, and to consider how this may affect the scope of the assessment. Cumulative impacts refer to "the total impact arising from the project (under the control of the developers), other activities (that may be under the control of the others, including other developers, local communities, government) and other background pressures and trends which may be unregulated" (BBOP 2012). For example, the construction of one road may not have a large impact in a landscape, but multiple roads over the wider landscape may reduce habitat connectivity. Similarly, impacts can accumulate over time, so that relatively small impacts of each subsequent activity can add up to a large overall impact.

To understand and measure cumulative impacts from a biodiversity perspective, a key challenge is addressing the need for data on a landscape/population scale. Spatially explicit data, specifically the need for high-resolution data on habitats, human uses, and stressors, are especially critical in cumulative impact assessments (Halpern and Fujita 2013). However, due to significant data gaps on habitats, human uses, and stressors, it can be difficult to fully understand and measure the cumulative impacts. Additionally, the ecosystem response to cumulative impacts and the different thresholds of habitats and biodiversity features is poorly understood and it can be particularly difficult to measure these effects (Halpern and Fujita 2013).

REFER TO FRAMING GUIDANCE ACTION 1.2.2 AND PAGE 34 OF THE PROTOCOL FOR MORE INFORMATION ON THE IMPORTANCE OF ASSESSING BIODIVERSITY IMPACTS AND DEPENDENCIES.

3.2.5 Decide which types of value you will consider

The Protocol outlines how valuation involves a continuum of **qualitative**, **quantitative**, and **monetary** approaches, and describes key features of each approach. It also suggests key considerations when determining which type of valuation is most appropriate to meet your objectives. Valuing natural capital often involves valuing the final benefits that people/businesses receive from natural capital. If biodiversity contributes to these final benefits, but is not explicitly considered as part of them, its contribution or necessity may not be visible in your assessment. It is important to assess how identified benefits rely on the underlying biodiversity stock, and ensure the ramifications for maintaining the condition of biodiversity are considered alongside valuation results. If biodiversity is not visible or not captured in your valuation process, its importance can be underappreciated. Your organization will not have a full picture of how risks and opportunities can manifest and may therefore make decisions based on incomplete information (for more information see **Framing Guidance** action 1.2.1 on "Why are some of these values often underappreciated in natural capital assessments?").

Before proceeding with your valuation, you should be aware of, and find ways to address, potential concerns that generate opposition to valuing biodiversity, especially in monetary units. Concerns may include, but will not be limited to, fears around the "commodification" of nature and the risk that bringing nature closer to the economic system will detract from societal responsibilities to protect biodiversity. You should also recognize that it is both inappropriate and impossible to accurately quantify the intrinsic worth of biodiversity in monetary units, and you should find alternative ways to consider biodiversity's intrinsic value in your decision-making. It is important that you present the approach taken, the aspects of biodiversity's value included, and the assumptions made clearly alongside your results. This will help to avoid a well-intended assessment from being taken out of context or otherwise misunderstood.

Monetary valuation can be used to understand the magnitude and relevance of costs and benefits associated with your impacts and dependencies on biodiversity. Monetary valuation summarizes information in a common and tractable unit, making it easier for you to communicate with key stakeholders and assess trade-offs.

Before undertaking monetary valuation however, you should consider whether this is the appropriate approach. In the following circumstances you should not use monetary techniques (adapted from TEEB 2010):

1) When you cannot estimate accurate values;

2) When it can be considered morally inappropriate (e.g., placing a monetary value on an intrinsically/culturally valuable area to the surrounding communities) (Synder et al. 2003);

3) When a large-scale change in biodiversity is taking place (e.g., when a large proportion of a remaining population or habitat is affected);

4) When an irreversible change is expected.

Other factors that you should consider when deciding whether to use a monetary technique include the nature of your decision, the target audience, and the availability of data to support conversion to monetary units. Qualitative and quantitative techniques can be applied to values that cannot be assessed with monetary techniques.

For further information about qualitative, quantitative, and monetary valuation approaches, see **Measuring and Valuing Guidance** action 7.2.3.

3.2.6 Consider other technical issues

a. Baselines
One key consideration for all natural capital assessment is **baselines** (defined in the Protocol as the starting point or benchmark against which changes in natural capital attributed to your business's activities can be compared). In addition to those covered in the Protocol, some additional considerations related to biodiversity include:

- **Prevailing conditions** where impacts in a year are compared to the average over previous years. A prevailing conditions baseline may be particularly appropriate if the objective is reducing the biodiversity impact of the whole business, where comparing to the last financial year could be an appropriate baseline. Using prevailing conditions as a baseline however may make it challenging to take into consideration the impacts of activities already occurring in the land/seascape.
- **Pristine baseline** where impacts are measured relative to biodiversity in its natural state. Pristine baselines have the advantage of making impacts easy to conceptualize, and encourage restorative actions. Most business activities are likely to be negatively impacting biodiversity when comparing to a pristine state. Some measurement approaches use a pristine, undisturbed state as a baseline. Further guidance on measurement approaches is provided in the **Measuring and Valuing Guidance**.

- The **counterfactual scenario** describes changes relative to a plausible state of biodiversity that would occur if the business did not operate (referred to as a "business as usual" scenario in the Protocol). The use of counterfactual scenarios can greatly affect the assessment of impacts during your assessment (Sonter et al. 2017). Biodiversity may change or decline over time independently of the business activity being assessed, and this state of decline is used as the counterfactual scenario. Climate change, for example, may force species to shift their ranges. If a counterfactual scenario represents an area of substantial biodiversity loss, then business impacts may be assessed as relatively lower (i.e., less biodiversity loss is attributed to the business activity), or alternatively biodiversity affected by the business operation could be deemed more valuable with time (e.g. sustainable management of degraded lands to improve biodiversity values). If the counterfactual scenario represents an area of stable, or increasing biodiversity, then business impacts may be assessed as relatively larger (i.e., more biodiversity loss is attributed to the business activity).

b. Spatial and temporal boundaries
Including biodiversity influences the spatial and temporal boundary of your assessment; it is likely that broader geographical and temporal boundaries will be needed for a biodiversity-inclusive assessment than when focusing on the non-living components of natural capital.

When considering biodiversity, the potential areas of influence can be large, due to, for example, impacts on migratory or wide-ranging species. For financial institutions undertaking portfolio-level assessments or companies with geographically dispersed operations, the potential area of influence may include multiple geographical and temporal boundaries.

The timeframes over which the implications of impacts and dependencies on biodiversity are felt also require further consideration. For example:

- The condition of biodiversity can change over time, influencing the benefits received by business and society in the future. It can be difficult to predict changes in benefits linked to changes in biodiversity, but it is risky to assume that benefits will persist without managing biodiversity. Equally there may be a time-lag between loss of biodiversity and the loss of services, particularly where it is the resilience of the ecosystem that is impacted making it vulnerable to collapse at a later date. Information on trends in biodiversity, and the drivers of its condition, will help you to understand whether it is likely to change.
- Biodiversity management efforts can take time to achieve their desired outcomes. You need go beyond a single snapshot in time, and consider the consequences of changes in the state of biodiversity over time.
- The presence of potential thresholds and tipping points, where minor changes in biodiversity can result in larger changes to the ways ecosystems function. Your timeframe should be appropriate to assess the consequences, and potential irreversibility, of your impacts on biodiversity.

3.2.7 Address key planning issues

FOR THIS ACTION, REFER TO THE PROTOCOL PAGE 41 FOR GENERAL GUIDANCE.

04 Step 04 Guidance: Determine the impacts/dependencies

4.2.1 List potentially material impacts/dependencies

Once you have set the objectives of your assessment and completed your initial scoping actions, you should complete a materiality assessment. Throughout this process, it is important to remember that:

i) The value of biodiversity in providing ecosystem services may be hidden and so may not initially be identified as material to a business.

ii) Impacts on biodiversity affect dependencies (i.e., impacts on biodiversity may also reduce the flow of ecosystem services supporting business operations).

iii) Impacts may appear more material when focusing on societal value as growing concern over biodiversity loss may result in greater regulation and greater consumer pressure.

The first stage of a materiality assessment is to identify impact and dependency pathways, in order to later prioritize which are material. Impact pathways describe how, as a result of a specific business activity, a particular impact driver results in changes in natural capital and how these changes impact different stakeholders. A dependency pathway shows how a particular business activity depends upon a specific component of natural capital. An example for a biodiversity dependency might be a coffee farm's dependence on the pollination of its coffee plants to yield coffee beans (see figure 4.1). This pollination service is reliant on a variety of species and ecosystem processes (e.g., plants supplying nectar supporting the pollinators). In this way, the coffee production process is reliant on habitats rich in biodiversity.

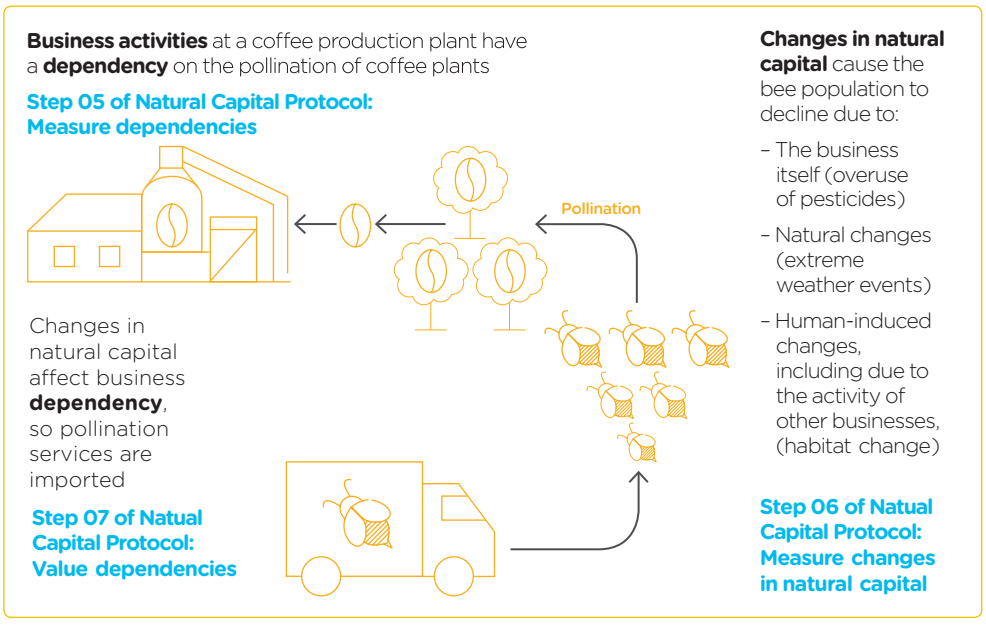

Figure 4.1
Generic steps of a dependency pathway for a coffee plantation dependent on insect pollinators (figure 4.2 from the Natural Capital Protocol)

Similarly, businesses may impact on biodiversity which in turn can affect dependencies. Impact pathways begin with a specific impact driver. An impact driver is a measurable quantity of a natural resource that is used as an input to production, or a measurable non-product output of a business activity. Using pollination for coffee plantations as an example, clearing a measurable area of land (impact driver) for agricultural conversion can reduce the species richness (biodiversity impact) within pollinator-supporting habitats, thereby increasing the risk of reduced crop productivity and disrupting the coffee production process (business value).

4.2.2 Identify criteria for your materiality assessment

After identifying your potential impact and dependency pathways, these should then be prioritized by screening against set criteria to determine materiality. The criteria for assessing materiality may vary when including biodiversity. For example:

- **Operational** – Business operations, in particular upstream operations, may be specifically dependent on biodiversity, as well as on the non-living components of natural capital.
- **Legal and regulatory** – Biodiversity may be managed under a different set of regulations than the non-living components such as water resources.
- **Financing** – Some financial institutions are starting to quantify biodiversity impacts within their risk management processes. This means a company's biodiversity impacts can affect their access to capital.
- **Reputational and marketing** – These criteria may have higher materiality weighting for biodiversity due to the intrinsic value of biodiversity to many stakeholders or customers.
- **Societal** – For biodiversity, societal dependencies are examined through business's impacts that affect delivery of goods and services to society. With the importance of biodiversity being increasingly recognized, unaccounted impacts on society increase your reputational, financial, and regulatory risks and opportunities.

Examples of impact and dependency pathways specifically related to biodiversity are provided in table 4.1 along with their associated materiality criteria. Multiple impact pathways may act together to cause a change in state of biodiversity. For example, vegetation clearing and pollution may act synergistically to reduce the quantity and quality of biodiversity in an area.

Table 4.1
Example material impact and dependency pathways specifically related to biodiversity

	Impact driver/ dependency	Changes to biodiversity	Value to business/ society	Materiality criteria
Impact-input	Area of open cast mine	Reduction in total vegetation cover and structural complexity	Increased damage cost from flood or cost of setting artificial flood protection	Operational/societal
Impact-output	Noise	Declining breeding success of protected species	Abatement costs of mitigation measures required through regulations	Legal and regulatory
Dependency	Pollination of crops	Declining biodiversity in pollinator-supporting habitats	Costs of reduced yields, unpredictable upstream supply and decreased pollination of surrounding habitats (affecting livelihoods of local communities)	Operational/societal

Building up these impact and dependency pathways allows you to map out the impacts and dependencies on biodiversity as part of your natural capital assessment.

Tools have been developed which can aid in the assessment of materiality of your business dependencies and impacts on biodiversity. At present these are restricted to understanding species and habitats and do not represent the variety of species, ecosystems, and genetic diversity, or the intrinsic value of biodiversity. For example, the ENCORE tool (Exploring Natural Capital Opportunities, Risk and Exposure) assessed the importance of the contribution an ecosystem service makes to a production process, and the materiality of the impact if this service is disrupted. Two materiality criteria were considered in the ENCORE analysis: 1) How significant is the loss of functionality in the production process if the ecosystem service is disrupted? and 2) How significant is the financial loss due to the loss of functionality in the production process?

4.2.3 Gather relevant information

FOR THIS ACTION, REFER TO THE PROTOCOL PAGE 49 FOR GENERAL GUIDANCE.

4.2.4 Complete the materiality assessment

FOR THIS ACTION, REFER TO THE PROTOCOL PAGE 50 FOR GENERAL GUIDANCE.

Having set your objectives, scoped your assessment, and identified a prioritized list of material impacts, dependencies, and changes in biodiversity to include in your natural capital assessment, please continue to the **Measuring and Valuing Guidance** to explore how these can be measured.

Case studies

Company example: Finance

A banking group is participating in a finance facility to support projects that generate environmental and social benefits. Valuation of the costs and benefits of biodiversity enhancement has revealed the strong potential for positive impacts, particularly from a societal perspective. This is because of biodiversity's role in underpinning delivery of a broad and resilient range of goods and services to local communities, and its intrinsic and existence values across wider society.

The importance placed on biodiversity has been reflected in the finance facility's transactions. For example, it has provided a bond for a sustainable rubber plantation in a degraded forest. More than half of the concession area will be set aside for restoration and environmental conservation. This is expected to provide benefits for livelihoods of local communities and create a buffer zone for a national park with several large and charismatic species that are Endangered on a global scale.

The private value of the sustainable rubber, combined with public, NGO, and private willingness to invest to restore the wider ecosystem for biodiversity and other ecosystem benefits, allowed for a financing instrument to deliver multiple values of biodiversity to different stakeholders at a landscape scale.

Company example: Infrastructure company

An infrastructure company responsible for improvements to a major highway has used a natural capital approach in assessing the potential impacts of the development. Impacts on Threatened species and habitats have been identified as priority issues, alongside inputs of water, construction materials, and energy.

The company has committed to replace habitats cleared as a result of the project within the landscape. The costs of biodiversity impacts were valued from the perspective of purchasing land and implementing restoration, and the benefits understood from the perspective of societal benefits provided by biodiversity. Examination of expected benefits over time revealed that it would take 15 years for the quality of benefits received from biodiversity to recover to pre-development levels.

Monetary valuation revealed that it was feasible to purchase additional land for restoration, enabling double the area of habitat cleared to be restored. This is expected to allow biodiversity to recover to pre-development levels over a shorter time period, and eventually to result in net gain in biodiversity and the benefits that it provides to society. This decision strengthened support for the development from wider society, assisting the company's planning application.

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