Biodiversity Disclosure in the financial sector: pathways towards compliance

PBAF Guidance note

October 2024

Partnership for Biodiversity Accounting Financials

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Review: PBAF

Preferred quotation: PBAF, ARCADIS, Biodiversity Disclosure in the financial sector: pathways towards compliance, October 2024.

PBAF Partnership for Biodiversity Accounting Financials

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1. Introduction to this guidance note

Biodiversity loss and ecosystem degradation are systemic issues, with direct and indirect effects across global economic and financial systems. As the financial sector is highly exposed to these systemic risks, the European Commission has established a regulatory framework with mandatory requirements for financial institutions on how to deal with these risks and report on performance. Key EU legislative developments that affect financial institutions are the EU Taxonomy, the Sustainable Financial Disclosure Directive (SFDR) and the Corporate Sustainability Reporting Directive (CSRD). A voluntary risk management and disclosure framework which is very relevant for the financial sector is developed by the Taskforce on Nature-related Financial Disclosures (TNFD).

The focus of this guidance note is on biodiversity disclosure. Several biodiversity disclosure frameworks and standards have been published or are under development[1]. Some of them only apply to or include specific guidelines for the finance sector. Despite substantial alignment efforts between emerging biodiversity disclosure frameworks, for most companies it is not evident how these different initiatives relate to each other, to what extent they are overlapping and where differences can be observed.

The aim of this guidance note on "Biodiversity Disclosure for the financial sector: pathways towards compliance", is to clarify the main disclosure requirements, to provide clarity on the data need and to show what impact and dependency assessment tools can be used in the compliance and disclosure process.

Section 2 describes the four disclosure frameworks covered in this guidance note:

- The Corporate Sustainability Reporting Directive CSRD (and its European Sustainability Reporting Standard ESRS E4 on biodiversity and ecosystems).
- The Sustainable Finance Disclosure Regulation (SFDR).
- The French Energy and Climate Law, in particular Art 29 (LEC29).
- The Taskforce on Nature-related Financial Disclosures (TNFD).

SFDR and LEC29 only apply to the finance sector while CSRD and TNFD apply to any sector. Although the TNFD provides a voluntary risk management and disclosure approach, it is included given the high level of alignment with the CSRD environmental standards (e.g. TNFD's LEAP framework is referred in the ESRS[2]) and its relevance for the financial sector.

Next, the data and data needs for compliance are discussed in section 3. This section also covers concerns and questions addressed during the PBAF Regulation Working Group[3].
Finally, section 4 highlights a selection of tools and data sources that can be used to show compliance.

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1 Lammerant J., Vanderheyden G. and Verhelst J. Biodiversity disclosure initiatives, Thematic Report on behalf of the EU Business@Biodiversity Platform, March 2024 (Resources - European Commission (europa.eu))

2 See also the correspondence mapping between TNFD and the ESRS, published 20 June 2024.

3 The PBAF Regulation Working Group facilitates discussion among financial institutions on nature-related regulation and the use of impact and dependency assessment tools.

2. Summary of the biodiversity disclosure initiatives

This section provides a short description of the main regulatory biodiversity disclosure initiatives with high relevance to the financial sector: CSRD, SFDR and LEC29. Furthermore, despite its voluntary character, TNFD is discussed as it is highly relevant for the financial sector and referred to within the ESRS E4. Table 1 provides information on the publication date of each initiative as well as relevant weblinks. Annex 1, at the end of this report, provides a more detailed description of the key characteristics of each initiative.

Table 0-1: Initiatives on corporate biodiversity disclosure discussed in this report.

Initiative	Full name	Type	Publication date	Source
CSRD – ESRS E4	*CSRD*: Corporate Sustainability Reporting Directive *ESRS*: European Sustainability Reporting Standard *E4*: on biodiversity and ecosystems	Regulatory	CSRD: 14 Dec 2022 ESRS E4: 31 July 2023	Corporate sustainability reporting
SFDR	Sustainable Finance Disclosure Regulation	Regulatory	Published 9 December 2019; in application since 10 March 2021	Sustainability-related disclosure in the financial services sector
LEC29	Art 29 of French Law on Energy and Climate	Regulatory	8 November 2019	Act no. 2019-1147
TNFD	Taskforce on Nature related Financial Disclosures	Voluntary	September 2023	tnfd.global

The Corporate Sustainability Reporting Directive (CSRD) and its European Sustainability Reporting Standard on Biodiversity and Ecosystems (ESRS E4)

The CSRD is a European law that requires companies and financial institutions to disclose information on material risks and opportunities arising from social and environmental issues, and on material impacts of their activities on people and the environment. The CSRD is accompanied by European Sustainability Reporting Standards or ESRS. They cover several topics, including Biodiversity and Ecosystems (ESRS E4).

It is important to mention that, according to the ESRS, before proceeding with disclosures under individual topic standards, companies are required to conduct a materiality assessment (e.g. based on stakeholder consultation) to determine their material topics. Based on the outcomes, they need to determine which topic standards to use and what to report for each material topic. So, in principle, finance institutions can decide to consider biodiversity as not material, although this is subject to discussion.

Although the CSRD and its ESRS are mandatory, not all disclosure requirements are obligatory, i.e. for some of them the reporting company is free to disclose information (difference between 'shall' and 'may' disclosure requirements).

The Sustainable Finance Disclosure Regulation (SFDR)

The SFDR is a transparency framework that sets out how financial market participants have to disclose sustainability information. It allows investors to assess how sustainability risks are integrated in the investment decision process.

Article 29 within the French Energy and climate law (LEC29)
Article 29 is adopted within the French Energy and Climate Law (known as LEC). The aim is to strengthen non-financial reporting of financial institutions on the integration of climate criteria and biodiversity in their investment policies. Financial institutions must publish an information report on the risks associated with climate change and biodiversity, in addition to disclosing information on sustainable investments and sustainability risks. It also aligns and completes the requirements of the European framework laid down by the SFDR and the European Taxonomy.

The Taskforce on Nature-related Financial Disclosure (TNFD)
The Taskforce on Nature-related Financial Disclosures (TNFD) helps companies and financial institutions to incorporate nature into their decision making. The TNFD disclosure framework consists of a set of recommended disclosures structured around the four recommendation pillars of 'Governance', 'Strategy', 'Risk and impact management' and 'Metrics & targets'.

3. Towards compliance: data needs for disclosure

3.1 Metrics and data

Biodiversity disclosure requires companies to gather and interpret data on their impacts, dependencies, risks and opportunities related to biodiversity. The financial institution needs to understand how and where its activities throughout its portfolios and financial services interact with biodiversity.

This section identifies data needs and data challenges for disclosure of biodiversity information within the financial sector following the regulation and disclosure frameworks discussed. Section 0 includes challenges mentioned during the PBAF Regulation Working Group meetings and highlighted in existing literature on biodiversity disclosure such as the B&B Platform Thematic report on Biodiversity Disclosure (2024) and the B&B Platform Thematic report on Biodiversity Data (2022).

Data points, indicators and metrics
The information that has to be disclosed is described in so-called disclosure requirements (ESRS, SFDR, LEC29) and disclosure recommendations (TNFD) and is very diverse. Every single type of information that has to be disclosed is covered by the term 'datapoints' ('DPs'). As an example, ESRS E4 has 117 datapoints, 55 of which are obligatory and 62 are voluntary. Some information has to be disclosed by means of indicators or metrics[4]. Indicators and metrics typically require data collection, in some cases facilitated by measurement tools. Other information, such as a list of material impacts and nature-related risks, or a list of priority locations, is not covered by a metric but also requires data collection and supporting tools.

This paper focuses on *disclosure metrics*, because metrics are a cornerstone of a robust nature-related corporate performance and accountability system[5]. They (1) provide businesses with the confidence to set ambitious targets with clarity on how to measure and disclose progress on the actions taken, and (2) serve as a funnel to source the right data needed to guide decision-making and allocate capital to the solutions that bring the greatest progress towards nature positive. However, data needs and supporting tools for other biodiversity-related information will also be described where relevant.

Metrics in the regulatory and voluntary disclosure frameworks
The disclosure frameworks encourage companies to disclose not only a description of their material nature-related issues but also metrics and their performance against these metrics:

- **ESRS E4** requires the disclosure of **metrics related to material impacts** on biodiversity and ecosystems. In some cases, specific metrics are not prescribed, but rather the aspects that relevant metrics could measure. ESRS 1 also includes provisions on the use of entity-specific disclosures "when an undertaking concludes that an impact, risk or opportunity is not covered or not covered with sufficient granularity by ESRS".

- **SFDR** lays down harmonised rules for financial market participants and financial advisers on transparency with regard to the integration of sustainability risks and the consideration of adverse sustainability impacts in their processes and the provision of sustainability related information with respect to financial products. Financial market participants and financial advisers must publish information on how they consider the negative externalities of their

[4] An indicator is a quantitative or qualitative factor or variable that provides a simple and reliable means to measure performance. An indicator can be measured through one or multiple metrics.(TNFD Glossary)

[5] WBCSD Nature Positive Roadmaps

business models, namely the **principal adverse impacts (PAI) of investment decisions** or financial advice on ESG sustainability, or information explaining why they consider there to be no such negative impact. Some of the Principal Adverse indicators and additional indicators cover disclosure metrics which are related to biodiversity.

- **Article 29 of LEC** includes the use of a **biodiversity footprint indicator** (covering the whole value chain of the financial institution and in particular its downstream activities which are its financial services) and, where applicable, how this indicator is used to measure compliance with international biodiversity targets. Financial institutions are obliged to select and apply a biodiversity footprinting method, which is unique compared to the other biodiversity-related disclosure initiatives. No other metrics are required.

- **TNFD** requires an organisation to disclose the **indicators and metrics used to measure and manage** the material nature-related risks and opportunities (described in Strategy A) and the **material impacts and dependencies** (described in Strategy B). To achieve this, an organisation should disclose the metrics that are most relevant to the organisation and most accurately represent the nature-related risks and opportunities, as well as the nature-related dependencies and impacts on which it is reporting.

The disclosure frameworks have **varying levels of flexibility in the choice of metrics** that are required or recommended to disclose. Some metrics are well prescribed and uniform for all reporting organizations. For others, there is flexibility to select own metrics, as long as they align with the necessary qualitative characteristics of information. For example, ESRS defines these characteristics in their 'Appendix B on Qualitative characteristics of information' which covers relevance, faithful presentation, comparability, verifiability and understandability.

TNFD metrics
TNFD developed specific principles related to metrics. Metrics should be:

- ✓ Science-based and provide insights into the consequences of business and finance activities.
- ✓ Be sensitive enough to reflect change on an annual basis.
- ✓ Relevant to the business model and value chain of report preparers, recognising that issues within sectors, business models and value chains can vary significantly.
- ✓ Proportionate, reflecting the practical capacity and cost constraints of report preparers to assemble, assess and report information on an annual reporting cycle basis.
- ✓ Decision-useful to the primary users of corporate sustainability reports, including providing current insights and comparability within and across sectors.
- ✓ Subjectable to independent limited assurance in the medium term.
- ✓ Aligned to global and national policy goals and targets, such as the indicators and metrics in the GBF measurement framework and other international treaties.

TNFD has developed a specific **metrics architecture** (see ANNEX 2 on TNFD's metrics architecture) which includes *assessment* and *disclosure metrics*. 14 core disclosure metrics are to be disclosed on a 'comply or explain'-basis for all companies looking to report in line with the TNFD recommendations. In addition, TNFD developed sector-specific *core disclosure metrics* for specific sectors and biomes. Furthermore, these are complemented with an extensive list of *additional disclosure metrics*. Organizations should disclose these additional disclosure metrics where relevant, to best represent their material nature-related issues. For financial institutions, TNFD's core sector disclosure metrics are grouped per exposure category: exposure to sectors and exposure to sensitive locations.

ESRS E4 metrics
Companies reporting against ESRS E4 on biodiversity and ecosystems are required to disclose two specific metrics: (1) the number and (2) the area size (in hectares) of sites owned, leased, or managed in or near biodiversity sensitive areas that the company is negatively affecting. For other biodiversity and ecosystem subtopics identified as material, ESRS E4 offers companies the flexibility to choose their own metrics but provides specific recommendations regarding the elements these metrics should cover.

SFDR metrics
The SFDR core indicator 'areas negatively affecting biodiversity sensitive areas' is quite similar to the ESRS E4 mandatory metric with a similar definition for biodiversity sensitive areas. The TNFD additional guidance for financial institutions includes a cross-reference table between the SFDR PAI metrics and the proposed sector metrics by TNFD. While the SFDR disclosure requirements at entity level are overlapping with those of ESRS and TNFD (although less detailed and therefore less demanding), the transparency requirements on financial products are specific to SFDR.

Financial effects of nature-related risks and opportunities
Regarding financial effects of nature-related risks and opportunities, TNFD requires organizations to disclose the current and anticipated financial effects of their material risks and opportunities on their financial position, financial performance and cash flows. TNFD has developed extensive guidance in its LEAP approach.

3.2 Overview of biodiversity disclosure metrics and tools

Introduction
In this section, an overview is provided of the disclosure metrics relevant to the financial sector, required by CSRD – ESRS E4, the SFDR, TNFD and the TNDF additional sector guidance for financial institutions. The overview is split by the different 'biodiversity data categories', which require the use of different tools and data to show compliance. These biodiversity data categories are:

A. Proximity to biodiversity sensitive areas
B. Drivers of biodiversity loss
    B1. Land and sea use change
    B2. Overexploitation
    B3. Invasive alien species
C. State of biodiversity
    C1. Ecosystem extent and condition
    C2. Species
D. Ecosystem services
E. Responses

The overview has been adapted from the metrics table in the B&B Platform's Thematic Report on Biodiversity Disclosure. LEC29 is not included as only one metric is required, i.e. a corporate-level biodiversity footprint.

The overview also includes a selection of useful tools that can be applied for data gathering to support the disclosure metrics. Note that, given the broad range of financial activities (ranging from project level finance to sovereigns and corporates), the data needs and supporting tools can be very different.

Please note that:

- Absence of specific metrics in one of the biodiversity data categories, does not automatically mean that there are no disclosure requirements in this category. For example, ESRS E4 does not provide disclosure metrics on ecosystem services but has specific disclosure requirements on ecosystem services[6].
- It is important to realise that the current version of ESRS E4 only asks for metrics' information to be disclosed for own operations (paragraph 37 of ESRS E4), while TNFD requires metrics information for the organisation's direct operations, and – to the extent possible – upstream and downstream value chain(s). But again, this does not mean that under ESRS E4 no information on upstream or downstream needs to be disclosed, either by means of entity-specific metrics or in other ways.
- Metrics related to drivers of biodiversity loss which are covered in other ESRS topical standards (climate change, pollution, overexploitation) are not included in table 3.
- In 2024, TNFD and EFRAG published a correspondence mapping between the ESRS and TNFD's recommended disclosures and metrics, illustrating the similarities and differences in more detail[7].

And:

- The ESRS E4 metrics are based on EFRAG list of datapoints related to E4-5.
- For the TNFD metrics a distinction is made between Core indicator (C), Placeholder indicator (P), Additional indicator (A), Metric (M), Example metric (EM) and Guidance (G). More information on these terms is provided in Annex 2.
- The TNFD sector metrics for Financial institutions is based on the Financial sector guidance version 1.0 September 2023.
- Metrics are listed according to their numbering in the regulation/disclosure initiative.
- The overview of tools and data is a *non-exhaustive list.*

Overview of metrics and tools

A. Proximity to biodiversity sensitive areas

Regulation / Disclosure	**Metrics** Mandatory metrics are marked with a bold **MM**
CSRD ESRS E4	**MM**: Number of sites owned, leased or managed in or near protected areas or key biodiversity areas that undertaking is negatively affecting (DR E4-5 ref 35)
	MM: Area of sites owned, leased or managed in or near protected areas or key biodiversity areas that undertaking is negatively affecting (DR E4-5 ref 35)
SFDR RTS	**MM**: Share of investments in investee companies with sites/operations located in or near to biodiversity-sensitive areas where activities of those investee companies negatively affect those areas (SFDR core indicator RTS Metric)
	Share of investments in investee companies without a biodiversity protection policy covering operational sites owned, leased, managed in, or

6 Ecosystem services disclosure requirements in ESRS E4 are included in paragraph 17, AR 4 and AR 8

7 See the correspondence mapping between TNFD and the ESRS, published 20 June 2024.

	adjacent to a protected area or an area of high biodiversity value outside protected areas (SFDR additional indicator)
TNFD	Although screening of proximity of locations to biodiversity sensitive areas is key within TNFD, a specific disclosure indicator or metric is not provided. Strategy D: "Disclose the locations of assets and/or activities in the organisation's direct operations and, where possible, upstream and downstream value chain(s) that meet the criteria for **priority locations**." Priority locations are locations that are: **Material locations:** Locations where an organisation has identified material nature-related dependencies, impacts, risks and opportunities in its direct operations and upstream and downstream value chain(s); and/or: **Sensitive locations:** Locations where the assets and/or activities in its direct operations – and, where possible, upstream and downstream value chain(s) – interface with nature in: • Areas important for biodiversity; and/or • Areas of high ecosystem integrity; and/or • Areas of rapid decline in ecosystem integrity; and/or • Areas of high physical water risks; and/or • Areas of importance for ecosystem service provision, including benefits to Indigenous Peoples, Local Communities and stakeholders
TNFD sector guidance Financial institutions	A financial institution should disclose the locations in their direct operations that meet the definition of priority locations in the guidance for all sectors.
	Exposure to sensitive locations: For banks: absolute amount or percentage of lending volume For asset owners and managers: absolute amount or percentage of invested or owned assets. For insurers: absolute amount or percentage of net premiums written or total sums insured.
Tools	Location data for FI direct operations is available in-house. Location data related to FI portfolios is much more challenging. Some tools/data providers can facilitate the process of tracing back locations although granularity can be limited to country level. Examples are S&P Nature Risk Profile data and the BIA GBS database (linking corporates in portfolios to locations). Ideally, accurate geospatial data is needed on the location of the asset and of the natural values (the biodiversity sensitive areas). IBAT and WWF Biodiversity Risk Filter both use location coordinates to link global biodiversity data with specific locations. WWF Water Risk Filter is useful for identifying 'areas of high water risks' (part of TNFD sensitive locations).

B1. Drivers of biodiversity loss: land and sea use (change)

Regulation / Disclosure	Metrics Mandatory metrics are marked with a bold **MM**
CSRD ESRS E4	Land-use based on Life Cycle Assessment (DR E4-5 ref 36)
	MM: Metrics considered relevant on land-use change, freshwater-use change and (or) sea-use change (DR E4-5 ref 38)
	Conversion over time of land cover (DR E4-5 ref 38a)
	Changes over time in management of ecosystems (DR E4-5 ref 38b)
	Changes in spatial configuration of landscape (DR E4-5 ref 38c)
	Changes in ecosystem structural connectivity (DR E4-5 ref 38d)
	(Changes in) functional connectivity (DR E4-5 ref 38e)
	Total use of land area (DR E4-5 ref AR 34a)
	Total sealed area (DR E4-5 ref AR 34b)
SFDR RTS	Share of investments in investee companies the activities of which cause land degradation, desertification of soil sealing (SFDR additional indicator)
	Share of investments in companies without a policy to address deforestation (SFDR additional indicator)
TNFD	**MM**: C (C1.0): Total spatial footprint M: Total spatial footprint (km^2) (sum of): • Total surface area controlled/ managed by the organisation, where the organisation has control (km^2); • Total disturbed area (km^2); and • Total rehabilitated/restored area (km^2).
	MM: C (C1.1): Extent of land/freshwater/ocean ecosystem use change M: Extent of land/freshwater/ocean ecosystem use change (km2) by (a) type of ecosystem; and (b) type of business activity.
	MM: C (C1.1): Extent of land/freshwater/ocean ecosystem use change M: Extent of land/freshwater/ocean ecosystem conserved or restored (km2), split into (a) voluntary and (b) required by statutes or regulations.
	MM: C (C1.1): Extent of land/freshwater/ocean ecosystem use change M: Extent of land/freshwater/ocean ecosystem that is sustainably managed (km2) by (a) type of ecosystem; and (b) type of business activity.
	MM: C (C3.1): Quantity of high-risk natural commodities[1] sourced from land/ocean/freshwater M: Quantity of high-risk natural commodities (tonnes) sourced from land/ocean/freshwater, split into types, including proportion of total natural commodities.
	MM: C (C3.1): Quantity of high-risk natural commodities sourced from land/ocean/freshwater M: Quantity of high-risk natural commodities (tonnes) sourced under a sustainable management plan or certification programme, including proportion of total high-risk natural commodities.

TNFD sector guidance Financial institutions	No metrics
Tools	For FI direct operations, this information can be easily collected based on primary data collection. For sites with sufficiently large 'green' areas a biodiversity mapping can be done complemented with the development of a biodiversity action plan. This will provide detailed information on many of the land use related metrics. A suitable tool is the Biodiversity Net Gain Calculator (BNGC) which can rely on MSA.km2 (Mean Species Abundance) or the Defra Biodiversity metric. Measuring biodiversity pressures from downstream activities (FI portfolios) will usually rely on model-based approaches such as BFFI, GBS, CBF to only name a few. In case of more precise knowledge on the locations of material impacts of downstream activities, specific tools can be applied which are based on remote sensing to track deforestation, desertification, soil sealing, … (e.g. SPOTT, ForestIQ). With regard to commodities, GBS has specific commodity-related tools (again model-based). Once location data are known, remote sensing can be applied. In terms of volumes, this information can be acquired by means of client surveys. The SPOTT tool provides scores reflecting the level of sustainability in supply chain approaches. Could be useful to underpin SFDR indicators and TNFD indicator 'Quantity of high-risk natural commodities (tonnes) sourced under a sustainable management plan or certification programme'.

B2. Drivers of biodiversity loss: (over)exploitation

Regulation / Disclosure	**Metrics** Mandatory metrics are marked with a bold **MM**
CSRD ESRS E4	No specific metric on (over)exploitation although indirectly covered by 40b to 40d
SFDR RTS	No metrics
TNFD	A (A3.5): Use of wild species EM: Quantity of wild species (tonnes and/or number of individual specimens, by species) extracted from natural habitats for commercial purposes
TNFD sector guidance Financial institutions	No metrics
Tools	There are hardly any tools which are able to measure pressures or impacts from overexploitation. The most reliable way to collect data might be the use of client surveys.

B3. Drivers of biodiversity loss: invasive alien species (IAS)

Regulation / Disclosure	Metrics Mandatory metrics are marked with a bold **MM**
CSRD ESRS E4	How pathways of introduction and spread of invasive alien species and risks posed by invasive alien species are managed (DR E4-5 ref 39)
	Number of invasive alien species (DR E4-5 ref AR 32)
	Area covered by invasive alien species (DR E4-5 ref AR 32)
SFDR RTS	No metrics
TNFD	P (C4.0): Measures against unintentional introduction of invasive alien species (IAS) M: Proportion of high-risk activities operated under appropriate measures to prevent unintentional introduction of IAS, or low-risk designed activities.
	A (A4.0): Number/extent of unintentionally introduced species, varieties or strains EM: Number/extent of unintentionally introduced species, varieties or strains in areas owned, operated, used or financed in priority areas (absolute, presence/absence and/or number removed).
TNFD sector guidance Financial institutions	No metrics
Tools	There are hardly any tools which are able to measure pressures or impacts by IAS. The most reliable way is to collect primary data once locations are known. However, this can only be done for FI direct operations (again, BNGC is useful here) or by means of client surveys. In case of project finance, environmental impact assessments might be a good source of information.

C1. State of biodiversity: Ecosystem extent and condition

Regulation /Disclosure	Metrics Mandatory metrics are marked with a bold **MM**
CSRD ESRS E4	Metrics considered relevant (state of species) (DR E4-5 ref 40)
	Ecosystem area coverage (DR E4-5 ref 41 a)
	Quality of ecosystems relative to pre-determined reference state (DR E4-5 ref 41 b (i))
	Structural components of ecosystem condition (DR E4-5 ref 41 b (iii))
SFDR RTS	Share of non-vegetated surface area (= surface that have not been vegetated in ground, as well as on roofs, terraces and walls) compared to the total surface area of the plots of all assets (SFDR additional indicator)
TNFD	**MM**: P (C5.0): Ecosystem condition

	M: For those organisations that choose to report on state of nature metrics, the TNFD encourages them to report the following indicators, and to refer to the TNFD additional guidance on measurement of the state of nature in Annex 2 of the LEAP approach: Level of ecosystem condition by type of ecosystem and business activity; and Species extinction risk. The TNFD does not currently specify one metric as there is no single metric that will capture all relevant dimensions of changes to the state of nature and a consensus is still developing.
	A (A5.0): Ecosystem condition EM: Level of ecosystem condition by type of ecosystem and business activity – see Annex 2 of the LEAP Guidance.
	A (A5.1): Ecosystem extent EM: Quantitative measure of ecosystem extent, e.g. change in habitat cover (km2).
	A (A5.2): Ecosystem connectivity EM: Quantitative measure of ecosystem connectivity
TNFD sector guidance Financial institutions	**MM**: Ecosystem condition: Share of investments in investee companies with sites/operations located in or near to biodiversity-sensitive areas where activities of those investee companies negatively affect those areas (Core PAI 7)
Tools	Ecosystem extent and condition metrics might be relevant for direct operations (if biodiversity is material on the specific sites) and project finance. Metrics considered relevant by TNFD: the Biodiversity Intactness Index (BII), the Ecosystem Integrity Index (EII) Geospatial data on assets with operations in or near biodiversity sensitive areas Data gathering via IBAT, WWF biodiversity risk filter, BFM, BNGC, Biodiversity Metric, etc.

C2. State of biodiversity: Species

Regulation / Disclosure	**Metrics** Mandatory metrics are marked with a bold **MM**
CSRD ESRS E4	Population size, range within specific ecosystems and extinction risk (DR E4-5 ref 40b)
	Information about species at global extinction risk (DR E4-5 ref 40d)
	Changes in number of individuals of species within specific area (DR E4-5 ref 40c)
	Threat status of species and how activities or pressures may affect threat status (DR E4-5 ref 40 d (i))
	Change in relevant habitat for threatened species as proxy for impact on local populations extinction risk (DR E4-5 ref 40 d (ii))

	Multiple species within ecosystem (DR E4-5 ref 41 b (ii))
SFDR RTS	Share of investments in investee companies whose operations affect threatened species (SFDR additional indicator)
TNFD	**MM**: C5.0 P: Species extinction risk M: see 'P: Ecosystem condition'
	A5.3 A: Species extinction risk EM: see Annex 2 in LEAP Guidance
	A5.4 A: Species population size EM: Quantitative measure of species population size
TNFD sector guidance Financial institutions	Share of investments in investee companies that have operations affecting threatened species (Additional PAI 14.2)
	Share of investments in investee companies without a biodiversity protection policy covering operational sites owned, leased, managed in, or adjacent to, a protected area or an area of high biodiversity value outside protected areas (Additional PAI 14.2)
Tools	Species information can be relevant for FI direct operations located in biodiversity rich areas and for project finance. Usually, large projects financed by FI are subject to national EIA obligations and/or international IFC standards including IFC PS 6 on Biodiversity and Ecosystems, both offering detailed information on species diversity and importance (e.g. IUCN Red List status). STAR will also provide information on potentially present IUCN Red List species at site level or in supply chains as long as the area can be localized. Might be useful for e.g. SFDR metric.

D. Ecosystem services

Regulation / Disclosure	**Metrics** Mandatory metrics are marked with a bold **MM**
CSRD ESRS E4	No metrics
SFDR RTS	No metrics
TNFD	A (A6.0): Ecosystem services the organisation has an impact on: measurement of the change in the availability and quality of the ecosystem services G: Guidance on measuring changes in ecosystem services in the TNFD additional guidance on the LEAP approach
	A (A6.1): Ecosystem services the organisation depends on: measurement of the change in the availability and quality of the ecosystem services

	G: Guidance on measuring changes in ecosystem services in the TNFD additional guidance on the LEAP approach.
TNFD sector guidance Financial institutions	No metrics
Tools	Data needs on ecosystem services which are important for the FI and for local stakeholders. Ecosystem services information is important for assessing dependencies (company perspective) and impacts (i.e. how ecosystem services which are important for local stakeholders are affected by the company's activities). ENCORE is an excellent tool for FI, allowing to identify key dependencies at sector level. Project finance might benefit from ecosystem service valuation (ESV) tools. These tools cover both categories of ecosystem services, i.e. those which are important for the companies in the FI portfolio (financial materiality based on mainly physical risks) and those which are important for local stakeholders (impact materiality which might result in transition risks). The ESV database (ESVD) is a great source of information for value transfer approaches (value transfer is a technique that transfers outcomes of similar - in terms of biomes, ecosystem services - ecosystem services valuation projects to the financed project. This saves resources compared to primary data collection but will be less accurate).

E. Responses

Regulation / Disclosure	**Metrics** Mandatory metrics are marked with a bold **MM**
CSRD ESRS E4	Nature-oriented area on site (DR E4-5 ref AR 34c)
	Nature-oriented area off site (DR E4-5 ref AR 34d)
	Size and location of all habitat areas protected or restored, whether directly or indirectly controlled by the undertaking, and whether the success of the restoration measure was or is approved by independent external professionals (DR E4-5 ref AR 26a*)
	Recreated surfaces (environments in which management initiatives are implemented so as to create a habitat on a site where it did not exist initially) (DR E4-5 ref AR 26b*)
	Number or percentage of projects / sites whose ecological integrity was improved (e.g., installation of fish passes, wildlife corridors). (DR E4-5 ref AR 26c*)
SFDR RTS	No metrics
TNFD	A (A21.0): Value of investment in projects that avoid or reduce negative nature impacts or conserve or restore ecosystems or species where impacts cannot be avoided
	A (A23.0): Proportion of sites producing and effectively implementing nature action plans.

	A (A23.2): Restoration of negatively affected species and ecosystems (investment and extent (km2)) split into ecosystem/biome type and split into: • Required by regulation; • Required by certifier; and • Voluntary.
	A: Extent (km2), duration (years) and monitoring frequency (count/year) of ecosystem restoration and/or species restoration projects. (A23.3)
	A (A23.6): Mandatory credit market schemes: Value of total biodiversity offsets purchased and sold by type and scope (geographies, activities)
	A (A24.0): Value invested in voluntary ecosystem and/or species restoration
	A (A24.1): Extent (km2), duration (years) and monitoring frequency (count/year) of voluntary ecosystem and/or species restoration projects
	A (A24.2): Value of investment in additional conservation actions split into type of action and type of ecosystem/biome applied to
	A (A24.4): Voluntary credit market schemes: Value of total biodiversity offsets purchased and sold by type and scope (geographies, activities).
TNFD sector guidance Financial institutions	Exposure to sectors: • For banks: absolute amount or percentage of lending volume. • For asset owners and managers: absolute amount or percentage of invested or owned assets. • For insurers: absolute amount or percentage of net premiums written or total sums insured.
Tools	For FI direct operations and FI project finance, see tools suggested under 'land use change' and 'ecosystem condition' as these tools can provide information on restore and protect actions.

4. Data challenges

Disclosure on biodiversity, either mandatory or voluntary, is still far less prevalent than disclosure on other environmental topics, most notably climate. Published biodiversity disclosures often lacked the relative specificity and maturity of climate-related disclosure[8]. During the PBAF Regulation Working Group meetings, it was highlighted that data availability or availability in the right format is an important challenge for financial institutions aiming to be compliant with biodiversity disclosure requirements.

Data complexity and availability

For assessing the impacts and dependencies on biodiversity of their loans and investments, financial institutions usually rely on data provided by their clients, ESG data providers and specific tools. However, obtaining accurate and comprehensive biodiversity data from these information sources is challenging. Typical issues are a lack of geolocation data related to client's activities (e.g. multinational companies with many sites worldwide), inconsistent data, low data quality, outdated data, etc. Examples of tools/data sources frequently used are IBAT[9] and ENCORE[10]. IBAT provides relevant information on the presence of protected areas and therefore requires location data of investments. However, the presence of protected areas only allows for assessing potential impacts, not actual impacts. ENCORE provides sector level average scores with regard to the materiality of biodiversity impacts and dependencies but is not always sufficiently specific at subsector level[11] and also results in potential impacts and dependencies, not in actual impacts and dependencies. Data on nature-related risks, often linked to scenarios as requested both by ESRS E4 and TNFD, are even more difficult to find.

As a consequence, financial institutions need to work with estimations based on best available information. From a disclosure perspective this is acceptable, as long as the underlying assumptions and methodologies are clearly stated in their reporting.

Regulatory alignment and uniform data collection

The lack of harmonized approaches for data collection and measurement inevitably leads to outcomes which are difficult to compare between organisations and sectors. ESRS includes many mandatory disclosures ('shall report') but how to do it, is left open. The flexibility in assessment methodologies can have both advantages and disadvantages. While it allows companies to tailor their measurement to their specific circumstances and strategies, it may also create challenges in terms of standardization and comparability. Being not too strict at the start may be good to allow for improvements in standards and methods over time. As reporting practices mature and converge, we may see increased comparability and transparency in environmental and social disclosures within and across industries.

Despite the regulatory push for detailed and frequent disclosures, many entities still rely on manual processes to report data, which can lead to inefficiencies and an increased potential for errors.

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8 CDSB's review of 50 large European companies' reporting in 2020 under the European Union (EU) Non-Financial Reporting Directive (NFRD) found that 46% of companies provided some information on biodiversity in their reports, as compared to 100% of companies for climate change.

9 IBAT = Integrated Biodiversity Assessment Tool, https://www.ibat-alliance.org/

10 ENCORE = Exploring Natural Capital Opportunities, Risks and Exposure, https://www.encorenature.org/en

11 In the upgrade to ENCORE 2.0, the granularity improved from 92 'production processes' to 271 'economic activities'

Right data for the right scope
The data available via data vendors or tool providers, is not always the data that matches the metrics needed to be compliant to the disclosure frameworks discussed. Moreover, there are also differences in disclosure metrics between the different disclosure frameworks.

An additional level of complexity is the diversity of financial assets and their totally different data needs and related tools. For investment managers, especially those managing funds with multiple underlying assets or funds of funds, it is challenging to obtain detailed data for each component. A complete database where data can be selected per component is critical for accurate and comprehensive reporting but can be technically complex to develop.

5. Conclusions and discussion

Financial institutions are subject to two regulatory disclosure initiatives related to biodiversity, i.e. CSRD and SFDR, and three regulatory disclosure initiatives when they are operating in France (LEC29). On top of that, despite their voluntary character, the TNFD Recommendations are also highly relevant for the financial sector.

All initiatives require disclosing information on biodiversity performance and for much of this information specific disclosure metrics are put in place. Despite substantial and promising alignment efforts, there are still quite some differences between these disclosure frameworks. For example, there are clear differences in the level of mandatory and voluntary disclosure. Moreover, there are differences in terms of inclusion of the value chain and in the number of (mandatory and voluntary) metrics. As an example, ESRS E4 only imposes disclosure metrics for own operations while TNFD includes metrics that cover all parts of the value chain. TNFD and ESRS E4 include many more metrics than SFDR and LEC29. Fortunately, these differences are mapped out quite well by now[12].

There is however a significant challenge in finding the data which are required for feeding the disclosure metrics. For financial institutions, this is even more complex given the lack of information on the location of the majority of financed activities (project finance is the exception) and the broad spectrum of financial activities (e.g. project finance, corporate finance, country finance, insurance) which all require other data. This also translates into the need for different tools.

This PBAF guidance makes clear which data are required for the biodiversity disclosure metrics included by the different disclosure frameworks and what (examples of) tools and data sources can facilitate the data collection process. It is promising to see that tools tailored to the needs of the financial community are increasingly becoming available. But even then, it must be accepted that tools always provide partial solutions, covering specific needs but not the total spectrum of needs. This means that tools need to be combined in a smart way in order to come up with the best available information which can reasonably be collected by financial institutions.

There are no perfect solutions yet which is also acknowledged by the disclosure initiatives: ESRS E4 only has obligatory metrics for own operations while TNFD requires information for the organisation's direct operations, and "to the extent possible" for upstream and downstream value chain(s). It can be expected that disclosure requirements will gradually become more demanding, but hopefully this will be in line with an increased access to biodiversity knowledge, biodiversity (impact and dependency) data and tools. A variety of projects and initiatives is focusing on this improved knowledge and access to data and tools, like the Nature Positive Initiative, focusing (among others) on the identification of indicators and metrics to define the state of nature and contributions to 'nature positive' outcomes[13].

[12] Thematic Report on Biodiversity Disclosure by EU B@B Platform; recent correspondence table on CSRD and TNFD

[13] https://www.naturepositive.org/

Annex 1 Tools covering data needs for biodiversity disclosure

Table A1 below provides a non-exhaustive list of tools and their descriptions that can be relevant when showing compliance to the regulations and disclosures discussed. The term 'tools' needs to be interpreted in a broad sense, including impact and dependency assessment tools, databases and monitoring techniques. The summaries of the tools in the table below are derived from the Finance for Biodiversity Guide on biodiversity measurement approaches[14], the publication Assessment of Biodiversity Measurement approaches for Businesses and Financial institutions[15] and/or the tool websites. See Annex 1 of the EU B&B Platform Update Report 5 for simplified and concise overview tables of the pressures covered by different measurement approaches. This information is relevant to metrics focusing on the drivers of biodiversity loss (see the tables B1-B3 in paragraph 3.2).

Tabel A1: Examples of tools and databases that can be used to gather biodiversity data, including a summary of the tool/database, the data need and use of the result.

Tool/Data source	Summary	Data need / outcome
ENCORE	Exploring Natural Capital Opportunities, Risks and Exposure (ENCORE) is a free, online tool that helps organisations explore their exposure to nature-related risk and take the first steps to understand their dependencies and impacts on nature. This is presented in the ENCORE Natural Capital Module. ENCORE also contains a Biodiversity Module, which allows users to explore potential alignment of agriculture and mining activities with a nature-positive future.	Financial institutions can use data from ENCORE to identify nature-related risks they are exposed to through their lending, underwriting and investment in high-risk economic activities. ENCORE is a generally accepted best practice tool for screening impacts and dependencies of a financial portfolio.
WWF Biodiversity Risk Filter	The WWF Risk Filter Suite v2.0 consists of the Biodiversity Risk Filter and the Water Risk Filter. The WWF Biodiversity Risk Filter (BRF) is a free-of-charge, web-based, spatially explicit corporate- and portfolio-level screening and prioritisation tool for biodiversity-related risks. It allows companies to understand and assess the biodiversity-related risks of their operational locations and their suppliers and to prepare an	Financial institutions can use the tool when location data are known (e.g. project finance, own operations, sites of corporates in their portfolios). The BRF also offers country risk profiles which can be useful for assessing sovereigns. The BRF can support the disclosure of metrics related to 'sensitive locations'.

[14] Biodiversity measurement approaches, A practitioner's guide for financial institutions, Finance for Biodiversity Foundation and European Business & Biodiversity Platform, October 2024.

[15] De Ryck, J., Driesen, K., Verhelst, J., Lammerant, J. et al., Assessment of Biodiversity Measurement Approaches for Businesses and Financial Institutions, Update Report 5 on behalf of the EU Business & Biodiversity Platform, 2024.

Tool/Data source	Summary	Data need / outcome
	appropriate response plan. By the same logic, financial institutions can assess biodiversity-related risks for all companies in a given portfolio.	
IBAT	Integrated Biodiversity Assessment Tool (IBAT) is an Alliance between BirdLife International, United Nations Environment Programme – World Conservation Monitoring Centre, The IUCN and Conservation International. IBAT is a biodiversity data provider licencing commercial access to global biodiversity datasets and derived data layers including the IUCN Red List of Threatened Species™, the World Database on Protected Areas (WDPA) and the World Database of Key Biodiversity Areas (WDKBA).	Besides data on protected areas, key biodiversity areas and threatened species, IBAT also incorporates the STAR metric: the Species Threat Abatement and Restoration metric data layer, as well as data on Rarity-weighted species richness. IBAT data can be used to report on the proximity of assets to sensitive areas.
Forest IQ	Forest IQ is a data platform for financial institutions. It brings together aligned, best-in-class, and actionable data on how more than 2,000 major companies are addressing their links to deforestation. Forest IQ is a tool that uses satellite imagery and machine learning algorithms to monitor and assess deforestation and forest degradation. It helps investors identify and manage risks related to deforestation.	Forest IQ provides open data and metrics, alongside a tailored offering for financial institutions to help enable their transition to deforestation-free financial portfolios. FIs need to provide data on the location of sites and/or commodity-related supply chains.
SPOTT	SPOTT is a free, online platform assessing commodity producers, processors and traders on their public disclosure regarding their organisation, policies, and practices related to environmental, social and governance (ESG) issues.	SPOTT scores palm oil, tropical forestry, and natural rubber companies annually against over 100 sector-specific ESG indicators to benchmark their progress over time. By tracking transparency, SPOTT incentivises the implementation of corporate best practice. Investors, buyers and other key influencers can use SPOTT assessments to inform stakeholder engagement, manage ESG risk, and increase transparency across multiple industries.

Tool/Data source	Summary	Data need / outcome
Model-based Biodiversity Footprinting tools	A variety of model-based biodiversity footprinting tools is currently available which will calculate/model the potential negative, avoided or positive impact of the economic activities an FI invests in. This includes footprinting tools like the Global Biodiversity Score (GBS), the Corporate Biodiversity Footprint (CBF), the Biodiversity Footprint Financial Institutions (BFFI), the Global Impact Database (GID) and the GIST Impact Climate, Nature and Biodiversity Suite (CNBS). Some providers of biodiversity footprints also offer an assessment of dependencies on ecosystem services using part of the data underpinning an impact assessment (e.g. value chain data). More information on these specific tools can be found in the publications mentioned above this table.	Biodiversity footprinting tools link economic activities to pressures on biodiversity and translate these pressures into potential biodiversity impacts, using science based pressure-impact models. Footprinting tools can use financial data and country specific sector average data on environmental inputs (resource use) and outputs (emissions) to calculate a potential impact on biodiversity. By using company specific environmental data a more accurate footprint can be calculated. The potential impact can be assessed at the level of a portfolio, an asset class, an asset or a project. The result will show what impact drivers are responsible for the impact calculated and in what Scopes (where in the value chain) the impacts take place. The result can be used to identify impact hotspots (e.g. to use in the 'Locate' and 'Evaluate' step of TNFD's LEAP process), as an input to engagement and to decide on further data gathering.
SBTN High Impact Commodity List (HICL)	The HICL is a non-exhaustive list of the most common environmental impacts associated with the production of major commodities (i.e., the direct operations stage). The pressure categories included in the HICL are aligned with those used in ENCORE and in the SBTN target-setting guidance.	HICL is meant to provide a quick understanding of the pressure categories and is especially aimed at companies that do not have detailed information on all their commodities. As the environmental impacts of commodity production vary greatly depending on the production practices and the environmental context at the production locations, any quantitative and spatially explicit data specific to companies' production practices or sourcing locations for these commodities should inform the value chain assessment of the target-setting process and take precedence over the HICL.

Tool/Data source	Summary	Data need / outcome
SBTN Materiality Screening Tool	The aim of the Materiality Screening Tool is to help users carry out a first screening of the types of environmental impacts that are potentially materially relevant to their sector and their company's activities.	During the subsequent steps of the SBTN target setting methodology, companies are expected to refine their understanding of environmental and societal materiality and gather more precise and accurate information to quantify their environmental impacts. The SBTN Materiality Screening Tool distinguishes between a company's direct operations and impacts upstream in the value chain.
Biodiversity Net Gain Calculator (BNGC)	The Arcadis Biodiversity Net Gain Calculator (BNGC) is developed to provide insight in the land use related biodiversity value at site level. The main purpose of the BNGC is to provide insight in the actual and potential biodiversity value of the different spatial units of the site.	The BNGC calculates a BNGC-score by means of a metric built on extent, condition and significance of biodiversity on site-level. It provides a pragmatic accounting approach allowing the company to verify compliance to No Net Loss and to demonstrate Net Gain.
Natural Capital Valuation (NCV) Model	The NCV Model (Natural Capital Valuation) was developed by Arcadis on behalf of the European Bank for Reconstruction and Development (EBRD). The NCV approach is a methodology that supports corporates and financial institutions in reducing nature-related risks of their investments and enhancing investments in projects and measures that contribute to nature positive outcomes at a landscape scale. Key elements of the approach are risk scoring (based on local data) and valuation of the cost of inaction compared to the benefits of action.	The NCV model addresses a key challenge that has historically made it difficult for financial institutions to properly price nature-related risks and opportunities into their project assessments, namely, the fact that these are highly localised and context dependent. The NCV Model approach has three main outputs: a nature-related risk heat map, a quantitative scenario analysis and a list of priority nature-related risk management actions and investment opportunities.
STAR	The Species Threat Abatement and Restoration Metric (STAR) allows quantification of the potential contributions that species threat abatement and restoration activities offer towards reducing extinction risk across the world.	The STAR measures the contribution that investments can make to reducing species extinction risk. Raster data is underpinning the STAR Metric in IBAT. STAR scores for any terrestrial 5x5km grid cell provide an indication of the relative potential contribution to reducing species extinction risk through either threat abatement or restoration activities.

Tool/Data source	Summary	Data need / outcome
Nature Risk Profile	The Nature & Biodiversity Risk dataset assesses nature-related impacts and dependencies across a company's direct operations that can be applied at the asset, company, and portfolio level. The dataset applies the Nature Risk Profile, a new methodology for analysing companies' impacts and dependencies on nature, launched by S&P Global Sustainable1 and the UN Environment Programme (UNEP).	The Nature & Biodiversity Risk dataset supports companies, investors, and entities as they seek to understand, manage, and mitigate exposure of corporates and portfolios to nature-related risks and impacts. It combines data from different sources, including biodiversity footprint data, dependencies data, Company mitigation/management activities and data on positive impact.
Natural Capital Accounting (NCA) tools	NCA tools are designed to measure and value the stock, condition, and flows of ecosystem services (in line with the System of Environmental-Economic Accounting (SEEA) developed by the United Nations Statistics Division (UNSD). They are often used at a national or regional scale, but can also be used at a local scale (landscape and even project level) if sufficient data is available. Some examples of NCA tools include the Natural Capital Accounting and Reporting Framework (NC-ARF) developed by the United Nations Environment Programme (UNEP) and the Natural Capital Valuation (NCV) Model (based on SEEA approach).	The application of NCA tools is useful for keeping track of land use change (and freshwater use change, sea use change) which feeds into a series of disclosure metrics: land use change metrics, extent and condition metrics, and ecosystem services metrics.
Ecosystem service valuation (ESV) tools and databases	ESV tools are designed to estimate the economic value of individual ecosystem services. They can be used at a variety of scales, from local to global. Some examples of ESV tools include: • The Ecosystem Services Valuation Database (ESVD) • Toolkit for Ecosystem Service Site-based Assessment (TESSA) • Natural Capital Valuation (NCV) Model	Required data are predicted changes in the delivery of ecosystem services (can be decrease or increase) by the investment. Ecosystem services valuation usually requires data on beneficiary groups, their dependency on ecosystem services, market prices of provisioning services, etc. Therefore, this can only be done at project level.

Tool/Data source	Summary	Data need / outcome
Environmental Impact Assessments (EIA)	An Environmental Impact Assessment (EIA) assesses the direct and indirect significant impact of a project based on a wide range of environmental factors, including population and human health, biodiversity, land, soil, water, air, climate, landscape, material assets, and cultural heritage.	The project developer must provide the approval authority with a report containing the following information: - description of the project (location, design, size) - potential significant effects - reasonable alternatives - features of the project and/or measures to avoid, prevent, reduce or offset likely significant impacts on the environment As these reports provide detailed information at site level, based on primary data collection, they are an excellent source of information for project/site level biodiversity performance disclosure. However, the outcomes are not always in the format of disclosure metrics and caution is required when aggregating outcomes of different projects. Nevertheless, these reports provide useful information with regard to 'proximity metrics' (proximity and impact on sensitive areas), ecosystem extent/condition metrics and species metrics.

ANNEX 2: Detailed description of the main biodiversity disclosure requirements

A detailed description of the four biodiversity disclosure frameworks is given here, based on the B&B Platform Thematic report on Biodiversity Disclosure (2024).

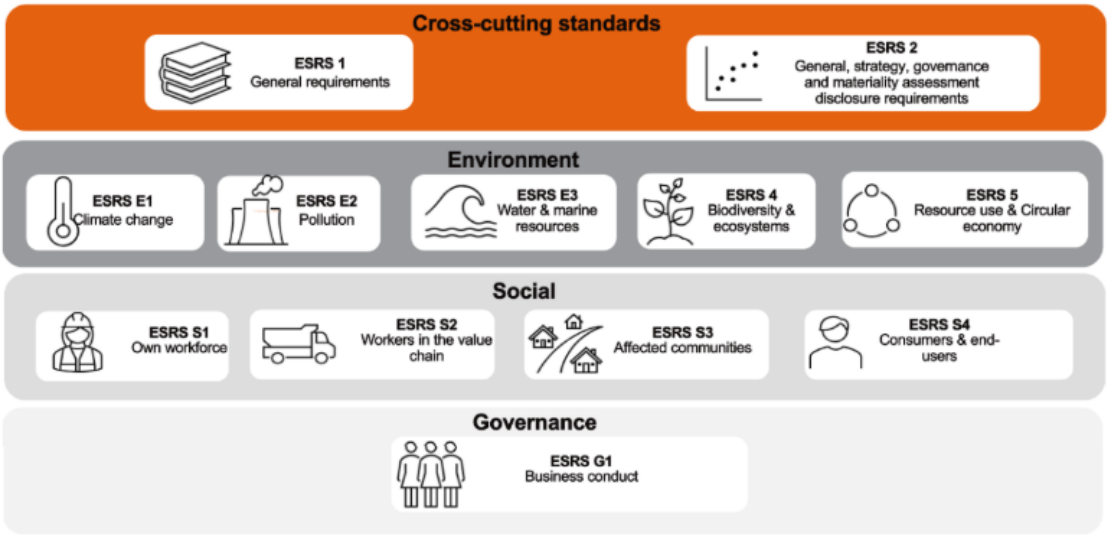
1. CSRD – ESRS E4

The Corporate Sustainability Reporting Directive (CSRD) was developed by the European Commission in December 2022. The European Sustainability Reporting Standard on Biodiversity and Ecosystems (ESRS E4) was developed by EFRAG. EFRAG is a private association established in 2001 with the encouragement of the European Commission to serve the public interest. In the CSRD, EFRAG provides technical advice to the European Commission in the form of fully prepared draft EU Sustainability Reporting Standards and/or draft amendments to these Standards.

Structure:
The ESRS comprise the General requirements (ESRS 1), General disclosures (ESRS 2), as well as topical standards focusing on environmental (ESRS E1–E5), social (ESRS S1–S4), and governance (ESRS G1) related disclosures. EFRAG published the final ESRS as an annex to the CSRD (Annex 1 to the Commissions Delegated Regulation supplementing Directive 2013/34/EU as regards sustainability reporting standards).

ESRS 1 and 2 are two overarching or "cross-cutting" standards that apply to the sustainability matters covered by the topical standards. The environmental topical standards are:

- ESRS E1 Climate change;
- ESRS E2 Pollution;
- ESRS E3 Water and marine resources;
- ESRS E4 Biodiversity and ecosystems;
- ESRS E5 Resource use and circular economy.



The CSRD needs to be read in conjunction with the European Sustainability Reporting Standards (ESRS), including their annexes. The annexes include 'application requirements' (AR) and are an integral part of the ESRS. They have the same authority as other parts of the standard.

Although the CSRD and its ESRS are mandatory, not all disclosure requirements are obligatory, i.e. for some of them the reporting company is free to disclose information (difference between 'shall' and 'may' disclosure requirements).

Objective

The **objective** of the CSRD is to specify Disclosure Requirements (DR) which will enable users to understand:

(a) how the undertaking[16] affects biodiversity and ecosystems, in terms of material positive and negative, actual and potential impacts, including the extent to which it contributes to the drivers of biodiversity and ecosystem loss and degradation;

(b) any actions taken, and the result of such actions, to prevent or mitigate material negative actual or potential impacts and to protect and restore biodiversity and ecosystems, and to address risks and opportunities; and

(c) the plans and capacity of the undertaking to adapt its strategy and business model in line with:

i. respecting planetary boundaries related to biosphere integrity and land system change;
ii. the vision of the Kunming-Montreal Global Biodiversity Framework and its relevant goals and targets;
iii. relevant aspects of the EU Biodiversity Strategy for 2030;
iv. Directive 2009/147/EC of the European Parliament and of the Council and Council Directive 92/43/EEC (EU Birds and Habitats Directives); and
v. Directive 2008/56/EC of the European Parliament and of the Council (Marine Strategy Framework Directive);

(d) the nature, type and extent of the undertaking's material risks, dependencies and opportunities related to biodiversity and ecosystems, and how the undertaking manages them; and

(e) the financial effects on the undertaking over the short-, medium- and long-term of material risks and opportunities arising from the undertaking's impacts and dependencies on biodiversity and ecosystems.

Applicability

The CSRD is applicable to all exchange-listed companies, public interest companies and companies that meet the following criteria[17]:

Starting from 2025, all companies that already fall under the Non-Financial Reporting Directive (NFRD) regulations must report on their sustainability performance for 2024. These companies meet at least these two conditions:
>500 employees (average workforce on balance sheet date)
>public interest entity

[16] The term 'undertaking' is not specified in the ESRS Glossary but it's clear that it does not only refer to a company's direct operations but also to its associated value chains. For financial institutions, it means that their client portfolios are fully in scope. The ESRS cross-cutting standards state that in sustainability statements, companies are required to include information on the material impacts, risks and opportunities (and dependencies) associated with their direct operations as well as their business relationships in the upstream and/or downstream value chains.

[17] Based on amendment of legislation (see Commission Delegated Directive (EU) 2023/2775 of 17 October 2023 amending Directive 2013/34/EU of the European Parliament and of the Council as regards the adjustments of the size criteria for micro, small, medium-sized and large undertakings or groups (europa.eu))

Starting from January 2026, large European companies must also report on their sustainability performance for 2025. This includes companies that meet at least two of the following criteria:
>250 employees
>50 million euros in revenue, and/or
>25 million euros in total assets

Specific reporting according to ESRS E4 is only mandatory if the undertaking has categorized biodiversity as material. For **financial institutions** it will be hard to justify that biodiversity is not material (see for instance the Kunming Montreal Global Biodiversity Framework with specific objectives for the finance sector), **which means that financial institutions will have to disclose their material biodiversity-related impacts, risks and opportunities**.

The ESRS cross-cutting standards state that in sustainability statements, undertakings are required to include information on the material impacts, risks and opportunities (and dependencies) associated with their direct operations as well as their business relationships in the upstream and/or downstream value chains. Material biodiversity-related impacts, risks, and opportunities for financial institutions typically stem from their **products and services in the downstream value chain**. While the current version of ESRS E4 focuses on disclosing metrics for direct operations, additional disclosure requirements (such as the process for identifying material impacts and dependencies) require considering value chain implications. The downstream aspect is addressed in disclosure requirement E4-1, which mandates the disclosure of **actions taken to enhance resilience**[18] to nature-related changes, developments, and uncertainties. It also emphasizes aligning the business model and strategy with the goals outlined in the Kunming-Montreal GBF (although **disclosure of the transition plan**[19] **is not mandatory**).

What does this mean for financial institutions?
In practice, it means that financial institutions will need to identify the material impacts, dependencies, risks and opportunities related to the activities they are investing in. These activities can be specific projects or companies and for these the full value chain needs to be considered. As an example, if the finance institution is providing a loan to a chemicals company producing pesticides, also the impacts of pesticide use in the downstream part of the chemicals company's value chain should be considered.

EFRAG is currently in the process of developing **financial institutions sector standards**. The timeline for publication is most probably 2025 (without further specifications).

2. SFDR

The Sustainable Finance Disclosure Regulation was developed by the European Commission in November 2019. The SFDR is complemented with the Regulatory Technical Standards (RTS), published 25 July 2022 by means of Delegated Regulation (EU) 2022/1288, and to be used by financial market participants when circulating sustainability-related information under SFDR, with a number of annexes, such as ANNEX I "Template principal adverse sustainability impacts statement".

The RTS specify the content, methodologies and presentation of the information in pre-contractual documents, on websites and in periodic reports relating to:

[18] The description of resilience shall include (a) resilience to biodiversity and ecosystems-related physical, transition and systemic risks; (b) the scope of the resilience analysis in relation to the undertaking's own operations and its upstream and downstream value chain; (c) the key assumptions made; (d) the time horizons used; (e) the results of the resilience analysis; and (f) the involvement of stakeholders.
[19] The transition plan describes how the undertaking will improve and, ultimately, achieve alignment of its business model and strategy with the vision of the GBF and its relevant goals and targets, the EU Biodiversity Strategy for 2030, and with respecting planetary boundaries related to biosphere integrity and land-system change.

- sustainability indicators and adverse sustainability impacts;
- the principle of 'do no significant harm';
- the promotion of environmental or social characteristics and sustainable investment objectives.

Objective

The SFDR lays down harmonised rules for financial market participants (FMPs) and financial advisers (FAs) on transparency with regard to the integration of sustainability risks and the consideration of adverse sustainability impacts in their processes and the provision of sustainability- related information with respect to financial products. There is no specific biodiversity section within the SFDR. However, some of the Principal Adverse Impact indicators and additional indicators cover disclosure metrics which are related to biodiversity.

The regulation makes a clear distinction between outside-in[20] sustainability risks and inside-out[Fout! Bladwijzer niet gedefinieerd.] adverse impacts on sustainability factors (negative externalities on ESG conditions). The SFDR also clarifies the potential positive sustainability impacts of investing.

SFDR requires FIs to disclose both entity level performance and product level performance:

- **Entity level performance:** Financial market participants and financial advisers must publish on their websites information on
    - How they consider the negative externalities of their business models, namely the principal adverse impacts (PAI) of investment decisions or financial advice on ESG sustainability; or, why they consider there to be no such negative impact.
    - How they integrate sustainability risks into their investment decision-making process and financial advice;
    - How their remuneration policies are consistent with integrating sustainability risks.

- **Product level performance:**
    - This regulation distinguishes between the transparency requirements: for financial products that promote environmental or social characteristics (Art 8); and for financial products that aim to have a positive impact on the environment and on society (Art 9). The two categories of financial products must explain how their ESG sustainability is to be achieved in pre-contractual financial product-related documents and has been achieved in periodic financial product-related documents.
    - All financial products must in addition:
        - specify in pre-contractual documents how sustainability risks are integrated into investment decisions; and
        - identify the possible impact on an investment's profitability.

From 10 March 2021, Article 4(1)(a) SFDR mandates disclosure, on a comply or explain basis, of the Principal Adverse Impacts (PAI) that investment decisions have on sustainability factors on the website of FMPs. The disclosure should take the form of a statement on due diligence policies with respect to the adverse impacts of investment decisions on environmental and social sustainability factors.

[20] Outside-in sustainability risks refer to external environmental, social or governance events that have the potential to impact the value of an investment. These risks originate from factors outside the business and are often beyond its direct control. Inside-out sustainability risks refer to the risks arising from within an organization's operations, activities, or decisions that have the potential to negatively impact sustainability factors.

Article 4(1)(b) requires that, where an FMP does not consider adverse impacts of investment decisions on sustainability factors, it must publish and maintain on its website clear reasons for why it does not do so, and where relevant, information as to whether and when it intends to do so.

The SFDR disclosure requirements overlap at entity level with those of ESRS and TNFD. However, the transparency requirements on financial products are specific to SFDR. At the end of 2023, the European Commission has carried out a comprehensive assessment of the framework, looking at issues such as legal certainty, usability and how the Regulation can play its part in tackling green-washing. The outcomes of the consultation were summarized by May 2024[21]. Some key messages are:

- Consensus on the need to ensure consistency across the wider Sustainable Finance framework; many respondents identified problems with the interactions between the SFDR and the EU Taxonomy and the CSRD.
- Split views regarding the relevance of the SFDR entity level disclosures; many expressed concerns about a potential overlap between the transparency requirements on principal adverse impacts under the SFDR and the reporting obligations under the CSRD.

Applicability

For financial market participants and financial advisers. For the purpose of the SFDR, 'financial market participant' means:

a) an insurance undertaking which makes available an insurance-based investment product (IBIP);
b) an investment firm which provides portfolio management;
c) an institution for occupational retirement provision (IORP);
d) a manufacturer of a pension product;
e) an alternative investment fund manager (AIFM);
f) a pan-European personal pension product (PEPP) provider;
g) a manager of a qualifying venture capital fund registered in accordance with Article 14 of Regulation (EU) No 345/2013;
h) a manager of a qualifying social entrepreneurship fund registered in accordance with Article 15 of Regulation (EU) No 346/2013;
i) a management company of an undertaking for collective investment in transferable securities (UCITS management company); or
j) a credit institution which provides portfolio management;

FMPs exceeding the average number of 500 employees during the financial year (hereinafter the '500-employee threshold') must publish and maintain on their websites a statement on their due diligence policies with respect to the principal adverse impacts of investment decisions on sustainability factors.

3. LEC Article 29

Article 29 is adopted within the French Loi n° 2019-1147 – Energy and climate law (known as LEC), published in 2019. The decree implementing Article 29 of the Energy-Climate Law (published May 2021) was prepared jointly by the French Treasury Department and the Ministry for the Ecological Transition and applies to financial institutions active in France (including banks, investors and insurers). The aim is to strengthen non-financial reporting of financial institutions on the integration of climate criteria and biodiversity in their investment policies.

Article 29 complements the French Law on Energy and Climate in three areas:

[21] Summary report of the open and targeted consultations on the implementation of the Sustainable Finance Disclosures Regulation (SFDR) (europa.eu)

1. Climate - notably with the required disclosure of alignment strategies with regards to the temperature objectives of the Paris Agreement, as well as the share of Taxonomy-aligned assets and finally the share of fossil fuels related activities;
2. Biodiversity - notably through the required disclosure of alignment strategies with regards to international biodiversity preservation objectives;
3. ESG factors to be fully integrated in the risk management, governance and transition support systems (notably shareholder engagement) of financial actors.

The inclusion of biodiversity in this decree provides a boost to the recognition of this issue by financial institutions and, by extension, by businesses. It requires financial institutions to disclose their assets complying with EU Taxonomy criteria and to measure their impact on biodiversity, prompting changes in investment strategies to reduce this impact.

Objective

The French Energy and Climate Law (LEC) acknowledges the interconnection between climate change and biodiversity loss. The implementing decree15 for Article 29 of the Energy-Climate Law revises, clarifies and strengthens sustainability-related financial disclosures for market players. The decree contributes to greening the financial system as it supplements existing European legislation in three complementary areas: climate, biodiversity, and the integration of ESG factors in governance and risk management of financial institutions.
This decree obliges financial market players to publish information on the consideration of environmental, social and governance criteria in their investment policy, and on the means implemented to contribute to the energy and ecological transition.

In particular, following biodiversity information needs to be reported:

- Article 1, III-7° Information on the **strategy for alignment with long-term biodiversity goals**: "The entity shall provide a strategy for alignment with long-term biodiversity goals, specifying the scope of the value chain selected, which shall include targets set for 2030 and every five years thereafter for the following:
    a) An assessment of compliance with the goals listed in the Convention on Biological Diversity, adopted on 5 June 1992;
    b) An analysis of the contribution to reducing the primary pressures and impacts on biodiversity as defined by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services;
    c) Mention of the use of a **biodiversity footprint indicator** and, where applicable, how this indicator is used to measure compliance with international biodiversity targets.

- Article 1, III-8 and III-8bis: Information on approaches to taking environmental, social and governance quality criteria into account when managing **physical, transition-related and liability risks** related to climate change and biodiversity. On the biodiversity-related risks, the following information needs to be disclosed:
    a) a clear distinction between the main risks arising from impacts caused by the investment strategy and the main risks arising from the biodiversity dependencies of the assets and activities in which the entity has invested. For each risk identified, the entity shall indicate the scope of the value chain used;
    b) an indication of whether the risk is specifically related to the area of activity or geographical area of the underlying asset.

Applicability

Applicable for financial institutions, including banks, investors and insurers, whose assets under management exceed 500 million euros and who are active in France.

4. TNFD

The Taskforce on Nature-related Financial Disclosures (TNFD) is a market-led, science-based and government-supported global initiative to help companies and financial institutions incorporate nature into their decision making. The Taskforce consists of 40 individual Taskforce Members representing financial institutions, corporates and market service providers with over US$20 trillion in assets.

The TNFD disclosure framework consists of conceptual foundations for nature-related disclosures, a set of general requirements, a set of recommended disclosures structured around the four recommendation pillars of governance, strategy, risk and impact management and metrics & targets. These include in total 14 recommended disclosures. The TNFD recommendations are structured to allow companies and financial institutions to get started, building on their climate reporting capabilities over the past decade (the structure of the TNFD builds further on the structure of the TCFD -Taskforce for Climate-related Financial Disclosures).

Governance	Strategy	Risk & impact management	Metrics & targets
Disclose the organisation's governance of nature-related dependencies, impacts, risks and opportunities.	Disclose the effects of nature-related dependencies, impacts, risks and opportunities on the organisation's business model, strategy and financial planning where such information is material.	Describe the processes used by the organisation to identify, assess, prioritise and monitor nature-related dependencies, impacts, risks and opportunities.	Disclose the metrics and targets used to assess and manage material nature-related dependencies, impacts, risks and opportunities.
Recommended disclosures	**Recommended disclosures**	**Recommended disclosures**	**Recommended disclosures**
A. Describe the board's oversight of nature-related dependencies, impacts, risks and opportunities. **B**. Describe management's role in assessing and managing nature-related dependencies, impacts, risks and opportunities. **C**. Describe the organisation's human rights policies and engagement activities, and oversight by the board and management, with respect to Indigenous Peoples, Local Communities, affected and other stakeholders, in the organisation's assessment of, and response to, nature-related dependencies, impacts, risks and opportunities.	**A**. Describe the nature-related dependencies, impacts, risks and opportunities the organisation has identified over the short, medium and long term. **B**. Describe the effect nature-related dependencies, impacts, risks and opportunities have had on the organisation's business model, value chain, strategy and financial planning, as well as any transition plans or analysis in place. **C**. Describe the resilience of the organisation's strategy to nature-related risks and opportunities, taking into consideration different scenarios. **D**. Disclose the locations of assets and/or activities in the organisation's direct operations and, where possible, upstream and downstream value chain(s) that meet the criteria for priority locations.	**A**(i) Describe the organisation's processes for identifying, assessing and prioritising nature-related dependencies, impacts, risks and opportunities in its direct operations. **A**(ii) Describe the organisation's processes for identifying, assessing and prioritising nature-related dependencies, impacts, risks and opportunities in its upstream and downstream value chain(s). **B**. Describe the organisation's processes for managing nature-related dependencies, impacts, risks and opportunities. **C**. Describe how processes for identifying, assessing, prioritising and monitoring nature-related risks are integrated into and inform the organisation's overall risk management processes.	**A**. Disclose the metrics used by the organisation to assess and manage material nature-related risks and opportunities in line with its strategy and risk management process. **B**. Disclose the metrics used by the organisation to assess and manage dependencies and impacts on nature. **C**. Describe the targets and goals used by the organisation to manage nature-related dependencies, impacts, risks and opportunities and its performance against these.

Objective

The TNFD recommendations and additional guidance provide companies and financial institutions of all sizes with a risk management and disclosure framework to identify, assess, manage and, where appropriate, disclose nature-related issues.

The development of the TNFD recommendations has focused very much on the financial sector. This is reflected in many ways:

- The recommendations and guidance are relevant to a wide range of market participants and market enablers, but the finance community is quite prominent in the list: corporates, investors and financial institutions, regulators, stock exchanges, assurance and accounting firms, data providers, credit rating agencies and financial service providers.
- Throughout the recommendations, TNFD is frequently addressing the finance sector alongside the corporate sector e.g. 'analysis of downstream value chains for financial institutions should include financed, facilitated, investment and insured activities and assets' (in TNFD General Requirements).
- Additional guidance for financial institutions was published together with the publication of the Recommendations in September 2023. In December 2023, a discussion paper on biodiversity footprinting approaches for financial institutions was published. The additional guidance for financial institutions on the TNFD's recommended disclosures includes guidance on both the TNFD recommended disclosures and the TNFD metrics architecture for financial institutions, including a set of proposed TNFD core disclosure metrics for financial institutions (1. Exposure to sectors and 2. Exposure to sensitive locations).

Given the current data constraints faced by financial institutions in reporting the TNFD core global metrics for their portfolios, the Taskforce suggests an adaptation of the TNFD disclosure metrics framework, which are described in additional guidelines for financial institutions. In addition to the core metrics focusing on risks and opportunities as outlined in Annex 1 of the TNFD Recommendations, financial institutions are advised to include two core sector disclosure metrics: (1) their exposure to sectors with material nature-related dependencies and impacts, and (2) exposure to sensitive locations. These core sector disclosure metrics aim to enhance transparency. Financial institutions are also encouraged to report on core cross-sector metrics[22] related to dependencies and impacts, recognizing that this reporting may evolve gradually as data from investees, clients, and customers becomes more accessible.

Furthermore, TNFD recommends that financial institutions disclose additional metrics[23] aligned with the drivers of nature change to effectively capture the institution's nature-related issues based on its unique circumstances. The Taskforce also references the Sustainable Finance Disclosure Regulation (SFDR) as a resource for examples of such additional metrics. The supplementary guidelines for financial institutions include a table that correlates SFDR adverse impact metrics with the drivers of nature change and selected TNFD core global metrics.

TNFD disclosure metrics cover the whole value chain but it is acknowledged that this is more challenging for upstream and downstream: metrics information is required for the organisation's direct operations, and – to the extent possible – upstream and downstream value chain(s)". This is a difference with ESRS E4 where current disclosure metrics only cover the own operations (although every organisation is free to disclose metrics on upstream and downstream).
Regarding the transition plan, TNFD proposes disclosing transition plans in Strategy B (see the table above), which should outline the current and anticipated effects of identified risks and opportunities on the business model and value chain. Financial institutions are encouraged to disclose the processes and measures implemented to address the material dependencies, impacts, risks, and opportunities identified. TNFD's additional finance guidance offers insights into the components of such transition plans. For instance, financial institutions should provide information on how nature-

[22] The core global disclosure metrics mentioned in Annex 1 of the TNFD recommendations.
[23] The TNFD additional disclosure metrics for financial institutions are listed in Table 1 of the TNFD additional guidance for financial institutions, and cover drivers such as climate change, land/freshwater/ocean use change, pollution / pollution removal, resource use / replenishment, invasive species and state of nature.

related risks and opportunities are considered in investment selection, investment advice, and product and service offerings. For example:

- An insurer should describe how nature-related dependencies, impacts, risks and opportunities in its value chain affect the insurance offerings or insurer investments on a sector or at a geographic level;
- A bank should describe how its loan due diligence has been affected by the consideration of the borrower's nature-related dependencies, impacts, risks and opportunities; and
- An asset manager or asset owner should describe how nature-related dependencies, impacts, risks and opportunities are factored into product development and investment or ownership strategy.

Applicability

TNFD is a voluntary approach. Its LEAP framework (Locate, Evaluate, Assess and Prepare) is referred to in regulatory frameworks (such as ESRS) which gives it some legal status. TNFD is applicable to corporates and financial institutions of all sizes, and public authorities.

There are cross-sector recommendations and additional sector guidance. The sector guidance provides further details to help organisations to interpret and apply the TNFD recommended disclosures and LEAP approach. An organisation should report on the 'core' global (i.e. cross-sector) disclosure metrics unless:

- it has not been identified as relevant and material to the organisation, e.g. not relevant to business activities or the location the organisation is operating in, or not found to be a material issue for the organisation; or
- It has been identified as relevant and material, but the organisation is unable to measure it due to limitations with methodologies, access to data or because the information is commercially sensitive. In this case, organisations should explain how they plan to address this in future reporting periods.

It is not expected that all organisations will be able to report on all core disclosure metrics immediately.

It is recommended to publish biodiversity disclosures alongside financial statements as part of the same reporting package. TNFD disclosures do not have to be published at the same time as the financial statements, and can be published whenever an organisation publishes its annual sustainability reporting, including climate-related disclosures.

ANNEX 3: TNFD's metrics architecture

BOX 1:

TNFD has developed a specific metrics architecture (**Fout! Verwijzingsbron niet gevonden.**) which includes assessment and disclosure metrics. The 14 core disclosure metrics are to be disclosed on a comply or explain basis for all companies looking to report in line with the TNFD recommendations. These are complemented with core disclosure metrics for specific sectors and biomes. The TNFD also provides an extensive list of additional disclosure metrics that organizations should disclose, where relevant, to best represent their material nature-related issues, based on their specific circumstances, and a list of assessment metrics in the LEAP approach guidance. The metrics disclosed should include:

a) All core global and core sector risk and opportunity // impacts and dependencies metrics listed in Annex 1 and in relevant sector guidance reported at the organizational level; and
b) Any other relevant metrics, drawing on the TNFD additional disclosure indicators and metrics listed in Annex 2 and the organization's own assessment metrics as appropriate, reported at the appropriate organizational level (e.g. site, product, service, region or organization).

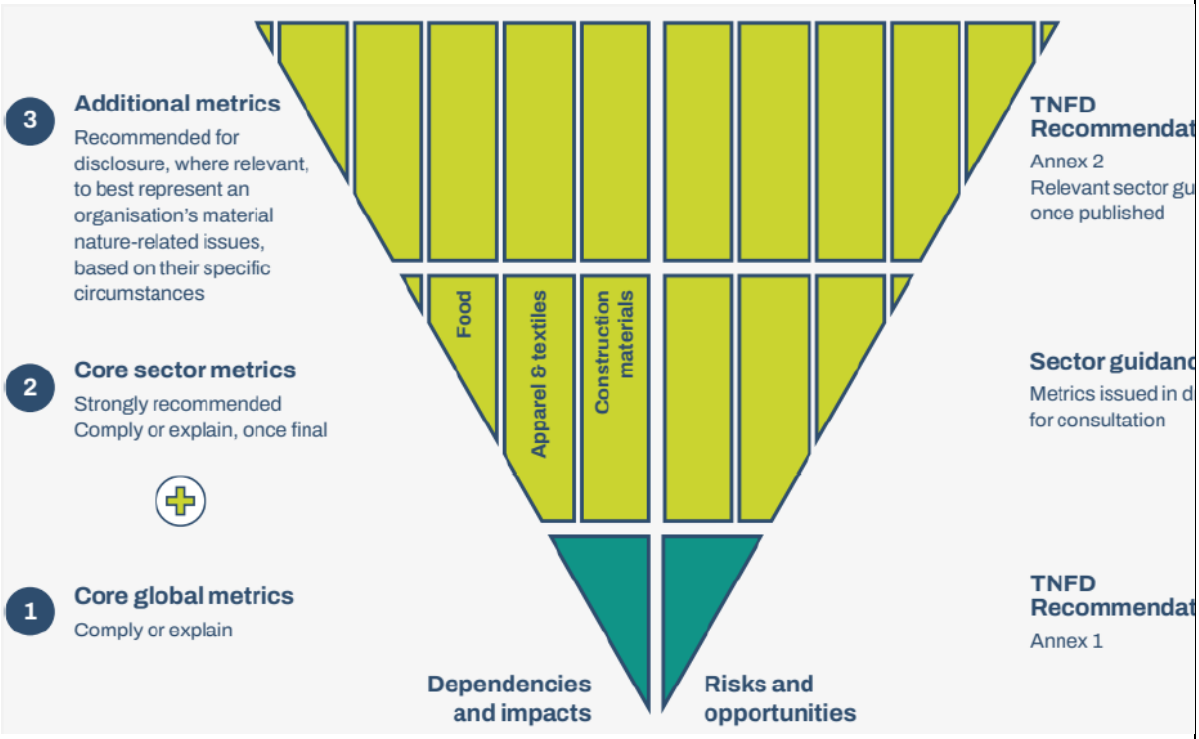


Figure 0-1: TNFD's approach on disclosure metrics

ESRS prescribes some metrics but, in many cases, offers companies the flexibility to select their own metrics so long as they align with the necessary qualitative characteristics of information. Companies reporting against ESRS E4 on biodiversity and ecosystems are required to disclose two specific metrics: (1) the number and (2) the area size (in hectares) of sites owned, leased, or managed in or near biodiversity-sensitive areas that the company is negatively affecting. For other biodiversity and ecosystem sub-topics identified as material, ESRS E4 gives companies the flexibility to choose their own metrics but provides specific recommendations regarding the elements these metrics should cover.

TNFD's core sector disclosure metrics for financial institutions are grouped per exposure category: exposure to sectors and exposure to sensitive locations. Furthermore, TNFD identifies additional sector disclosure metrics for financial institutions. Given challenges such as data availability and dependency on investee and client reporting, financial institutions may start with a limited scope for their disclosures. However, the aim is to eventually cover all financial institution's assets[24].

Core Sector Metric 1: exposure to sectors
"Financial institutions should disclose a metric that represents the financial exposure to a defined set of sectors considered to have material nature-related dependencies and impacts.
- For banks: absolute amount or percentage of lending volume.
- For asset owners and managers: absolute amount or percentage of invested or owned assets.
- For insurers: absolute amount or percentage of net premiums written or total sums insured."

Core Sector Metric 2: exposure to sensitive locations[25]
"Financial institutions should disclose a metric that represents the financial exposure to companies with activities in sensitive locations.
- For banks: absolute amount or percentage of lending volume.
- For asset owners and managers: absolute amount or percentage of invested or owned assets.
- For insurers: absolute amount or percentage of net premiums written or total sums insured. "

Additional TNFD disclosure metrics
To best represent the institution's material nature-related issues, TNFD recommends additional metrics aligned with the drivers of nature change. The additional disclosure metrics can provide more detailed disclosure on individual topics of interest to the primary users of the financial institution's sustainability report. The TNFD guidance for financial institutions refers also to SFDR which provides examples of such additional metrics: the SFDR principal adverse impact. The drivers of nature change, in which the TNFD additional disclosure metrics are grouped, are covering:
- Climate change: GHG emissions
- Land/freshwater/ocean use change: extent of land/freshwater/ocean use change
- Pollution/pollution removal: soil, wastewater, plastic, non-GHG emissions
- Resource use and replenishment
- Invasive species
- State of nature, including: Ecosystem condition and Species extinction risk

[24] Assets and/or assets under management and/or underwriting portfolio's
[25] Sensitive locations: where the assets and/or activities of an organization (direct operations, value chain where possible), interface with nature in areas important for biodiversity, of high ecosystem integrity, where there is rapid decline in ecosystem integrity, where there is high physical risks and/or areas of importance for ecosystem provision.

ANNEX 4: Tools and drivers of biodiversity loss

The Methods Workstream of the Business & Biodiversity Platform provides regular reports on measuring impacts and dependencies on biodiversity in a business context.. Among others, the Platform introduced the 'Biodiversity Measurement Navigation Wheel', a pragmatic decision framework to select the most suitable measurement tool according to business needs.

Key features of the Biodiversity Measurement Navigation Wheel 2.0 for Business are the following:

- It uses **7 main selection criteria**: business context, biodiversity pressures, biodiversity ambition, biodiversity scope, metrics, level of efforts, sector (sector is a new criterion compared to version 1.0);
- It offers a **'Fast Track' approach** as it allows for considering multiple criteria at once (e.g. no need to follow a sequential process of 'Yes' and 'No' questions);
- It relies on **easy-to-use overview tables** full of information on how tools can be differentiated based on specific criteria;
- It brings in **unique selection criteria** such as information on accessibility, costs and efforts and the maturity level of tools based on the application frequency for specific business contexts;
- It explicitly highlights the **possibility to combine approaches**, either sequentially (e.g. from risk identification to deep-dive) or in parallel (e.g. several site level approaches applied to one or more sites making use of different metrics).
- It also takes into account the **combination of different** metrics;
- It acknowledges the **different perspective of the financial sector** and made a start with an adapted version for that sector;
- It covers **29 biodiversity measurement approaches**; and,
- It has been built based on (updated) information from tool developers and on the thorough review of 16 **quality reviewed** and well elaborated case studies (see Update Report 3).

The Biodiversity Measurement Navigation Wheel 3.0 for financial institutions is presented in Update Report 5, October 2024 from the EU B&B Platform. The report also includes a table indicating the different drivers of biodiversity loss and extent to which different tools cover these drivers (see table 3 in Update Report 5). A simplified and concise overview of the pressures covered by different measurement approaches is shown below (NB: derived from *Update Report 4*).

Table 4-1: Navigation Wheel – Biodiversity Pressures table, source: Update Report 4 from the EU B&B Platform. For the most recent overview of tools and pressures, see table 3 of Update Report 5.

BIODIVERSITY PRESSURES TABLE (X: covered; O: not covered; LUIF: indirectly covered through land use intensity factor)

Biodiversity measurement approach	Land / sea use change	Direct exploitation[18]		Invasive alien species	Pollution		Climate change	Other
		Biological Resource Use (e.g. overfishing)	Water Use		Atmospheric nitrogen deposition	Nutrient emissions to water		
Agrobiodiversity Index (ABDI)	O	X	X	O	O	X	O	O
B-INTACT	X	X	X[19]	X	O	O[20]	O	Human encroachment, habitat fragmentation, infrastructure
Biodiversity Footprint Financial Institutions (BFFI)	X	O	X	O	X	X	X	Terrestrial/marine ecotoxicity Terrestrial acidification
Biodiversity Footprint Methodology (BFM)	X	O	X[21]	O	O	X	X	O
Biodiversity Impact Metric (BIM)	X	O	LUIF	O	O	LUIF	O	O

BIODIVERSITY PRESSURES TABLE (X: covered; O: not covered; LUIF: indirectly covered through land use intensity factor)								
Biodiversity measurement approach	Land / sea use change	Direct exploitation[18]		Invasive alien species	Pollution		Climate change	Other
		Biological Resource Use (e.g. overfishing)	Water Use		Atmospheric nitrogen deposition	Nutrient emissions to water		
Biodiversity Indicators for Site based Impacts (BISI)	X	X	X	X	X	X	O	Air quality, noise and light disturbance, hunting
Biodiversity Metric 3.1	X	O	O	X	O	O	O	O
Biodiversity Monitoring System (BMS)	X	O	X	X	O	X	O	Erosion, pesticide use
Biodiversity Net Gain Calculator (BNGC)	X	O	X	X	O	X	O	Noise and light disturbance
Biodiversity Performance Tool (BPT)	X	O	X	X	O	X	O	Erosion, pesticide use
BioScope	X	O	X	O	X	X	X	Terrestrial/marine ecotoxicity Terrestrial acidification
BIRS and ES assessment Holcim	X	O	O	X	O	O	O	O
Corporate Biodiversity Footprint (CBF)	X	O	O	O	X	X	X	Terrestrial acidification and eutrophication Freshwater ecotoxicity
Ecosystem services measurement approaches (ESII, Nature Value Explorer, ECOPLAN-SE, TESSA and INVEST)	X	X	X	(O)	X	X	X	Other ecosystem services such as pollination, coastal protection, food provisioning, cultural and recreational benefits etc.
Environmental Profit & Loss (EP&L)	X	O	X	O	X	X	X	Impact of solid waste disposal
Exploring Natural Capital Opportunities, Risks and Exposure (ENCORE) natural capital module	X	X	X	X	X	X	X	
GBS® for financial institutions (GBS®-FI), including Biodiversity Impact Analytics powered by the GBS® (BIA-GBS®)	X	O	X	O	X	X	X	Encroachment, fragmentation, land use in catchment of rivers and wetlands, terrestrial and freshwater ecotoxicity
Global Biodiversity Score® (GBS®)	X	O	X	O	X	X	X	Encroachment, fragmentation, land use in catchment of rivers and wetlands, terrestrial and freshwater ecotoxicity
Global Impact Database (GID)	LUIF	O	O	O	O	X	X	Terrestrial acidification, terrestrial/freshwater ecotoxicity, photochemical oxidant formation
Integrated Biodiversity Assessment Tool (IBAT)	X	X	X	X	X	X	X	See https://www.iucnredlist.org/resources/threat-classification-scheme
LIFE Methodology	X	O	X	O	X	X	X	Impact of solid waste disposal
Product Biodiversity Footprint (PBF)	X	X	X	X	X	X	X	Marine and freshwater eutrophication / freshwater ecotoxicity / terrestrial acidification
READS	X	X	X	O	X	O	X	Fauna collisions and electrocutions, light, terrestrial/marine noise, air emissions (NO_x, SO_2, PM), terrestrial/marine ecotoxicity (process and production chemicals discharge, hazardous waste disposal, and contaminated land)
ReCiPe	X	O	X	O	X	X	X	Terrestrial/marine ecotoxicity Terrestrial acidification
Species Threat Abatement and Restoration metric (STAR)	X	X	X	X	O	X	X	Wide range of pressures, including energy production & mining, human intrusion & disturbance, droughts, etc.