JOURNAL OF FOREST BUSINESS RESEARCH

Opinion

Journal of Forest Business Research 4(2), 47-64, 2025

Biodiversity risk screening tools in finance fail to meet the need for local project risk screening

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Keywords

biodiversity metrics, biodiversity risk, ESRS E4, GRI, leverage points framework, nature risk, screening, sustainable finance, TNFD

Citation

Chudy, R. Barton DN. 2025. Biodiversity risk screening tools in finance fail to meet the need for local project risk screening. J.For.Bus.Res. 4(2): 47-64
https://doi.org/10.62320/jfbr.v4i2.74

Received: 9 July 2025
Accepted: 11 September 2025
Published: 17 September 2025

ABSTRACT

This research evaluates the current state of risk screening tools used by financial institutions to assess biodiversity risks and their alignment with regulatory disclosure requirements (CSRD ESRS E4) and voluntary guidance frameworks (TNFD and GRI). Our assessment reveals that while the reviewed biodiversity risk screening tools offer useful insights on potential or estimated biodiversity impacts and risks in financial institutions' portfolios, their outputs need to be complemented with additional data and analysis to meet the needs of regulatory or voluntary reporting initiatives. This is because most of the reviewed biodiversity risk screening tools use sector averages, proxies, or modelled data, providing potential rather than actual impacts on biodiversity. Most tools were created for coarse screening purposes and lack location-specific data required for accurate, asset-level analysis, limiting their effectiveness in assessing biodiversity risks at sites of operation. To enhance transparency and accountability, we argue that location-specific and granular data that companies can use as inputs into their assessment must be publicly available, ensuring all stakeholders, including regulators, civil society, and investors, have access to information that is fit-for-purpose to assess actual biodiversity impacts of portfolio assets and activities and full exposure to biodiversity risk. A consequence of this is that existing tools also often fail to account for project- and company-level actual biodiversity pressures, such as land-use change, water use, and invasive species, which are essential for physical risk assessment and mitigation. The research discusses the importance of integrating spatially explicit data on land use and other biodiversity impact drivers to refine outputs from the biodiversity risk screening tools. It emphasizes the need for a standardized set of definitions bridging the financial sector and biodiversity research to ensure consistent, scientifically robust data. Ultimately, the lack of adequately local impact metrics means that most biodiversity screening tools lack the leverage to make investors a force for biodiversity stewardship on the ground.

INTRODUCTION

The Dasgupta Report emphasizes the importance of nature as the foundation for economic activity (Dasgupta 2021), and the Network for Greening the Financial System highlights the significance of understanding nature's role in macro-financial stability. Financial institutions are now increasingly called upon to understand not only how biodiversity loss poses risks to their portfolios but also how their activities contribute to these risks. This interdependence between economic performance and ecosystem health has raised concerns about the impacts of financial activities.

The conservation of global biodiversity is closely tied to how businesses manage their interactions with natural ecosystems, especially forests, which house most of Earth's terrestrial biodiversity and are crucial habitats for it (MEA 2005). Forest ecosystems provide critical services, such as carbon sequestration, water regulation, and soil preservation (FAO and UNEP 2020), but deforestation and forest degradation—often driven by unsustainable economic activities (Santika et al. 2024)—remain major contributors to biodiversity loss (e.g., Paiva et al. 2020; Kumar et al. 2022). Beyond direct land-use change, global trade flows exert substantial environmental pressures by embedding deforestation and biodiversity loss into international supply chains (Nel et al. 2025).

In recent years, the financial sector has increasingly recognized biodiversity-related risks as important components of risk management frameworks. To address these challenges, tools for integrating biodiversity into business decision-making are being progressively adopted, fostering the transition to sustainable business practices (UNEP-WCMC 2020). However, while the financial risks posed by climate change are widely acknowledged, biodiversity risks remain inadequately explored due to their complexity and regional variability (Wunder et al. 2024). Fragmented data on biodiversity further complicates its integration into global financial systems, which are crucial for driving capital toward nature-positive solutions. This lack of clarity extends to the definition of materiality in biodiversity-related disclosures, with frameworks such as the European Sustainability Reporting Standards (ESRS), Global Reporting Initiative (GRI) 101: Biodiversity 2024 (Global Sustainability Standards Board 2024), and the Taskforce on Nature-related Financial Disclosures (TNFD) struggling to align financial materiality with ecological impact (Elliot et al. 2024). The evolving concept of "double materiality" and the challenges of

ensuring reliable biodiversity reporting demand further development, particularly in relation to standardized auditing mechanisms (Elliot et al., 2024).

Addressing biodiversity loss within financial decision-making requires not only better tools but also a shift in underlying paradigms. A transformative change framework offers a structured approach to rethinking how economic and financial systems interact with biodiversity. Transformative change, as outlined by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES 2019), emphasizes systemic shifts in values, policies, and practices to tackle the root causes of biodiversity loss. By applying this lens, financial institutions can move beyond incremental adjustments and adopt strategies that foster long-term resilience and value generation, align investment flows with biodiversity-positive outcomes, and integrate biodiversity considerations into core business models. Without such a shift, financial risk management remains reactive rather than proactive, failing to capture and mitigate the broader socio-ecological dynamics that drive biodiversity loss.

While corporate responsibility for biodiversity may offer competitive advantages and support strategic responses to biodiversity risks (e.g., Bach et al. 2025, Su et al. 2024), its potential impacts still remain underexplored. Importantly, these corporate actors are often investee companies or loan recipients of financial institutions, meaning that their biodiversity performance directly influences the risk exposure and sustainability profiles of the financial portfolios that fund them. The concept of natural capital has been gaining prominence, further increasing recognition of how business impacts and dependencies on biodiversity and ecosystem services pose risks to an organization's future financial position and performance (CDSB 2021; Natural Capital Coalition 2016). Consequently, financial institutions need clearer guidelines on how to measure and manage biodiversity risks, particularly in cases where their operations or investments indirectly contribute to environmental harm (Damiens et al., 2021). As the demand for biodiversity-related disclosures grows, there is a need for practical approaches to balance comprehensive reporting with operational feasibility (Elliot et al. 2024).

Guidelines and tools to assess biodiversity and ecosystem risks often have limited integration with academic research; for example, reports such as (TNFD 2024) tend to rely more on a mix of

evidence sources and cite peer-reviewed studies to a lesser extent.[1] Biodiversity stewardship has received minimal attention in business and management literature (Jones 2024). Additionally, many biodiversity risk assessment tools on the market are developed by private consultancies, resulting in a high degree of variability and limited comparability across methodologies. This fragmentation may not necessarily be due to a lack of policymakers and regulatory involvement, but rather to the absence of broadly accepted standards and consensus on key metrics and methodological approaches. This lack of standardization complicates aligning tool selection with user needs (Katic et al. 2023), especially in the context of their practical application by different industry sectors (Barth et al. 2025).

To address these challenges, we evaluated the most common tools used by financial institutions to assess and manage biodiversity-related risks. Ideally, these tools would enable financial institutions to screen investments for their biodiversity impacts and align with global sustainability targets. It is of high importance that these tools are broadly consistent, scientifically robust, and pragmatic (Sobkowiak 2022). In this commentary article, we share our findings from an analysis of risk screening tools that offer insights on biodiversity and ecosystem services, and we propose directions for future research. The paper draws on a desktop analysis of risk screening tools supplemented with feedback from tool providers, and semi-structured interviews with stakeholders from multistakeholder initiatives, platforms, coalitions, and financial institutions (e.g., banks or pension funds).

The article is structured as follows: we begin by describing the methods and data used, followed by a presentation of our results. Then, we discuss the current state of risk management tools, identify research gaps, propose directions for improving biodiversity risk assessments, and provide insights into how the financial sector can mitigate its impacts on global biodiversity.

[1] TNFD's LEAP approach, particularly the 'Locate' and 'Evaluate' phases, emphasises the need for site-specific, ecosystem-contextualised data to understand dependencies and impacts. However, operationalising LEAP across large, complex portfolios remains a challenge due to insufficient data availability, investor capability, and demand incentives.

METHODS AND DATA

Assessment of biodiversity risk screening tools

Biodiversity and ecosystem services measurement approaches (hereafter referred to as 'biodiversity risk screening tools') have been reviewed and rigorously examined by (Finance for Biodiversity 2024). Twelve tools that met the criteria of being highly relevant to the financial sector and currently explored or used within it have been listed and analyzed. These tools were also selected as scientifically robust, addressing the primary drivers of biodiversity loss identified by (IPBES 2019), or providing valuable insights into potential biodiversity-related risks.

Building on the Finance for Biodiversity (2024) assessment, our analysis goes a step further by evaluating how effectively each of these tools supports financial institutions in meeting disclosure requirements under ESRS E4[2] on biodiversity and ecosystems.

Our assessment, therefore, focused on the following biodiversity risk screening tools:

- Exploring Natural Capital Opportunities, Risks and Exposure (ENCORE)
- Integrated Biodiversity Assessment Tool (IBAT)
- Biodiversity Risk Filter (WWF) – BRF
- Biodiversity Impact Analytics powered by the Global Biodiversity Score (BIA-GBS)
- Global Biodiversity Score for financial institutions (GBSFI)
- Corporate Biodiversity Footprint (CBF)
- Biodiversity Footprint for Financial Institutions (BFFI)
- Global Impact Database, Biodiversity Impact Data (GID)
- Morgan Stanley Capital International (MSCI) Biodiversity Footprint Metrics (MBFM)
- Biodiversity Impact Assessment Tool (BIAT)
- Nature Risk Profile (NRP)
- Climate, Nature and Biodiversity Suite (CNBS)

The Corporate Sustainability Reporting Directive (CSRD) (Directive 2022/2464/EU)[3], adopted in December 2022, is an EU regulation that requires companies to disclose their social and environmental risks, opportunities, and impacts to ensure that businesses provide transparent, comparable, and reliable sustainability information, along with financial one. Within CSRD, companies must follow the European Sustainability Reporting Standards (ESRS), which specify

[2] We assessed metrics listed by Lammerant et al. (2024) for ESRS E4. Nevertheless, some of the metrics are also relevant for TNFD and GRI as shown in the comparative table on page 74 in Lammerant et al. (2024).
[3] This directive amends the existing Non-Financial Reporting Directive (Directive 2014/95/EU).

what information must be disclosed. ESRS E4 focuses on biodiversity and ecosystems. At the time of writing, implementation of the ESRS is delayed as a result of the EU Omnibus regulation proposal (European Commission 2025). However, the ESRS data points continue to serve as a regulatory benchmark until they are revised or implemented.

In relation to biodiversity and ecosystem metrics outlined in The European Financial Reporting Advisory Group's (EFRAG) ESRS E4, we have referenced those selected and presented in (Lammerant et al. 2024). As Lammerant et al. (2024) compiled metrics from CSRD ESRS E4 requirements and used them as a reference to compare to two other voluntary standards – the TNFD and GRI, where such disclosure metrics are explicitly mentioned. ESRS E4 does not specify which biodiversity metrics companies are required to report. Species-specific metrics remain voluntary across all disclosure initiatives (Lammerant et al. 2024).

The assessment of the tools was conducted through a desktop analysis of their descriptions, highlighting strengths and weaknesses as outlined in (Finance for Biodiversity 2024). Since the authors did not have expertise in these tools and lacked direct access to them—partly due to subscription requirements and lack of public documentation —we sought to validate our initial findings by contacting tool providers via email or generic contact forms available on their official websites. We received feedback on the following nature risk screening tools: BFFI, BIA-GBS, GID, ENCORE, IBAT, and MBFM, but no feedback was provided on the remaining ones, i.e., BRF, GBSFI, CBF, BIAT, NRP, and CNBS. Consequently, we recommend interpreting our assessment results with caution, also in the context of continuously revised sustainability standards (e.g., ESRS E4).

We assessed each tool according to the following "traffic light" classification: RED – tool does not provide the given biodiversity-related metric; YELLOW – tool only partly provides the biodiversity-related metric or outputs from the tool are useful in the assessment of the given metric; GREEN – tool fully provides the biodiversity-related metric (Table 1).

Additional insights on the tools and best practices in biodiversity risk assessment by financial institutions were gathered by consulting the initial findings with members of the stakeholder board. The board includes experts from global collaborative platforms and multi-stakeholder initiatives who shared articles on best practices and emerging trends. Investment actors, including representatives from banks and pension funds, shared approaches across their sectors related to

sustainability reporting and responsible investing. Their contributions helped ensure that the paper's findings were grounded in the real world, reflecting the perspectives of diverse sectors involved in the field.

In the discussion section, we used four leverage points (material, processes, design and intent) framework elaborated by Meadows-Abson to discuss the current state of biodiversity risk management tools, identify research gaps, and propose directions for improving biodiversity risk assessments and provide insights into how the financial sector can mitigate its impacts on biodiversity (Meadows 1999; Abson et al. 2017). Figure 1 illustrates our adaptation of the Meadows-Abson framework on how the sustainable finance system can be influenced by four leverage points that have shallow (material, processes) or deeper impact (design, intent) on it, resulting in different, in time and scale, climate and biodiversity outcomes.

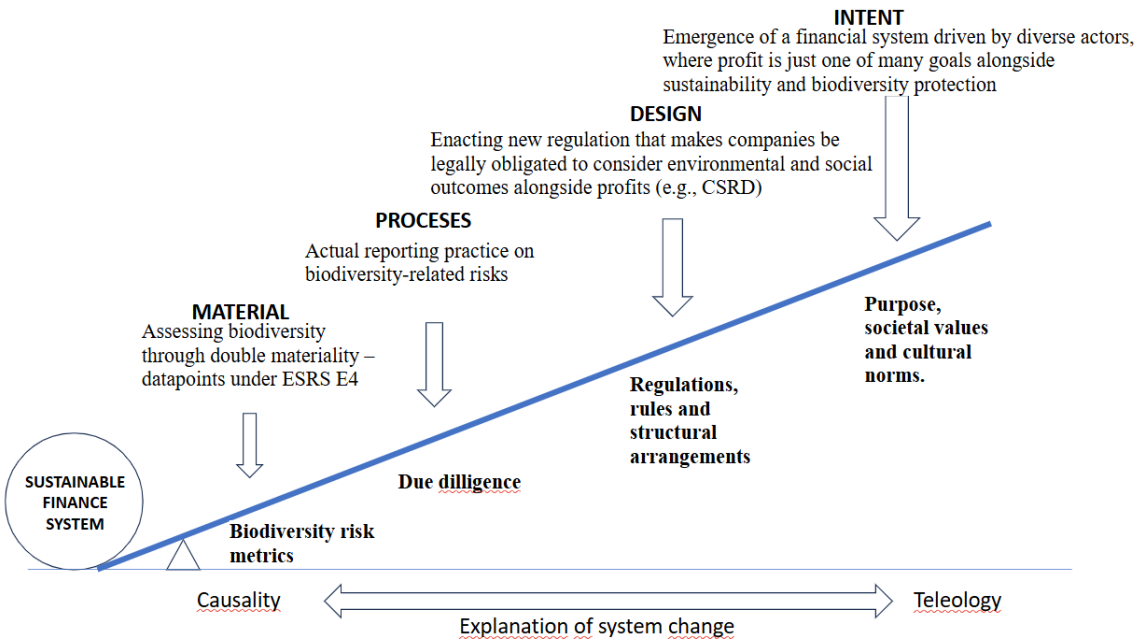

Figure 1. Leverage points for integrating biodiversity and ecosystem considerations into the financial system (adapted from the Meadows-Abson framework).

The lowest level of leverage points is *material* that represents tangible aspects of the system, such as biodiversity metrics (parameters or data points as defined by ESRS E4). An example of this point is the assessment of biodiversity double materiality, and its data points listed under the ESRS E4 or any other compliance or voluntary guidance (e.g., TNFD[4], GRI).

Processes refer to how material and financial flows interact through the financial and economic systems, but also institutional processes. For instance, how are the biodiversity metrics carried out in integration or financial analysis by the financial institutions in practice? This may closely relate to "materiality" and "due diligence" processes incorporated by financial institutions and their approaches, for instance, in using minimal efforts just to comply with regulations, delaying reporting due to legal loopholes such as opting out from reporting under ESRS E4 due to company size or using tools that are not publicly available and therefore challenging to verify the outcomes by interested stakeholders. One may say that biodiversity metrics in nature risk screening tools actually serve as both material leverage points, representing parameters that describe changes in biodiversity and ecosystem services, and process leverage, as they influence decision-making processes.

Design leverage points focus on altering the underlying rules, structures, and institutions that govern a system. This includes how financial systems are regulated, the rules by which they operate, and the broader structural arrangements that guide decision-making and power distribution.

Intent leverage points are the most profound and may be the most impactful because they involve changing the goals, paradigms, and worldviews that underpin a system. This includes shifts in societal values, cultural norms, and the overarching purpose of financial systems.

[4] While the TNFD does not mandate specific biodiversity metrics, it strongly encourages spatially explicit and decision-useful disclosures, which existing tools often fall short of supporting in practice.

RESULTS

Nature risk screening tools – desktop assessment

Our assessment reveals that many of the tools currently used by financial institutions primarily serve as preliminary screening instruments for entire portfolios, often lacking the location-specific data required for more detailed asset-level analysis.

Additionally, a key limitation of many biodiversity risk screening tools is that the reported metrics are frequently based on sector averages, revenues, proxies, and models, which represent potential impacts rather than actual impacts on biodiversity metrics. Some of the assessed tools treat biodiversity loss within the same biome as having equal weight, regardless of whether species and habitats are more or less endangered or rare. Furthermore, some tools are still under development in terms of addressing new biodiversity pressures (e.g., land use change, water use) or incorporating factors such as invasive species, soil degradation, or overexploitation.

Table 1. Overview of alignment between key biodiversity-related reporting metrics and reviewed biodiversity risk screening tools (list of biodiversity-related metrics is adapted from Lammerant (2024) and based on 2023 version of ESRS E4).	Biodiversity risk screening tools											
BIODIVERSITY-RELATED METRICS	BFFI	BIA-GBS	CBF	GBSFI	GID	ENCORE	IBAT	MBFM	BIAT	BRF	NRP	CNBS
Proximity to biodiversity-sensitive areas												
Number of sites owned, leased or managed in or near protected areas or key biodiversity areas that undertaking is negatively affecting												
Area of sites owned, leased or managed in or near protected areas or key biodiversity areas that undertaking is negatively affecting												
Drivers of biodiversity loss: land and sea use (change)												
Land-use based on Life Cycle Assessment												
Metrics considered relevant on land-use change, freshwater-use change and (or) sea-use change.												
Conversion over time of land cover												
changes over time in management of ecosystem												
changes in spatial configuration of landscape												
changes in ecosystem structural connectivity												
(changes in) functional connectivity												
Drivers of biodiversity loss: (over)exploitation												
Drivers of biodiversity loss: invasive alien species												
How pathways of introduction and spread of invasive alien species and risks posed by invasive alien species are managed												
Number of invasive alien species												
Area covered by invasive alien species												
State of biodiversity: ecosystem extent and condition												
metrics considered relevant (state of species)												
ecosystem area coverage												
quality of ecosystems relative to pre-determined reference state												
structural components of ecosystem condition												
State of biodiversity: species												
population size, range within specific ecosystems and extinction risk												
Information about species at global extinction risk												
changes in number of individuals of species within specific area												
threat status of species and how activities or pressures may affect threat status												
multiple species within ecosystem												

– tool does not provide the given biodiversity-related metric; – tool only partly provides the biodiversity-related metric or outputs from the tool are useful in the assessment of the given metric; – tool fully provides the biodiversity-related metric.

DISCUSSION AND CONCLUSIONS

One key takeaway from this research is that nature risk screening tools predominantly focus on risks associated with impacts on nature/biodiversity from economic activities. In contrast, they often overlook or insufficiently address[5] the risks arising from the dependencies that these economic activities have on health, functioning, and resilient ecosystems. This distinction is critical because understanding these dependencies may be seen as essential for financial institutions to gain a comprehensive view of nature-related risks associated with their investments. Without capturing dependency-related risks, such as how ecosystem degradation might disrupt supply chains or operational viability, financial assessments may underestimate the true exposure and vulnerability of their portfolios.

Since the focus of our research on biodiversity risk screening tools and biodiversity metrics incorporated in them touches the first two leverage points in the Abott-Meadows framework, we will discuss them in the sections below.

Spatially explicit data and transparent documentation for nature risk screening tools are essential.

Our assessment revealed that biodiversity risk screening tools do not meet the ESRS E4 biodiversity metrics requirements compiled by Lammerant et al. (2024) as they lack location-specific data required for more detailed, asset-level analysis. On the contrary, in most cases, these tools are based on sector averages, revenues, proxies, and models, which represent potential impacts rather than actual biodiversity footprints. This hinders the effectiveness of biodiversity risk screening tools, and this result has also been confirmed by other studies (refer to e.g., Barth et al. 2025, Eigenbrod et al. 2010, Katic et al. 2023, Wolff et al. 2017). Thus, we believe that one way to leverage sustainable finance is to improve the quality and use of biodiversity metrics by adopting more comprehensive and transparent data points, which would allow for a better assessment of biodiversity and ecosystem services impacts, including spillover effects (Katic et al. 2023). Accurate, spatially and temporally explicit biodiversity data, especially asset location data, is crucial—equally as important as developing widely accepted biodiversity measurement

[5] For instance, ENCORE provides information on the most pressing potential, not actual, dependencies for each activity.

methodologies and bridging the gap between policy objectives and initiative proponents (IISD 2017). For example, Burgess et al. (2024) analyzed 573 biodiversity metrics to clarify their differences and best uses for government, business, and civil society decisions. Authors organized these metrics within a state–pressure–response–benefits framework and recommend a focused set most relevant for decision-making. It was highlighted that future priorities should include promoting national and business metrics, standardizing minimum metric sets, leveraging technology for automation, and securing sustainable funding for metric development (Burgess et al. 2024).

While this reliance on generalized data can be sufficient for initial screening—allowing investors to identify sector-level priority areas for further comprehensive assessment (Barth et al. 2025)—it lacks the spatial granularity needed for asset-specific decision-making. Without spatially explicit data on land use footprints, it is not possible to assess the physical risk to biodiversity associated with land use changes due to investments, leading to incomplete or inaccurate evaluations. Most importantly, for regulatory compliance and transparency, these data should be made publicly available so that all stakeholders, including regulators, investors, and civil society, can evaluate potential risks and impacts. In practice, this is not the case, as the location of investments is often treated as confidential business data, further compounded by the lack of publicly accessible and transparent documentation on the methodologies used by commercial tools. This includes barriers such as proprietary access restrictions through subscriptions or paywalls, methodological opacity where models function as ‘black boxes’ with limited disclosure of assumptions and algorithms, and the absence of standardized auditability or assurance processes that would allow independent verification. Together, these issues undermine trust, hinder comparability, and ultimately may limit the broader adoption and scaling of biodiversity risk screening tools.

The challenge may lie not only on the supply side; there may also be a demand-side market failure. The limited adoption of spatially specific biodiversity metrics may suggest a weak market pull and misaligned incentives for high-resolution data from tool users. It seems that without stronger regulatory, fiduciary, or commercial demand signals, tool innovation is unlikely to scale, as providers may hesitate to invest in development without clear client interest.

Beyond metrics: a systemic transformation of finance for biodiversity and ecosystem services protection

A weakness of leverage points theory applied to biodiversity stewardship in the finance sector is the lack of guidance on which leverage points should be prioritized first to drive systemic change (Barton et al. 2024). In the context of biodiversity and financial systems, it seems that most current efforts focus on material and process-level changes—such as incorporating biodiversity metrics, improving risk assessment models, and refining reporting standards. While these steps are individually necessary, they are not systemically sufficient. Thus, we argue that to address biodiversity risks from finance effectively, a combination of deeper, structural changes to the financial system is required, particularly at the levels of design and intent (refer to Figure 1).

Material and process-oriented interventions—such as refining biodiversity disclosure frameworks, integrating biodiversity-related risks into financial decision-making, and improving data quality—help increase transparency and awareness. However, these actions alone do not challenge the fundamental drivers of biodiversity loss embedded within the financial system. A deeper transformation is required, one that redefines the core principles guiding financial decision-making. This would mean shifting from a short-term profit-driven model to one that prioritizes long-term ecological stability and resilience, to ensure long-term value creation for clients and beneficiaries.

At the design level, financial institutions must embed biodiversity considerations into the fundamental structure of investment strategies, risk models, and regulatory frameworks. This includes adjusting incentives, developing biodiversity-positive financial instruments, and incorporating planetary boundaries into risk models (Crona et al. 2024). At the intent level, the financial system must move beyond viewing biodiversity as an externality and instead recognize it as a foundational asset upon which economies and societies depend.

A holistic approach is necessary—one that integrates both shallow leverage points (material and process) with deeper systemic changes (design and intent). Without transforming the very purpose and structure of financial decision-making, efforts to incorporate biodiversity metrics will remain superficial and ineffective, akin to greenwashing.

Ongoing uncertainty in the sustainable finance regulations

The landscape of sustainable finance regulations remains marked by significant uncertainties, creating challenges for companies and investors striving to align with evolving standards. One key source of this uncertainty is the ongoing revision of the Sustainable Finance Disclosure Regulation (SFDR), which is currently under review to improve clarity, consistency, and the practical applicability of its requirements. Additionally, the EU's Omnibus package aims to streamline and update various sustainability-related regulations, but has introduced further complexity as stakeholders await final details and implementation guidance. The Omnibus package is expected to reduce the number of companies required to report by approximately 80%, from over 45,000 to around 9,000[6]. A key concern is that this reduction in the CSRD scope will affect sectors unevenly. In particular, sectors critical to the green transition—such as agriculture and real estate—could see a substantial decline in the number of companies obligated to report (Rasche et al. 2025 Jul 14)

The European Financial Reporting Advisory Group (EFRAG) is also revising the European Sustainability Reporting Standards (ESRS); these revisions are anticipated to refine biodiversity and climate-related disclosure requirements. From the latest revisions, for instance, on July 31, 2025, EFRAG released a revised version of the European Sustainability Reporting Standards[7], simplifying reporting requirements by reducing the total number of disclosures—both mandatory and voluntary—by nearly 70%[6]. Key changes include fewer and less prescriptive disclosures, simplified materiality assessments emphasizing fair representation ("shall" points data points have been simplified), and the removal of all voluntary disclosures ("may" data points). The updates also enhance alignment with international standards such as GRI, ISSB, and SASB, while introducing new flexibilities like optional executive summaries and reliefs on data quality and financial effects[6]. EFRAG's July draft resulted in the largest cuts being in the E3 Water and Marine Resources (70.4%) and E4 Biodiversity and Ecosystems standard (77.8%)[8].

[6] Refer to: EU Sustainability Reporting Updates – July 2025: https://www.iss-corporate.com/resources/blog/eu-sustainability-reporting-updates-july-2025/

[7] Refer to: Log of Amendments of the ESRS Exposure Draft July 2025 ESRS E4: https://www.efrag.org/en/media/29450

[8] Refer to: The EU's sustainability shift: What you need to know about the new ESRS Exposure Drafts: https://www.erm.com/insights/the-eus-sustainability-shift-what-you-need-to-know-about-the-new-esrs-exposure-drafts/

These developments make it difficult for businesses and financial institutions to anticipate the exact regulatory environment they will face in the near future, complicating planning and compliance efforts in sustainable finance. As the rules continue to evolve, maintaining flexibility and close monitoring of regulatory updates will be crucial for navigating this uncertain terrain. Nevertheless, we can see a trend with the substantial reduction of E4 biodiversity and ecosystem data points. Explicit requirements for robust measurement, tracking, and accountability were categorised as "voluntary" data points in the previous version of E4. Most of these voluntary data points have now been removed.. In practice, this simplification moves the reporting framework towards satisfying procedural compliance. Our speculation is that by removing most voluntary data points for measuring ecosystem and biodiversity impacts on the ground, the simplified ESRS now provides a much smaller incentive effect for financial actors to take the lead in reporting on local biodiversity stewardship, and, ipso facto, fewer incentives for tool developers to seek higher-quality data sources.

All tools are wrong, but some of them are useful…if used according to instructions…

Our analysis revealed a clear gap in the current landscape of biodiversity risk screening tools; however, this should be viewed as a broader challenge within the field rather than a failure of any individual tool. For example, tools like ENCORE and the WWF Biodiversity Risk Filter may be criticised for relying on sector averages, yet this design was intentional—they were meant for strategic screening and prioritization, not detailed, site-specific assessments. These tools may provide valuable high-level insights that help financial institutions begin to understand their exposure to biodiversity-related risks, impacts, and dependencies. While no tool is perfect or comprehensive on its own, many may still serve complementary roles within a larger risk assessment process. Rather than expecting individual tools to meet all biodiversity risk assessment needs, a modular approach that combines portfolio screening and site-specific tools is likely required, particularly as regulatory expectations become more granular.

For investors aiming to incorporate double materiality and integrate biodiversity considerations into their decision-making, these tools have offered useful strategic starting points. However, site-specific risk assessment was always needed for companies to be able to claim a role as stewards of biodiversity, even without sustainability reporting requirements.

Finally, we speculate that the problem may lie elsewhere. While many tool providers caveat that their products are intended only for sector-level screening purposes, companies may nonetheless use them to 'tick the boxes' for due diligence on nature-related risks. In practice, firms may refer to these tool results to assert there were no issues, even though the tools were never designed to deliver site-specific risk assessments. This highlights a broader challenge in the field: without clear standards and accountability, high-level screening tools may risk being misinterpreted as a substitute for genuine stewardship of biodiversity.

CONFLICTS OF INTEREST

The authors confirm there are no conflicts of interest.

ACKNOWLEDGEMENT

This paper was supported by the SELINA project funded by the European Union's Horizon Europe Research and Innovation Programme under grant agreement No 101060415.

We also extend our gratitude to the following experts for dedicating their time and providing valuable feedback on our tool assessment, which significantly enhanced our results. In particular, we thank Colette Grosscurt and Marina Dumont (PRé; BFFI tool), Michael Wekking (GID), Daniel Cremin, Arne Klug, Fatima Ocadiz (MBFM), and Nolwen Kazoum-Défossé (BIA-GBS).

We also thank Sylvaine Rols, Wijnand Broer, Rodrigo Cassola, Alexandra Paltschik Rønneberg, Mohammad Adnan Muneer, Martine van Weelden, Thomas Røkås, Alena Cierna, and James d'Ath for insightful comments and valuable suggestions, which contributed to improving the clarity and quality of the manuscript.

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