

Corporate biodiversity accountability in Sweden: reporting challenges and financial mechanisms for conservation

Accounting,
Auditing &
Accountability
Journal

Kristina Jonäll

*School of Business, Economics and Law, University of Gothenburg,
Gothenburg, Sweden*

Received 29 January 2025
Revised 26 October 2025
17 February 2026
Accepted 15 April 2026

Abstract

Purpose – This study examines how large Swedish companies construct, communicate and legitimise biodiversity protection in their reporting.

Design/methodology/approach – The study is based on a qualitative content analysis of 196 annual, sustainability and integrated reports published between 2019 and 2023 by Swedish companies. Keywords related to biodiversity, rewilding and financial mechanisms were used to identify and code relevant passages in NVivo, and the material was interpreted through legitimacy theory.

Findings – Biodiversity is becoming more visible in corporate reports, but the quality of information still varies. The analysis identifies three levels of corporate engagement with biodiversity, peripheral, operational and strategic, reflecting a gradual shift from symbolic to more substantive accountability. Companies in industries with direct ecological impact report more concrete actions, while most others stay with broad sustainability goals. Financial instruments mainly target climate issues, with few examples of direct biodiversity finance. Despite a growing interest in rewilding or conservation work it is still rather limited. Reporting mainly reflects a search for pragmatic legitimacy, though some companies show early signs of substantive commitment.

Originality/value – The paper introduces a three-level model of corporate engagement with biodiversity, peripheral, operational and strategic, and connects biodiversity reporting with finance and rewilding practices. It contributes to the debate on how legitimacy theory can explain the gap between symbolic and real accountability.

Keywords Sweden, Conservation, Corporate accountability, Biodiversity reporting, Financial mechanisms, Biodiversity protection

Paper type Research article

1. Introduction

The loss of biodiversity is one of the most important environmental challenges that the world faces today. When biodiversity declines, ecosystems lose their resilience and become less capable of sustaining the processes that support both nature and human societies (Matthews *et al.*, 2024). Risks linked to biodiversity loss are, for example, the decline of pollinators affecting food supplies, degraded wetlands that reduce water quality, and an increase in zoonotic diseases (IPBES, 2019). One of the suggested ways to halt this global decline is rewilding, which is a conservation strategy that aims to increase ecosystem resilience by the active reintroduction of species and restoring natural processes (Perino *et al.*, 2019).

Although companies often harm ecosystems and species through their operations, they can also contribute to biodiversity protection through their actions and investments. Over time, companies have expanded their reporting focus to move beyond financial performance and to include environmental aspects. Reports now incorporate more biodiversity aspects to showcase the ecological impact of companies (Atkins and Maroun, 2018; Roberts *et al.*, 2021). Although some companies provide substantial disclosures, biodiversity reporting methods

© Kristina Jonäll. Published by Emerald Publishing Limited. This article is published under the Creative Commons Attribution (CC BY 4.0) licence. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this licence may be seen at <http://creativecommons.org/licences/by/4.0/>



Accounting, Auditing & Accountability
Journal
Emerald Publishing Limited
e-ISSN: 1758-4205
p-ISSN: 1368-0668
DOI 10.1108/AAAJ-01-2025-7696

among many large companies remain inadequate (Adler *et al.*, 2018; Daugaard, 2020). Measuring and comparing biodiversity outcomes remains difficult, yet reporting increasingly provides a channel through which conservation goals can be linked to corporate accountability (Aluchna *et al.*, 2024).

The closer connection between environmental sustainability and economic development reflects a growing recognition that biodiversity underpins both ecological resilience and economic wellbeing. Financial mechanisms, such as green and biodiversity bonds, have been identified as effective instruments for mobilising capital for ecosystem restoration (Atkins and Macpherson, 2022). The Swedish market for green and biodiversity bonds has developed significantly over the years, establishing Sweden as one of the leading countries in the green bond market (Ferlin and Sternbeck Fryxell, 2020). These financial innovations show that biodiversity is gaining importance in economic thinking as companies increasingly integrate environmental concerns into their decisions (Adler *et al.*, 2018; Carnegie *et al.*, 2021b; Maroun and Atkins, 2018).

One step towards improved biodiversity accountability is the establishment of the Taskforce on Nature-Related Financial Disclosures (TNFD), complemented by the EU Nature Restoration Act, which requires member states to develop national restoration plans and encourage businesses to adopt biodiversity-enhancing strategies (Niranjan, 2023). These frameworks are especially relevant in Sweden since the country's natural resources and industrial activities have a significant impact on the environment and biodiversity.

Sweden's varied landscapes are home to many of Europe's red-listed species, which require action to improve chances of survival (Ahrné and Bjelke, 2022). In response, there are several projects to support species such as the beaver (Hartman, 2022) and to reintroduce the Atlantic sturgeon, which has disappeared from Swedish waters (Nylén, 2024). At the same time, research is being conducted to reintroduce key species such as the European bison (Thulin *et al.*, 2023). Together with corporate initiatives such as wetland and grassland restoration, these projects illustrate a growing awareness of the need to balance industrial development with biodiversity protection. Despite the ongoing initiatives to enhance biodiversity, the loss of species and ecosystems continues. Current measures to preserve biodiversity are not sufficient to keep pace with ongoing losses. There is a need to incorporate the concept of biodiversity protection within corporate and policy strategies that would help reduce such effects (Wolff *et al.*, 2018).

Despite advances in biodiversity reporting, several challenges remain. To attain meaningful accountability, systematic tools and accounting models that incorporate biodiversity conservation as well as financial performance must be developed (Carnegie *et al.*, 2021a). At the same time, the quality of reporting can be affected by underlying motives, such as companies' desire to appear responsible, which can reduce the clarity and reliability of disclosures. This shows how important honest and transparent reporting is (Adler *et al.*, 2018; Carnegie *et al.*, 2021a; Hassan *et al.*, 2020). Research also shows that mandatory reporting requirements can promote greater consistency and reduce the shortcomings that arise when companies rely on voluntary guidelines (Hassan *et al.*, 2021). Without such requirements, there is a risk of exaggeration and greenwashing (Boiral, 2016). By improving reporting frameworks and aligning biodiversity strategies with robust mechanisms, reporting can support initiatives such as rewilding and help achieve more tangible ecological outcomes.

As discussed above, companies are part of the biodiversity crisis. Their activities can cause serious harm to species and ecosystems, but they also can contribute to solutions. Many companies already include biodiversity in their reports, yet it is often uncertain whether these descriptions reflect real actions and measurable results. This study draws on the example of Swedish companies, often regarded as leaders in sustainability, to examine how companies account for their efforts to protect biodiversity. Understanding these practices helps us see how companies use biodiversity reporting to show responsibility and maintain their reputation as environmental expectations keep rising.

This study asks: *In what ways do Swedish companies construct, communicate and legitimise their engagement with biodiversity protection through reporting?*

To address this question, the study analyses corporate reports from Swedish companies, with special attention to sectoral patterns, the use of financial instruments such as biodiversity bonds, and references to biodiversity and rewilding. By doing so, the study aims to improve understanding of how reporting can support corporate accountability for biodiversity conservation.

The paper proceeds as follows: The next section reviews the conceptual and contextual framing of biodiversity accounting, followed by the theoretical framework. This is followed by a description of the methodology used. The results are then presented and analysed across different sectors. Finally, the paper concludes with a discussion of the findings, a concluding section, and directions for future research.

2. Conceptual and contextual framing

This section describes the framework of the study. It explains how corporate reporting on biodiversity has developed, what important international and European reporting systems exist, and the Swedish regulatory and corporate context for biodiversity reporting. The section places the issue in a larger financial and industry context. It also highlights the rules, standards and other factors that have influenced the development of biodiversity reporting as well as the obstacles that make it more difficult for companies to take responsibility.

2.1 Corporate biodiversity accounting – historical development and concepts

The emergence of corporate biodiversity accounting reflects long-standing tensions between economic growth and environmental limits. Historically, biodiversity was treated as an externality, excluded from both financial and reporting systems. This reflected earlier societal expectations, when companies were rarely held accountable for their environmental impacts (Deegan, 2002).

This development was further explored in early work on social and environmental accounting, which established accountability as the central purpose of sustainability reporting. It was argued that accounting should serve society by making organisations accountable for their environmental and social impacts, rather than simply supporting managerial control (Gray and Owen, 1996). Later, contributions questioned the ability of traditional accounting to capture sustainability concerns. Gray (2010) argued that conventional accounting treats nature as external to the economy and ignores the ecological boundaries within which organisations must operate. Similarly, Jones (2010) highlighted how industrial production can destabilise ecosystems, emphasising companies' responsibility as stewards of natural systems. Within this perspective, accounting is viewed not only as a means of documenting environmental and social impacts but also as a way of connecting organisational practices to wider sustainability goals (Bebbington and Larrinaga, 2014). Unerman and Chapman (2014) argue that accounting research needs to engage more closely with other disciplines and societal actors in order to better address sustainability challenges, thereby supporting more dialogic and practice-orientated approaches.

The growing importance of environmental issues has made it increasingly essential for companies to report and account for biodiversity conservation. Economic systems rarely account for the environmental costs of growth (Jones and Solomon, 2013). As economic objectives tend to dominate corporate agendas, biodiversity often becomes marginalised. Previous research consistently points to this enduring tension between growth and conservation as a central challenge for corporate sustainability (Blanco-Zaitegi et al., 2022; Corvino et al., 2021; Cosma et al., 2023; Daugaard, 2020).

As new reporting frameworks were developed, companies gradually began to take greater account of environmental impacts. Initiatives such as the Global Reporting Initiative (GRI) provide guidance on how to report impacts on biodiversity and other sustainability areas,

including the value of natural resources (Mougenot and Doussoulin, 2024). These frameworks reflect changing expectations regarding corporate responsibility for environmental performance (Deegan, 2002).

In recent decades, growing attention has been given to the idea of biodiversity as a form of natural capital, recognising its role in both sustaining life and supporting economic systems (Hassan *et al.*, 2020; Rimmel and Jonäll, 2013; Schaltegger *et al.*, 2023). At the same time, the difficulty of measuring biodiversity and expressing its ecological value in economic terms hinders its integration into traditional accounting and management practices (Corvino *et al.*, 2021; King *et al.*, 2021).

In order to manage their ecological impact, companies need to integrate environmental aspects into their ongoing operations and strategy (Schaltegger *et al.*, 2023). Such strategies can include counteracting the loss of species and ecosystems and managing the effects of activities such as deforestation and land use change. Corporate reporting can support this work by making biodiversity-related actions and impacts visible and, in some cases, encouraging more developed forms of reporting (Deegan, 2002). At the same time, previous research shows that biodiversity reporting is often used to manage stakeholder perceptions rather than to report concrete and measurable ecological results (Deegan, 2019; Hassan *et al.*, 2020; Maione *et al.*, 2024). As the concept of biodiversity has gained a clearer place in accounting research, the focus has therefore increasingly been directed towards formal frameworks that aim to translate these ideas into practical reporting.

2.2 Frameworks and regulatory initiatives

Voluntary frameworks complement binding regulation by guiding companies towards integrating biodiversity objectives into their business practices. The Biological Diversity Protocol (Houdet *et al.*, 2021) offers standards for evaluating biodiversity footprints and establishing quantifiable targets. In a similar way the Taskforce on Nature-related Financial Disclosures (TNFD) assists companies in identifying and managing biodiversity-related risks (TNFD, 2022; TNFD, 2023), while the Global Reporting Initiative has recently introduced a standard for biodiversity reporting (GRI, 2024). The International Sustainability Standards Board (ISSB) has also initiated work on Biodiversity, Ecosystems and Ecosystem Services (BEES), which contributes to the ongoing integration of biodiversity into global sustainability reporting (ISSB, 2024).

These global initiatives illustrate the expanding institutional structure that underpins biodiversity reporting, thus laying the groundwork for the regional and national regulatory shifts presently reshaping corporate biodiversity accountability within Europe and Sweden. Beyond their practical function as reporting tools, these endeavours also signify compliance with international standards and expectations, consequently cultivating trust and credibility among stakeholders (Deegan, 2002; O'Donovan, 2002). Even though many initiatives are still voluntary, they have influenced mandatory regulatory developments, especially within the European context.

Both voluntary standards and binding regulations require companies to report on biodiversity thereby seeking to align economic activities more closely with environmental sustainability through clearer, more consistent and transparent reporting. The EU Nature Restoration Act of 2023 requires all member states to restore ecosystems on a large scale, with concrete targets for habitats, species and ecological connectivity (Niranjan, 2023). At the same time, the Corporate Sustainability Reporting Directive (CSRD) and the European Sustainability Reporting Standards (ESRS) require companies to report on how their activities impact biodiversity. These requirements will be introduced from the year 2024, with the first reports in 2025–2026 (Strømmer, 2023). The proposed EU Omnibus package may further reshape these requirements by simplifying aspects of sustainability reporting and postponing reporting obligations for some companies. The regulatory development takes on particular importance in national contexts, where EU requirements meet existing reporting routines and institutional structures.

In Sweden sustainability reporting is regulated by the Swedish Annual Accounts Act (ÅRL), which is mandatory for all companies and requires disclosure of environmental and social matters but contains no explicit requirements for biodiversity protection. Swedish companies therefore need to comply with both relatively limited national biodiversity requirements and more extensive European reporting obligations. At the same time, Sweden has a long tradition of voluntary sustainability reporting, where many companies report environmental information in addition to legal requirements (Rimmel and Jonäll, 2013).

This dual setting, characterised by relatively weak national regulation combined with strong European requirements and societal norms, creates both pressure and opportunity for Swedish companies. In this context, biodiversity-related disclosures reflect both regulatory compliance and alignment with Sweden's institutionalised sustainability culture. These regulatory and institutional developments do not affect all companies equally. Sector-specific exposure to biodiversity risks generates variation in reporting practices, external pressures and more specific stakeholder expectations.

2.3 Sectoral context on biodiversity reporting

Earlier studies show that the scope and style of biodiversity reporting differ widely between industries, largely reflecting differences in companies' exposure to ecological risks and the institutional and stakeholder pressures they face (Boiral, 2016; Adler *et al.*, 2018; Blanco-Zaitegi *et al.*, 2022). According to Amundi's (2024) biodiversity footprint analysis, industries also vary sharply in their overall impact on nature: materials, forestry and mining have the greatest effect; industrials and consumer goods fall somewhere in the middle; while financials, communication services, healthcare, information technology and real estate leave a much lighter footprint.

Industries with the heaviest impact on biodiversity alter landscapes and ecosystems through land use, extraction, and pollution. Studies of Nordic forest companies show that biodiversity is embedded in their strategies and certification systems, although such efforts largely remain voluntary (D'Amato *et al.*, 2022). A similar pattern can be found in the mining industry. Biodiversity reporting is often used to secure a social licence to operate or protect corporate reputation rather than to demonstrate real ecological improvements (Amos, 2023; Boiral, 2016; Fonseca *et al.*, 2014). This has led to many researchers arguing that stronger regulations and independent oversight are needed to make sure that reporting reflects real environmental progress rather than symbolic compliance (Aluchna *et al.*, 2024).

Medium-impact sectors influence biodiversity mainly through their use of resources and complex supply-chain relationships. Studies show that companies in these industries often refer to biodiversity only as part of broader sustainability or climate narratives, which makes conservation outcomes difficult to assess (Adler *et al.*, 2018; Blanco-Zaitegi *et al.*, 2022). In practice, environmental issues are commonly managed through investment and efficiency strategies rather than explicit disclosures, a pattern observed across industrial companies (Alkaraan, 2020) and the healthcare sector, where reporting typically focuses on social and ethical concerns over environmental aspects (Demir and Min, 2019).

Industries with a smaller environmental footprint influence biodiversity mostly in indirect ways. At the same time, expectations are growing for these sectors to report how their activities both depend on and affect nature.

Despite its relatively low direct biodiversity footprint, the financial sector plays a bridging role by channelling capital through instruments such as green and biodiversity bonds to align investments with sustainability goals (Ferlin and Sternbeck Fryxell, 2020; Atkins and Macpherson, 2022). By contrast, in sectors such as information technology, communication services, and real estate, sustainability initiatives tend to emphasise carbon reduction, digital efficiency, or asset value. In these sectors, biodiversity reporting remains largely symbolic and shows limited evidence of tangible ecological outcomes (Gregg and Strengers, 2024; Mariani *et al.*, 2018).

All these sector-focused studies show that biodiversity accountability cannot be generalised across sectors. Differences in ecological exposure, value-chain relationships, and stakeholder expectations shape how companies approach biodiversity reporting within different sectoral contexts. Beyond sector-specific reporting practices, biodiversity accountability is also influenced by how financial systems channel resources towards conservation and restoration activities.

2.4 Financial mechanisms for biodiversity conservation

As the urgency of biodiversity loss increases, financial systems have begun experimenting with new ways to support conservation. Financial instruments like biodiversity bonds and extinction funds demonstrate the potential of market mechanisms to channel investments into initiatives aimed at ecosystem restoration and species conservation (Atkins and Macpherson, 2022).

Biodiversity bonds differ from traditional green bonds by linking financial returns directly to ecological performance indicators, such as habitat restoration or species recovery, rather than focusing primarily on climate objectives. However, their implementation remains limited and often dependent on evolving biodiversity metrics. The Swedish market has showcased the potential of such instruments through the issuance of green and biodiversity-related bonds (Ferlin and Sternbeck Fryxell, 2020). Extinction finance, as a broader concept, seeks to integrate biodiversity concerns into investment strategies by attributing economic value to conservation initiatives and connecting financial flows to ecological objectives. Although these financial tools highlight the growing importance of finance in biodiversity governance, their widespread use is limited by the high costs of monitoring, a lack of standardised metrics, and ethical concerns about putting nature into financial markets (Boiral, 2016). These limitations make biodiversity outcomes difficult to verify and compare. As a result, financial instruments may communicate ambition without necessarily demonstrating ecological improvement.

2.5 Challenges, dilemmas and opportunities in biodiversity reporting

Without reliable data, it is difficult to assess and report biodiversity in a meaningful way. Consequently, corporate reports frequently reflect only parts of the ecological impact of their operations, and the inconsistent application of reporting frameworks hinders transparency and comparability among companies (Cosma *et al.*, 2023; Cunha *et al.*, 2021; Hassan *et al.*, 2020; Schaltegger *et al.*, 2023; Widyawati, 2020). Beyond these methodological challenges, biodiversity embodies intrinsic, relational and instrumental values that are difficult to express within conventional accounting systems, which tend to take a human-centred view and struggle to reflect ecological significance (Jones and Solomon, 2013). As a result, biodiversity disclosures frequently remain general and difficult to link to measurable ecological outcomes (Boiral and Heras-Saizarbitoria, 2017).

Beyond these more fundamental measurement and valuation challenges, regulatory and reporting frameworks add further complexity to biodiversity reporting. Companies operate under both binding regulations and voluntary frameworks, yet the lack of established metrics and baseline data makes it difficult to assess ecological outcomes and to compare results across companies (Cosma *et al.*, 2023). Progress is further slowed by methodological complexity and institutional inertia, as many companies continue to struggle to translate ecological data into standardised reporting formats.

An ethical challenge in biodiversity accounting concerns its anthropocentric orientation and the associated risk of commodifying nature. Biodiversity offsets, for example, may frame ecosystems as exchangeable units of value, particularly when accounting models prioritise human benefits and economic metrics (Corvino *et al.*, 2021; Kuokkanen, 2024; Jones and Solomon, 2013). Such approaches risk reducing nature to a managed resource instead of recognising its intrinsic and relational dimensions.

Beyond these valuation debates, companies committed to conserving biodiversity face practical ethical dilemmas in activities such as rewilding and species reintroduction. Reintroduction programmes may conflict with existing land use, agriculture and recreation, while efforts to revive extinct species raise questions about ecological suitability, genetic integrity and unintended impacts on current ecosystems (Lorimer *et al.*, 2015; Nogués-Bravo *et al.*, 2016).

At the same time, technological developments are making it easier to address several of the problems in biodiversity reporting. By using remote sensing, satellite imagery and AI-based analyses of habitats, it is possible to get a clearer picture of ecosystem condition, even over large areas where data has previously been lacking (Luque *et al.*, 2018). Although such tools are not yet used systematically in corporate reporting, they may eventually help reduce some of the data problems that currently complicate the work of biodiversity management over time.

These challenges suggest that biodiversity reporting cannot be reduced to technical quality or disclosure volume alone. Reporting does not exist in a vacuum. It is shaped by the institutional contexts and expectations that surround companies and define what is considered legitimate corporate behaviour (Archel *et al.*, 2011). This helps explain why companies frame and integrate biodiversity differently, and why similar disclosures can reflect different strategies for securing legitimacy. To capture these differences, it is necessary to look not only at what is reported, but also at the rationales shaping how and why it is reported.

3. Theoretical framework: legitimacy theory

To examine how companies construct and communicate responsibility for biodiversity through reporting, this study draws on legitimacy theory. Legitimacy theory assumes that organisations depend on social approval and therefore seek to act, and to be perceived as acting, in ways that align with prevailing societal norms, values and expectations (Suchman, 1995). Biodiversity disclosures constitute a means through which companies seek to demonstrate responsibility and maintain legitimacy in relation to emerging societal and regulatory demands (Deegan, 2002, 2019).

3.1 Why legitimacy theory?

There are other theories that could help explain how organisations respond to external expectations, such as stakeholder and institutional theory. However, legitimacy theory offers a particularly useful perspective for this study, as it captures not only why companies choose to disclose biodiversity information but also how they adapt their behaviour and reporting practices as expectations change. Since biodiversity reporting remains a relatively young and unsettled field, there are no fixed rules for what constitutes responsible practice. As a result, the search for legitimacy becomes particularly visible when companies attempt to define, justify and communicate their role in protecting nature through reporting. In the Swedish context, these dynamics are shaped by a combination of strong environmental traditions, widespread voluntary sustainability initiatives and the growing influence of EU regulation.

3.2 Key dimensions of legitimacy

Deegan (2019) distinguishes between three forms of legitimacy: symbolic, pragmatic and substantive. These forms are useful for analysing corporate biodiversity reporting because they capture differences in how companies engage with environmental responsibility and how such engagement is expressed through reporting.

Symbolic legitimacy refers to situations where companies seek to demonstrate responsibility primarily through language rather than through demonstrable change in practice. In biodiversity reports, this is often found in general statements about sustainability. Such statements signal commitment but do not necessarily reflect operational change.

Pragmatic legitimacy reflects a more instrumental response to stakeholder expectations. Here, environmental responsibility is framed in terms of organisational benefit and performance. Within biodiversity reporting, this dimension can involve disclosures that connect ecological initiatives to financial value creation, such as green bonds or similar instruments tied to economic performance.

Substantive legitimacy develops when biodiversity responsibility becomes part of the company's everyday work and long-term planning. At this level, reports reflect concrete practices rather than aspirational statements, such as biodiversity compensation, habitat restoration or other initiatives that directly address ecological impacts.

3.3 Application to this study

From a legitimacy perspective, corporate biodiversity reports are not treated as neutral or purely technical documents but as communicative instruments through which companies seek to demonstrate responsibility, compliance and care for nature. Importantly, reporting may signal legitimacy without necessarily indicating substantive ecological change. In this study, legitimacy theory is used as an interpretive framework to analyse how biodiversity disclosures reflect different organisational responses to emerging expectations of ecological accountability.

The analysis draws on [Deegan's \(2019\)](#) distinction between symbolic, pragmatic and substantive forms of legitimacy to interpret how companies position biodiversity in their reporting. Importantly, these legitimacy forms are not applied as fixed categories in the coding process. Instead, they serve as an analytical lens through which empirically identified patterns in corporate biodiversity reporting are interpreted.

Based on the qualitative analysis of report content, the study identifies different ways in which biodiversity is framed and articulated in corporate reporting. These empirically grounded patterns are subsequently interpreted through the lens of legitimacy theory, linking reporting practices to underlying organisational approaches to biodiversity protection.

4. Methodology

This study is based on a systematic qualitative analysis of how Swedish companies document and report their work on biodiversity protection. Qualitative content analysis of company reports was used to examine how companies describe nature conservation initiatives and financial mechanisms. From a legitimacy theory perspective, these reports are not only technical disclosures but also instruments for securing legitimacy, through which companies seek to demonstrate conformity with societal expectations and address stakeholder pressures ([Deegan, 2002](#)). The method is empirically grounded and systematic ([Krippendorff, 2004](#)). Content analysis is a useful way to study corporate sustainability reporting, and it is often used to examine how companies describe their work with biodiversity ([Milne and Adler, 1999](#); [Roberts et al., 2021](#)). The analysis focuses on how biodiversity is positioned and legitimised in corporate reporting, rather than on evaluating the environmental performance or "quality" of disclosures in a normative sense.

Sweden was chosen as the research setting because the country combines unique environmental challenges with well-established corporate sustainability practices. Many of Europe's threatened species are found in Sweden, highlighting the need for stronger efforts to safeguard biodiversity ([Ahrné and Bjelke, 2022](#)). At the same time, as an advanced economy with a long-standing environmental tradition, Sweden provides a solid basis for examining how corporate biodiversity reporting aligns with conservation goals and biodiversity protection initiatives. Moreover, there is an increasing use of innovative financial instruments, such as biodiversity and green bonds ([Ferlin and Sternbeck Fryxell, 2020](#)), which offer mechanisms for mobilising capital towards ecological restoration. This combination of ecological vulnerability, corporate environmental leadership, and financial

innovation makes Sweden a useful case for investigating corporate biodiversity accountability. Insights from the Swedish experience may also inform developments across Europe, where similar regulatory frameworks and market dynamics are taking shape.

The market value-weighted OMXS30 index was used as the starting point for company selection, as it represents the 30 most actively traded share classes on the Stockholm Stock Exchange and provides a relevant basis for analysing reporting practices among large and visible companies. As some companies are represented by more than one share class (e.g. Atlas Copco class A and B), this corresponds to 29 distinct companies. However, the index alone did not include enough companies in sectors with the greatest impact on biodiversity to allow meaningful comparisons between sectors. Amundi's (2024) framework was used to identify which sectors have the greatest impact on biodiversity. It ranks industries by their direct and indirect effects on nature and indicates that forestry and mining have particularly strong links to land use and resource extraction, as well as the potential to contribute to ecosystem restoration. The sample was therefore expanded to include three additional forestry companies and one mining company. In line with the Mining with Nature roadmap (Sunér Flemming and Lindahl, 2020), ABB, Atlas Copco, and Sandvik were also reclassified from the industrial to the mining sector. The additional companies were selected from the Stockholm Stock Exchange and prioritised by number of shareholders to ensure relevance and comparability. While low-impact sectors retained their original OMXS30 representation, all high- and medium-impact sectors included at least four companies each. For clarity, companies are presented by sector in Table 1, reflecting differences in biodiversity impact and facilitating the sector-based comparisons developed in the analysis.

The study is based on an analysis of annual reports, sustainability reports, and integrated reports from the period 2019–2023. These reports were used because they best reflect how companies communicate their work with biodiversity. The choice of timeframe was motivated by three considerations. First, literature reviews indicate that biodiversity as an area of corporate reporting was only marginally addressed before 2019, making that year a reasonable starting point for capturing more developed practices. Second, the period coincides with important regulatory developments. These include the initiation and development of the EU's Corporate Sustainability Reporting Directive (CSRD) and the European Sustainability Reporting Standards (ESRS), the initiation of the Taskforce on Nature-related Financial Disclosures (TNFD) in 2021, with its final recommendations published in 2023 and the adoption of the EU Nature Restoration Law in the same year. Third, the delimitation was shaped by practical considerations, as corporate reports up to and including fiscal year 2023 were available at the time of data collection. For these reasons, 2019–2023 is an empirically grounded and analytically relevant period for the study. A total of 196 reports from 33 companies were reviewed to examine how biodiversity protection is addressed in the companies' reporting.

To become familiar with the material, the analysis began with a reading of all reports. Then, a systematic keyword search was conducted to identify how biodiversity protection is described in the various reports. The keyword list was developed with support from prior research. The selection was guided by insights from the accounting and corporate reporting literature on biodiversity (e.g. Adler *et al.*, 2018; Roberts *et al.*, 2021; Blanco-Zaitegi *et al.*, 2022) as well as from ecological studies on rewilding and restoration (e.g. Lorimer *et al.*, 2015; Perino *et al.*, 2019). Before finalising the keyword list, a smaller set of reports was reviewed to check whether the chosen terms actually reflected how biodiversity and rewilding were described in practice. To include financial mechanisms, such as biodiversity and green bonds, the list was expanded with additional terms drawn from earlier work (e.g. Droste *et al.*, 2026; Ferlin and Sternbeck Fryxell, 2020). Table 2 presents the complete list of keywords used in the analysis.

NVivo was used to support the systematic coding and organisation of the company reports. First, a search was made for the keywords described in Table 2, and the “stemmed words” function was applied to capture variations of each keyword (e.g. restore/restored/restoration).

Table 1. Company overview: GICS sector, market capitalisation, shareholder data for OMXS30 companies and additional companies included in the study and types of reports published during 2019–2023

Company /GICS sector	Market cap (bn SEK)	Number of shareholders (rounded to the nearest thousand)	Type of report					
			2019	2020	2021	2022	2023	
Materials, paper and forest products								
Billerud*	26	20,000	A&SR	A&SR	A&SR	A&SR	A&SR	
Holmen*	65	19,000	IR	IR	IR	IR	IR	
SCA	95	43,000	IR	IR	IR	IR	IR	
Stora Enso*	85	19,000	IR	IR	IR	IR	IR	
Materials, metals and mining								
ABB^	1,114	55,000	AR + SR	AR + SR	AR + SR	IR	IR	
Atlas Copco^	804	72,000	IR	IR	IR	IR	IR	
Boliden	84	51,000	A&SR	A&SR	A&SR	A&SR	A&SR	
Sandvik^	250	46,000	IR	IR	IR	IR	IR	
SSAB*	43	135,000	IR	IR	IR	IR	IR	
Industrials								
Alfa Laval	192	25,000	AR + SR	AR + SR	A&SR	A&SR	A&SR	
Assa Abloy	362	30,000	AR + SR	AR + SR	AR + SR	AR + SR	AR + SR	
Nibe Industrier	85	120,000	IR	IR	IR	IR	IR	
SAAB	123	115,000	A&SR	A&SR	A&SR	A&SR	A&SR	
SKF	95	26,000	IR	IR	IR	IR	IR	
Volvo	545	190,000	A&SR	A&SR	A&SR	A&SR	A&SR	
Consumer discretionary								
Electrolux	26	24,000	AR + SR	AR + SR	AR + SR	AR + SR	AR + SR	
Essity	206	36,000	A&SR	A&SR	A&SR	A&SR	A&SR	
Evolution	170	73,000	AR	AR	AR	AR	AR	
H&M	243	87,000	AR + SR	AR + SR	A&SR	A&SR	A&SR	
Financials								
Handelsbanken	223	105,000	AR + SR	A&SR	A&SR	A&SR	A&SR	
Investor	891	512,000	IR	IR	IR	IR	IR	
Kinnevik	21	104,000	A&SR	A&SR	A&SR	A&SR	A&SR	
Nordea Bank	415	68,000	AR + SR	IR	IR	IR	IR	
SEB	318	80,000	IR	IR	IR	IR	IR	
Swedbank	241	99,000	A&SR	A&SR	A&SR	A&SR	A&SR	
Communication services								
Ericsson	298	73,000	IR	IR	IR	IR	IR	
Sinch	17	55,000	IR	IR	IR	IR	IR	
Tele2	76	65,000	A&SR	A&SR	A&SR	A&SR	A&SR	
Telia Company	119	60,000	A&SR	A&SR	A&SR	A&SR	A&SR	
Health care								
AstraZeneca	2,222	68,000	AR + SR	AR + SR	AR + SR	AR + SR	AR + SR	
Getinge	48	26,000	IR	IR	IR	IR	IR	
Information technology								
Hexagon	286	32,000	AR + SR	AR + SR	AR + SR	AR + SR	A&SR	
Real estate								
SBB Norden	7	177,000	A&SR	A&SR	A&SR	A&SR	A&SR	

Note(s): ^indicates that the company is reclassified to the mining sector; *indicates that the company is outside the OMXS30 index

AR = Annual Report; SR = Sustainability Report; A&SR = Combined Annual and Sustainability Report; IR = Integrated Report

Source(s): Author's own work

Table 2. Keywords used to identify biodiversity and financial mechanisms in corporate report

Keyword	Description
Biodiversity	Identifies broad references to biodiversity, including ecosystems, species, and ecological balance
Conservation	Identifies actions aimed at preserving biodiversity, such as habitat protection or species recovery
Endangered	Identifies references to species at high risk of extinction
Extinct	Captures mentions of species that have disappeared entirely
Habitat	Identifies references to habitats critical for biodiversity and ecosystem functioning
Protect	Captures measures to safeguard biodiversity, providing insight into corporate strategies for resilience and species preservation
Recover	Identifies efforts aimed at restoring ecosystems or species populations
Regenerate	Captures mentions of natural or assisted ecosystem rebuilding, linking to biodiversity restoration projects
Rehabilitation	Identifies actions aimed at restoring damaged ecosystems, habitats, or wildlife
Resilience	Captures discussions on ecosystem adaptability and recovery, often tied to biodiversity protection and rewilding
Restore	Identifies actions aimed at returning ecosystems to their natural state, central to rewilding and species recovery
Species	Focuses on species-level references to track initiatives aimed at reintroductions or preventing extinctions
Threatened	Identifies references to species or ecosystems at risk of becoming endangered
Wildlife	Captures mentions of wild species, linking to efforts in rewilding, conservation, and biodiversity protection
Financial mechanism (keywords)	Biodiversity bonds; Biodiversity credits; Climate bonds; Conservation finance; Green bonds; Green loans; Nature bonds; Sustainability bonds

Source(s): Author's own work

All keyword hits were then read in their textual context to assess their relevance. This step helped ensure that no biodiversity-relevant terms were overlooked because of variations in wording. Hits that referred to other contexts, such as rehabilitation in patient care or protection in electrical equipment, were excluded. All other occurrences were coded and saved as biodiversity indicators. These indicators were then used to support a descriptive mapping of biodiversity reporting patterns across the dataset, informed by keyword occurrences. This allowed for contextual comparisons of reporting patterns over time (2019–2023) and between sectors. The analysis at this stage was purely descriptive; it used keyword occurrences to contextualise biodiversity-related terms, without applying any scoring, weighting, or evaluative ranking.

Building on the conceptual distinctions outlined in the theoretical framework, the qualitative analysis focused on interpreting how biodiversity disclosures were positioned and framed in the reports. It was processed in several steps, beginning with empirical coding and followed by theoretical interpretation.

In the initial analytical step, the relevant biodiversity indicators were analysed using a qualitative content analysis. Each instance was read in its context and classified according to how specific the disclosure was. Two categories were applied: general statements, referring to broad commitments without specification, and concrete measures, referring to explicit biodiversity-related actions such as ecosystem restoration, species protection, or biodiversity-related financial instruments. For example, a passage in NIBE's integrated report (2023) stating that "*climate change . . . is threatening our living conditions, biodiversity and political stability in society*" was coded as a general statement, whereas SCA's reporting on wetland restoration "*The restoration of open wetlands by refilling 22 kilometers of ditches. 100 hectares were restored in 2021*" was coded as a concrete measure.

All relevant text passages were then coded and grouped into overarching analytical themes, financial mechanisms, environmental impacts, and initiatives to protect biodiversity. These reflect the major dimensions of biodiversity accountability identified in prior research. Based on the thematic coding, the analysis proceeded to identify three distinct levels of corporate engagement with biodiversity (peripheral, operational, and strategic integration). These levels were derived through a structured inductive–interpretive process, grounded in the empirical characteristics of the disclosures rather than in predefined theoretical categories.

The analytical linkage between the three levels of engagement and the corresponding forms of legitimacy was established through interpretation rather than direct coding. Specifically, the engagement levels were first identified based on the empirical characteristics of the disclosures, including their degree of specificity, their proximity to core organisational activities, and whether biodiversity was presented as a peripheral concern, an operational practice, or a strategic priority. Legitimacy theory, as outlined in the theoretical framework, was then applied to interpret the accountability function of these empirically derived patterns.

Company disclosures classified as peripheral engagement typically consisted of general statements acknowledging biodiversity loss or societal expectations without identifiable operational or strategic commitments. These disclosures were primarily interpreted as associated with symbolic legitimacy. Their role was to signal awareness and alignment with prevailing societal expectations, rather than to demonstrate concrete organisational change. Operational engagement referred to disclosures describing concrete biodiversity-related actions, projects, or management practices that demonstrated responsiveness and problem-solving. Such cases were interpreted as expressions of pragmatic legitimacy, since they provided visible evidence of action-orientated accountability directed at stakeholders. Strategic engagement, by contrast, was interpreted as linked to substantive legitimacy. Here, biodiversity protection was embedded in corporate strategy, core business models, or long-term planning and often accompanied by measurable ecological outcomes and longer-term commitments. Biodiversity considerations thus became integrated into organisational decision-making rather than remaining peripheral.

For example, Assa Abloy's 2021 Sustainability Report recognises biodiversity loss in broad or aspirational terms without specifying firm-level actions, stating that "*Irresponsible disposal of waste poses a major pollution risk and threat to biodiversity, both on land and in our oceans*" (p. 22). This type of disclosure was coded as peripheral engagement and interpreted as symbolic legitimacy. In contrast, disclosures describing specific biodiversity-related activities, such as Billerud's 2019 Annual and Sustainability Report statement that they provide "*financial support to the Swedish Society for Nature Conservation's White-Backed Woodpecker Projects*" (p. 42) or the statement from SBB's 2022 report: "*... contribute to biodiversity. This is achieved by planting meadow flowers ...*" (p. 45), were coded as operational or strategic engagement depending on how closely they were connected to core business activities. These examples clarify how legitimacy theory informed the interpretation of empirically derived engagement levels, rather than structuring the initial coding process.

Figure 1 illustrates the overall analytical procedure and summarises how the different stages of the analysis are connected. The figure provides a visual overview of how biodiversity disclosures were identified, classified, and subsequently interpreted through legitimacy theory. The coding process has continuously been discussed within a group of researchers working on various studies of corporate reporting. The coding was reviewed and calibrated to strengthen consistency and analytical robustness. This process served as a qualitative consistency check. Coding decisions were revisited and refined several times during the analysis process, to enhance the reliability. Because the analysis focused on the interpretation of textual meaning rather than on simple word counts, some degree of interpretive judgement was involved. The findings should therefore be read as indicative of broader reporting patterns rather than as precise measurements.

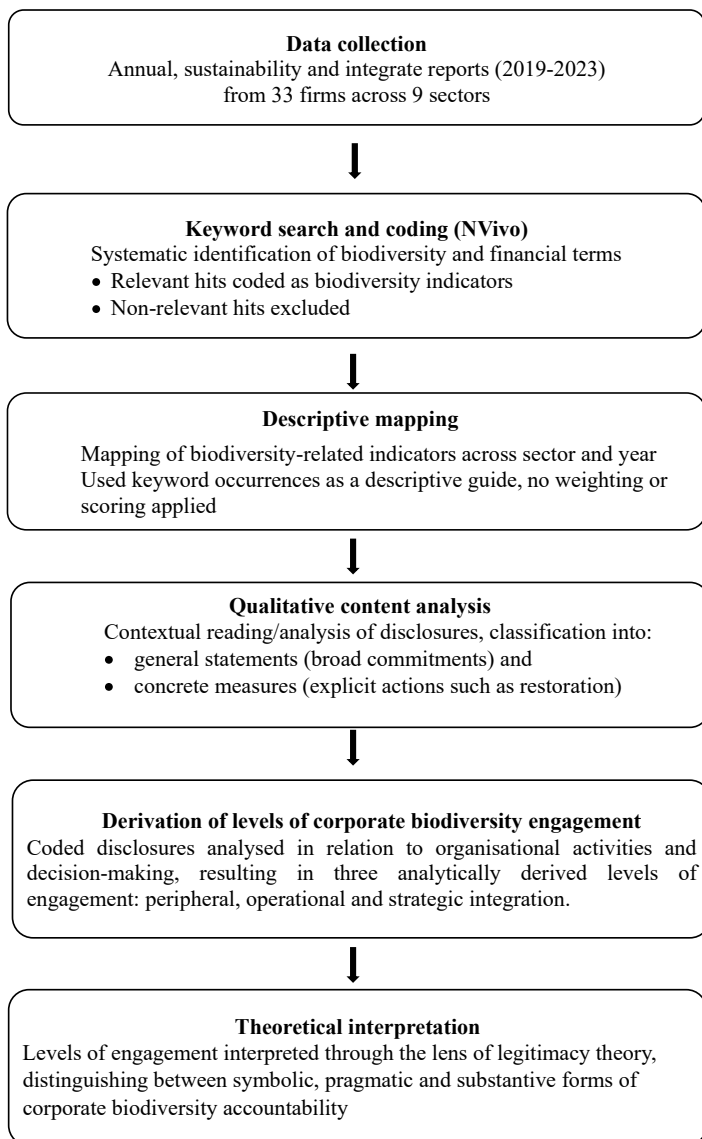


Figure 1. Overview of the stepwise analytical procedure, illustrating how biodiversity disclosures were first coded and thematically organised, how three levels of corporate biodiversity engagement were subsequently derived, and how these empirically grounded patterns were interpreted through legitimacy theory. Source: Author's own work

5. Findings

This section presents the results of the analysis of biodiversity reporting by Swedish companies from 2019 to 2023. Rather than reflecting improved biodiversity accountability, the analysis indicates an increase in the extent and visibility of biodiversity-related disclosures over this period. Across sectors, biodiversity is most often framed through general sustainability narratives, with substantial variation in how explicitly companies describe

concrete actions, ecological outcomes, or long-term commitments. Reporting practices remain uneven and fragmented and are strongly shaped by sectoral exposure to ecological risk and regulatory pressure rather than by a consistent accountability logic. From a legitimacy perspective, the analysis suggests that while some sectors and companies demonstrate more substantive forms of engagement, the overall increase in reporting primarily reflects growing legitimacy pressures rather than systematic approaches to biodiversity accountability.

A central finding of the analysis is that companies differ not only in how much they report on biodiversity but also in how biodiversity is positioned in relation to core business activities. Based on the qualitative content analysis, three analytically distinct forms of corporate engagement with biodiversity can be identified: peripheral, operational, and strategic. These forms reflect increasing degrees of integration between biodiversity protection and organisational decision-making. Most corporations operate at a peripheral level, treating biodiversity as a general ethical consideration or a future goal and largely separating it from their day-to-day operations. Fewer companies integrate biodiversity into their operations by linking it to specific projects or site-level actions. Only a small number of companies show signs of strategic integration, where biodiversity protection is built into their core business models, long-term land-use plans, or resource management.

The different levels of engagement can be interpreted as reflecting different strategies for gaining legitimacy. Peripheral integration mainly reflects symbolic legitimacy, where biodiversity disclosures serve as signals of alignment with societal expectations, rather than evidence of real ecological responsibility. Operational integration is more closely associated with pragmatic legitimacy, as companies respond to stakeholder demands through visible and measurable initiatives without fundamentally changing their business strategies. By contrast, strategic integration points toward substantive legitimacy, where biodiversity protection becomes an integral part of organisational purpose and practice. This distinction is also evident in the analysis of financial instruments and rewilding initiatives. References to green finance and restoration projects have become more frequent over time. However, these disclosures are rarely linked to verifiable ecological outcomes, and only in a few cases do they indicate a deeper shift toward substantive biodiversity accountability.

5.1 Trends in biodiversity reporting (2019–2023)

To examine how biodiversity reporting has evolved, the analysis takes a longitudinal perspective covering the period 2019–2023. Figure 2 presents this development, showing a

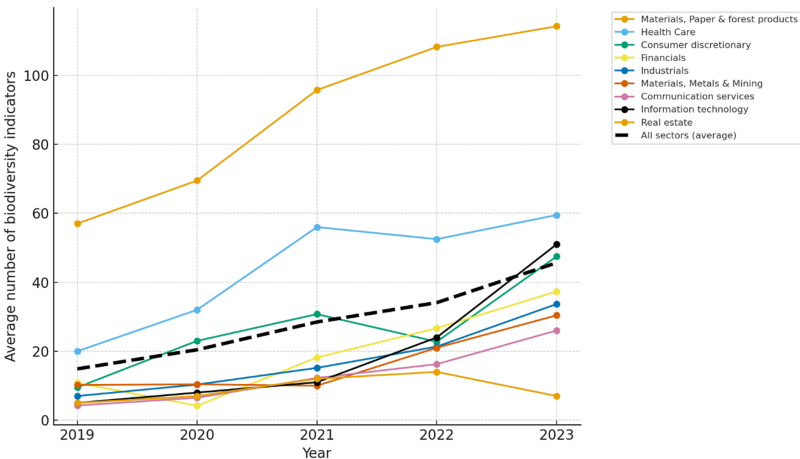


Figure 2. Development of biodiversity-related reporting, 2019–2023. Source: Author’s own work

general increase in biodiversity disclosure across all sectors. At the same time, marked differences in reporting patterns between sectors suggest that this growing visibility is uneven and shaped by variations in ecological exposure, business models, and external legitimacy pressures rather than by a uniform reporting logic. However, frequency-based patterns alone provide limited insight into how biodiversity is positioned in corporate reporting or what distinguishes reporting practices across sectors.

A clearer pattern emerges when sectors are considered in relation to their degree of ecological exposure. Companies operating in sectors with direct impacts on land use and ecosystems, such as forestry and extractive industries, consistently include more biodiversity-related disclosures. In these sectors, biodiversity reporting is more frequently tied to concrete business activities. This pattern aligns with the regulatory scrutiny these companies face and their material dependence on natural systems.

By contrast, sectors with more indirect or limited ecological impacts, including consumer-orientated, industrial, and service-based industries, display a different reporting pattern. Although biodiversity reporting has increased over time, it often does so from low baseline levels and remains largely general in nature. Disclosures are frequently embedded within broader sustainability or climate narratives, and the emphasis often lies on external expectations and reputation rather than operational biodiversity engagement. Financial institutions fit broadly within this pattern but occupy a distinct position. They report biodiversity disclosures less frequently than most companies in sectors with direct environmental impacts. Biodiversity issues are primarily framed in relation to investment portfolios, risk management practices, and sustainability-linked financial products rather than direct ecological actions.

The increased reporting on biodiversity toward the end of the period coincides with changes in both reporting formats and new regulations. During the period, most companies have moved from separate sustainability reports to more integrated or combined reporting formats. This indicates that biodiversity and other sustainability issues are increasingly being incorporated into regular corporate reporting practice. In 2023, references to the CSRD are also frequent, most often linked to initial measures such as dual materiality assessments. Companies appear to be preparing for upcoming reporting requirements. In contrast, the TNFD is mentioned less frequently and by fewer companies, which can be explained by its more voluntary nature. These changes in reporting formats and regulatory attention appear to coincide with the observed increase in biodiversity reporting.

The analysis over time indicates that biodiversity-related disclosures have become a more visible element of corporate reporting. Frequency-based patterns capture how often biodiversity-related terms are mentioned, yet they do not reveal how such disclosures are framed, what kinds of actions are described, or how closely biodiversity is linked to core business activities. From a legitimacy perspective, the observed increase in reporting can be interpreted as an indication that biodiversity-related accountability is becoming an increasingly institutionalised topic within corporate sustainability discourse, reflecting rising expectations for transparency and alignment with emerging norms. The following section therefore moves beyond reporting frequency and examines the forms and levels through which companies integrate biodiversity-related concerns into their reporting and organisational practices.

5.2 Forms and levels of corporate biodiversity engagement

The coding of annual and sustainability reports revealed systematic differences in how biodiversity is addressed in corporate reporting. These differences concern not only what is disclosed but also how biodiversity is positioned in relation to organisational activities. In some cases, biodiversity is framed in broad sustainability terms with limited operational detail, while in others it is linked to specific actions embedded in core business activities.

These recurring patterns formed the basis for an analytical distinction between different forms of engagement. The analysis identifies three levels of corporate engagement with biodiversity: peripheral integration, where biodiversity initiatives operate independently of

core business functions; operational integration, where biodiversity concerns are incorporated into existing processes; and strategic integration, where biodiversity protection becomes a central element of corporate strategy and decision-making. These levels correspond to different organisational responses to external expectations within a legitimacy framework. Peripheral integration aligns primarily with symbolic responses, operational integration with pragmatic responses, and strategic integration with more substantive legitimacy. Table 3 provides illustrative examples of these levels and their associated forms of accountability.

5.2.1 *Peripheral integration of biodiversity.* The largest group of coded references consists of general statements that align with what is here defined as peripheral integration. These disclosures articulate broad commitments to sustainability and resource conservation but provide limited operational detail and rarely link biodiversity to core business activities.

For example, ABB’s 2019 Sustainability Report states that the company “*delivers solutions that enable the sustainable cities, industry, and transport systems that the world needs to mitigate climate change and conserve non-renewable resources*” (p. 5). Similarly, AstraZeneca’s 2023 Annual Report describes how “*the conservation and sustainable use of natural resources and the protection and restoration of ecosystems are vital for a healthy future,*” (p. 48) and SKF writes in its 2023 report that it is “*possible to increase and enhance biodiversity by contributing to conservation*”, (p. 129) without specifying concrete measures or measurable biodiversity targets. Such disclosures are characterised by general alignment with widely recognised sustainability principles rather than by references to specific conservation activities. Biodiversity is presented as a value-based commitment rather than as an operational issue with traceable responsibilities.

This pattern is particularly common among companies that are less directly involved in ecologically intensive activities, such as information technology and consumer discretionary sectors. For instance, Electrolux frames its environmental contribution primarily in terms of energy efficiency and water optimisation. While these measures may contribute to environmental performance more broadly, their connection to biodiversity conservation is not explicitly articulated. From a legitimacy perspective, this form of reporting corresponds to

Table 3. Illustrative examples of biodiversity reporting used to identify levels of engagement and associated forms of legitimacy

Level of engagement	Example quotation (company, year)	Classification	Dominant accountability form
Peripheral	“Biodiversity is one of the planetary boundaries most exposed to stress.” (SBB, 2022)	General statement	Symbolic
Operational	“Through certifications such as FSC and PEFC, Essity ensures sustainable fibre sourcing, thereby preventing deforestation and promoting biodiversity.” (Essity, 2023 AR)	Concrete measure linked to specific activities or processes	Pragmatic
Strategic	“Boliden assesses biodiversity performance at our operating sites . . . the creation of wildflower meadows and wetlands, and biodiversity enhancements in existing woodlands . . .” (Boliden, 2023)	Concrete measure, integrated into corporate strategy and long-term planning	Substantive

Note(s): The examples are illustrative and reflect analytical interpretations of how biodiversity-related disclosures were legitimised in context. They do not represent an exhaustive or mutually exclusive classification. In practice, companies may display characteristics across levels, and classifications reflect the dominant pattern observed in the reporting context

Source(s): Author’s own work

symbolic engagement, where alignment with sustainability norms is emphasised without extensive operational integration, thereby signalling conformity with external expectations rather than substantive change.

5.2.2 Operational integration of biodiversity. A smaller but still significant portion of the coded material moves beyond general statements to describe how company operations or products relate to biodiversity protection. These cases show a move toward what can be described as operational integration, where biodiversity efforts are linked more directly to business practice through specific activities or projects.

For example, Alfa Laval's 2022 annual and sustainability report describes efforts to remove invasive species and plant native vegetation in a biodiversity park. The project aims to improve local biodiversity through habitat restoration. It is not, however, embedded in a broader ecological restoration strategy. Similarly, AstraZeneca, in collaboration with EFI, rehabilitated two lakes in Chennai to enhance biodiversity and water quality. The initiative supports local biodiversity but remains focused on site-level intervention rather than forming part of a wider corporate biodiversity strategy. While such projects contribute to resource conservation, they generally place greater weight on operational improvements and site-specific interventions than on the long-term restoration of ecosystems or changes of overarching corporate strategy.

This form of engagement can be interpreted as pragmatic legitimacy, as companies respond to stakeholder expectations through visible and measurable projects that demonstrate environmental responsibility in practice, but without fundamentally reshaping core business models or long-term strategic priorities.

5.2.3 Strategic integration of biodiversity. The highest level of integration appears in companies where biodiversity initiatives are closely connected to core business operations. In these cases, biodiversity protection is embedded in long-term strategic decision-making rather than treated as a separate project. SCA and Billerud demonstrate conservation measures directly related to their industries, including wetland restoration, prescribed burning, and species-specific initiatives such as the protection of the white-backed woodpecker and pool frog. Here, biodiversity is incorporated into commercial strategy as an ongoing commitment rather than as isolated projects, with clearer links to measurable ecological outcomes. Boliden's work with wetland restoration illustrates a move toward acknowledging responsibility for the ecological consequences of its mining operations. By restoring damaged sites and promoting the return of native species, the company connects biodiversity protection directly to impacts arising from its core activities.

From a legitimacy perspective, strategic integration corresponds to substantive legitimacy. Biodiversity protection becomes embedded in organisational identity, resource allocation, and long-term planning, rather than remaining confined to project-based initiatives.

5.2.4 Sectoral variations across forms of biodiversity engagement. Companies in sectors with more indirect ecological exposure tend to pursue biodiversity initiatives that are positioned outside their core operations. AstraZeneca, a company in the pharmaceutical sector, provides one example. Through its participation in the World Economic Forum's trillion trees initiative and its AZ Forest programme, the company engages in large-scale tree planting and habitat restoration projects. In Western Australia, more than 260 native species have been planted to reconnect damaged habitats and support species recovery. Although these initiatives demonstrate engagement at a landscape scale, their connection to the company's primary operational impacts is not always explicit.

By contrast, in sectors with direct ecological exposure, such as extractive industries and forestry, biodiversity measures are more frequently integrated into operational frameworks and land-use practices. Companies such as SCA, Holmen and Boliden establish high-value conservation areas, restore wetlands, and manage old-growth forests as part of their production systems. The restoration of the Atlantic rainforest in Brazil by Stora Enso further demonstrates the direct connection between conservation activities and land management and resource extraction practices. In these sectors, biodiversity protection is more closely embedded in core operations.

These findings demonstrate a sectoral variation in how forms of biodiversity engagement are structured and positioned. While initiatives in resource-intensive sectors typically align with production routines and land-use planning, those in indirectly exposed sectors tend to focus more externally. This suggests that indirectly exposed sectors more frequently exhibit peripheral forms of engagement, whereas sectors with direct ecological exposure are more likely to demonstrate operational or strategic integration. These differences reflect how ecological exposure and institutional pressure shape the degree of integration between biodiversity protection and organisational practice when viewed through legitimacy theory.

5.3 Financial instruments for biodiversity accountability

Green bonds, sustainability-linked loans and biodiversity credits are financial instruments intended to channel capital towards nature-related objectives, including ecosystem restoration and rewilding. In practice, however, their reported use and framing vary substantially between sectors. While many companies prioritise climate-related targets such as emission reduction or energy efficiency, investments explicitly framed as biodiversity conservation remain relatively rare and are not typically positioned as central financial commitments.

The company reports included 408 references to financial instruments related to biodiversity. Descriptively, these references appeared most frequently in the financial sector (69%), followed by materials, paper and forest products (10%), metals, mining and communication services (6%), real estate (4%), and healthcare and consumer goods (2%). No biodiversity-related financial instruments were mentioned in reports from the information technology sector. This descriptive pattern suggests that biodiversity-linked financing is discussed primarily within the financial sector. Within that sector, such instruments are predominantly discussed at the portfolio level rather than in direct connection with the companies' own ecological impacts. In other sectors, financial instruments are more frequently associated with climate-related measures, with biodiversity incorporated in a more indirect manner rather than articulated as clearly defined financial commitments. The uneven distribution and framing of biodiversity-linked financial instruments indicate sectoral variation in their role, a pattern examined in more detail below.

5.3.1 Sectoral variation in the use of biodiversity-linked financial instruments. The financial sector plays a central role in the development of biodiversity-linked instruments, although such initiatives remain limited and vary between companies. One example is Swedbank. The bank has introduced biodiversity credits as a financial mechanism intended to support nature conservation. In 2023, Swedbank became the first Swedish bank to acquire such credits within a project aimed at preserving biodiversity in Swedish forests. The project is linked to the EU Nature Restoration Act and is described by the bank as a response to emerging regulatory and reporting requirements and to enhance biodiversity. The initiative illustrates how financial instruments can be framed as generating measurable conservation outcomes. It is not always clear to what extent such outcomes can be independently verified.

Many actors in the financial sector direct their green financing primarily toward climate-related areas. Green loans and sustainability commitments are typically allocated to investments in energy efficiency, renewable energy, and climate adaptation. Handelsbanken's green loans provide one example: they prioritise climate adaptation and energy efficiency, yet contain no explicit targets linked to biodiversity protection. A similar orientation can be observed among the other banks in the study, where emission reductions and renewable energy are emphasised over ecosystem restoration or species protection. Biodiversity therefore seldom appears as a standalone financial objective. Instead, it is often folded into broader environmental or climate-related strategies. From a legitimacy perspective, this pattern may reflect the fact that financial instruments are more readily deployed in areas where measurement practices, regulatory frameworks, and stakeholder expectations are already well established. The limited use of biodiversity-specific indicators in financial reporting also reflects the practical difficulty of expressing biodiversity impacts in financial and reporting terms.

In the materials and mining sectors, green bonds are primarily used to finance projects related to emission reductions and resource efficiency. Boliden provides one example of this approach. Although some of these projects may have ecological side effects, biodiversity is seldom formulated as a distinct financial target. The emphasis lies elsewhere. A comparable pattern appears in the consumer discretionary and communication services sectors. Electrolux and Ericsson have both introduced green financing frameworks centred on low-carbon innovation and energy performance. Biodiversity does not feature prominently in these instruments and is rarely defined through specific financial commitments. Across these sectors, environmental finance tends to gravitate towards areas where metrics, standards and regulatory expectations are already relatively stable. Biodiversity, by contrast, is more difficult to quantify and integrate into existing financial logics. As a result, it remains marginal within green financing frameworks, despite increasing rhetorical attention.

In the forestry sector, the link between finance and biodiversity appears clearer than in most other industries. Both SCA and Stora Enso use green bonds on a large scale, but the focus is still mainly on climate and energy rather than on biodiversity. SCA's framework supports Sweden's environmental goals but mostly funds renewable energy and land-use efficiency. Here, biodiversity-related effects are largely embedded within broader land-management and efficiency objectives rather than articulated as explicit financial targets. Stora Enso's green bonds for forest acquisitions point in a somewhat different direction. They illustrate how finance can be used more directly for conservation purposes, even if such projects remain limited in number and are often handled outside the company's broader financial planning. These cases indicate that financial tools for biodiversity protection are present within the forestry sector. However, their use remains fragmented and only partially integrated into companies' overall financial strategies.

Finally, the real estate sector's sustainability work (represented by one company) mainly centres on energy efficiency, social responsibility, and sustainable infrastructure. The company uses green bonds to support energy efficiency and climate initiatives and social bonds to strengthen housing and community projects. Biodiversity is not mentioned at all in these activities, indicating that sustainability financing in this sector remains primarily focused on social and climate goals rather than ecological outcomes.

5.3.2 Cross-sectoral comparison in the use of biodiversity-related financial instruments. The cross-sectoral comparison reveals a shared tendency despite sectoral variation. Although financial instruments differ in scope and application, biodiversity seldom emerges as a clearly defined financial objective. Instead, climate-related targets consistently occupy a more central position within green financing frameworks.

This pattern indicates that financial engagement is more readily directed towards environmental domains where measurement standards, regulatory expectations and reporting practices are already institutionalised. Biodiversity, which is less standardised and more difficult to quantify, remains more weakly embedded in financial structures. At the same time, isolated cases indicate that this pattern is not fixed. Where biodiversity becomes explicitly integrated into financial instruments, it signals the potential for a more direct alignment between financial mechanisms and ecological outcomes, even if such developments remain limited.

5.4 Corporate conservation practices and emerging rewilding-related initiatives

The term rewilding is rarely used explicitly in corporate reporting. Instead, companies describe conservation, restoration and species protection initiatives that vary in scope and ambition. In this study, such initiatives are examined in relation to the ecological literature on rewilding, particularly when they involve species reintroduction or efforts to recreate conditions that enable ecosystems to function with limited ongoing management.

Among sectors, forestry reports the most extensive biodiversity engagement. Companies such as SCA and Billerud describe species protection and habitat restoration within managed

forest landscapes. Measures targeting species such as the white-backed woodpecker and the pond frog are frequently mentioned in their reporting. These initiatives show how biodiversity protection is integrated into forestry operations. At the same time, they mainly represent structured conservation and restoration within production systems, rather than efforts to allow ecosystems to develop with less direct management. The degree of ecological independence therefore remains limited by ongoing land-use practices.

Stora Enso reports conservation and restoration initiatives beyond Sweden. In collaboration with Veracel in Brazil's Atlantic rainforest, the company protects approximately 115,000 hectares of forest and restores a further 8,200 hectares annually using native species. In the company's reporting, these activities are described as large-scale restoration efforts carried out outside its primary production context. Compared to the species-focused measures reported by other Swedish forestry companies, these initiatives operate at a broader landscape scale and are geographically separated from the company's core industrial sites.

Over the period studied, financial support for conservation and species recovery initiatives has become more visible. Swedbank, for instance, reports investments in biodiversity bonds connected to forest restoration projects linked to the EU Nature Restoration Act and the TNFD framework. Company reports also mention support for species reintroduction projects, including initiatives concerning the Atlantic sturgeon and the European bison. Other companies, such as SCA, Nordea and Boliden, refer to funding arrangements and collaborative projects in similar areas. These activities are typically organised through partnerships or financial contributions and are described as part of broader sustainability strategies. They do not appear to involve direct modifications of core production or land-use practices.

Company reporting on conservation and rewilding-related initiatives has become more visible during the period studied. At the same time, descriptions often remain general, and information about long-term ecological effects is limited. Some companies refer to species-specific monitoring, cooperation with researchers and longer follow-up periods, but comparable measures are still unevenly developed. This makes it difficult to determine how far these initiatives contribute to measurable biodiversity outcomes. In terms of legitimacy, references to rewilding-related activities suggest that ecological restoration is increasingly incorporated into how companies articulate responsibility. However, the lack of common standards and consistent reporting practices indicates that this area is still taking shape rather than being fully established. In relation to the analytical framework presented earlier, rewilding-related initiatives cut across different forms of engagement and depend largely on how closely they are connected to core operations and land-use practices.

6. Discussion

6.1 Biodiversity reporting and legitimacy

Swedish corporate biodiversity reporting between 2019 and 2023 can be interpreted as a process of gradually institutionalising biodiversity accountability. Although much of the reporting still seems focused on maintaining organisational legitimacy rather than demonstrating measurable ecological impact, the increasing volume and spread of disclosures across sectors indicate that biodiversity is becoming a more established element of corporate sustainability reporting.

While earlier research has primarily examined how extensively companies report on biodiversity, the present study also considers how biodiversity is positioned in relation to core organisational activities. The increase observed is therefore not only a matter of frequency, but of variation in depth and integration. Greater visibility does not automatically correspond to deeper operational or strategic embedding. Earlier research indicates that industries with direct ecological impacts, such as mining and forestry, generally address biodiversity more prominently than industries whose impacts are more indirect (Adler *et al.*, 2018; Schaltegger

et al., 2023). The material examined here reflects these differences in reporting visibility but also shows that sectoral variation concerns the depth of integration. In resource-intensive industries, biodiversity reporting is more often connected to concrete aspects of operations. In manufacturing and consumer-orientated industries, biodiversity is more commonly discussed alongside indirect measures such as energy efficiency or reduced water use. While these measures may improve overall environmental performance, their link to biodiversity protection remains limited. Similar tendencies have been observed in earlier research (Jones and Solomon, 2013; Rimmel and Jonäll, 2013), where companies emphasise broad sustainability commitments without specifying biodiversity-related outcomes. From a legitimacy perspective, the differences observed across sectors can be understood as responses to varying external pressures rather than as expressions of a shared accountability model.

Although the analysis concerns Swedish companies, similar reporting patterns appear in other European contexts. Research from Germany, France and the Netherlands reports similar patterns, where sustainability reporting remains fragmented and often symbolic (Cosma *et al.*, 2023; Aluchna *et al.*, 2024). The difficulties identified in this material therefore appear to extend beyond national context. They point to more general challenges in translating biodiversity commitments into accountable practice. Sweden is frequently described as having strong environmental governance and a relatively mature green finance sector. If reporting remains uneven and partly symbolic even under such conditions, this raises questions about how far institutional pressure alone can drive substantive ecological integration.

Even in a regulatory and cultural context often described as supportive of sustainability, companies struggle to translate biodiversity commitments into measurable ecological results. Concerns about greenwashing raised by Adler *et al.* (2018) and Boiral (2016) therefore remain relevant. Across sectors, reports tend to emphasise initiatives and ambitions, while systematic evidence of ecological effects is limited. Projects are frequently highlighted, yet changes in core structures or business models are far less visible. The fragmented and non-standardised nature of the reporting makes comparisons difficult and weakens claims of accountability (Blanco-Zaitegi *et al.*, 2022; Schaltegger *et al.*, 2023). In many cases, reports outline planned or ongoing actions but provide limited information about what has actually been achieved or about unintended effects. Viewed through legitimacy theory, this pattern points to reporting that helps organisations sustain credibility in a context of increasing scrutiny, rather than clearly demonstrating ecological performance.

A central contribution of this study is the identification of three analytically distinct levels of corporate engagement with biodiversity: peripheral, operational and strategic. Rather than focusing primarily on how extensively these companies report, the framework draws attention to how biodiversity is positioned in relation to core organisational activities. When viewed through the lens of legitimacy theory, most reporting still appears grounded in pragmatic concerns. In many cases, responsiveness to stakeholder expectations takes precedence over demonstrating tangible ecological outcomes. At the same time, the material also contains examples where biodiversity is more firmly embedded in operational routines or long-term planning, suggesting that engagement is not static. The three levels are therefore not presented as sequential stages. Instead, they serve as analytical categories that capture variation in how companies navigate between symbolic communication and more institutionalised forms of ecological responsibility.

6.2 Integrating biodiversity into corporate practice: uneven progress and emerging patterns

The integration of biodiversity into corporate practice remains uneven, even though reporting has become more visible over the period studied. Biodiversity now features more prominently in corporate disclosures, yet this greater visibility is not consistently reflected in operational routines or strategic decisions. Earlier research has noted a similar gap between stated

commitments and measurable ecological outcomes (Adler *et al.*, 2018; Boiral, 2016; Schaltegger *et al.*, 2023), and the present findings point in the same direction. Clear sectoral differences emerge. In forestry and mining, biodiversity concerns are more frequently linked to everyday practices and land-use decisions. In other sectors, such links are less pronounced, suggesting that deeper integration remains tied to direct ecological exposure rather than signalling a broader transformation across the corporate field.

The findings do not point to a clear shift from symbolic to substantive engagement. Instead, different forms of accountability appear side by side across sectors. In several cases, companies introduce targeted biodiversity initiatives while maintaining broader sustainability narratives that remain largely unchanged. References to biodiversity are often added to existing reporting frameworks without significantly affecting production routines, investment priorities, or strategic planning. This suggests that ecological concerns are incorporated but not necessarily prioritised. This pattern resonates with earlier work showing that biodiversity initiatives can function as legitimacy-building mechanisms alongside existing organisational practices (Boiral and Heras-Saizarbitoria, 2017). The differences observed across sectors in the present study, however, point more specifically to varying exposure to ecological risk and differentiated legitimacy pressures rather than to a coordinated move toward deeper accountability.

From a legitimacy perspective, these developments reflect gradual and uneven adjustments rather than a decisive transition. Biodiversity remains peripheral in many companies, while in sectors with direct ecological exposure, it is more likely to enter operational practice. The distinction between peripheral, operational and strategic engagement helps clarify this variation. Rather than representing fixed stages, these categories capture how companies position biodiversity differently in relation to core activities and organisational purpose.

6.3 Financial mechanisms and biodiversity accountability

Corporate use of financial instruments in relation to biodiversity remains limited and largely climate-orientated. Green and sustainability bonds are now widely used, whereas instruments specifically directed at biodiversity such as biodiversity credits or biodiversity-linked bonds are less common and applied inconsistently. This gap does not only concern technical maturity. It also reflects the more established institutional setting surrounding climate finance, where metrics, reporting standards and investor expectations are comparatively well developed. In contrast, biodiversity is not supported by comparable reporting routines or widely accepted indicators, which makes its incorporation into established financial decision-making more challenging.

Earlier research has noted that sustainability-orientated financial innovations often correspond more closely to prevailing market logics than to demonstrable ecological outcomes (Adler *et al.*, 2018; Ferlin and Sternbeck Fryxell, 2020). The findings point in a similar direction. Financial instruments are frequently described as supporting environmental objectives. Clear links between capital allocation and measurable biodiversity outcomes, however, remain difficult to identify. In legitimacy terms, biodiversity-related finance often functions as a way of signalling responsiveness to investors and regulators rather than as evidence of structural ecological change.

Financial instruments relate only partially to the engagement levels identified earlier in the analysis. Whereas operational and strategic integration concern changes within production systems, financial mechanisms are shaped by capital market arrangements and reporting conventions that operate according to different priorities. In some instances, such as when funding is explicitly tied to conservation or restoration projects, capital allocation may support more concrete biodiversity outcomes. However, such cases remain limited and do not yet amount to a broader reorientation of financial practice.

Emerging frameworks, including the TNFD and the EU's reporting requirements (CSRD/ESRS), seek to tighten the link between financial disclosure and biodiversity outcomes by

introducing clearer expectations regarding baselines, transparency and the use of proceeds. Whether these initiatives will substantially reshape biodiversity finance is still uncertain. At present, the relationship between financial innovation and ecological accountability appears constrained by the ways in which biodiversity is defined, measured and translated into financial terms.

6.4 Rewilding in corporate reporting: between restoration and legitimacy

Although the term rewilding is rarely used in corporate reporting, several initiatives described as restoration, conservation, or species reintroduction can be examined in light of how rewilding is defined in ecological research. There rewilding is typically described as an approach that seeks to strengthen ecosystem resilience through species reintroduction and the restoration of natural processes (Perino *et al.*, 2019). When the initiatives identified in this study are considered against that definition, most remain situated within managed landscapes and existing production systems. Rather than enabling more self-directed ecological processes, they tend to operate within structured conservation frameworks that fit established business models. What emerges is not a direct transfer of ecological rewilding into corporate practice, but an adaptation of the concept into forms that are organisationally workable.

This adaptation has implications when viewed through legitimacy theory. When restoration and species-related projects appear in corporate reporting, they can indicate an awareness of growing concerns about biodiversity loss. Yet where such initiatives remain bounded by existing land-use regimes and are not accompanied by changes in production patterns, investment priorities or governance structures, their implications are limited. In these cases, they are more plausibly interpreted as contributing to pragmatic or symbolic legitimacy than to substantive transformation. Only where restoration efforts influence operational routines or long-term resource management does the possibility of deeper integration begin to appear.

Rewilding-related initiatives occupy an unsettled position within corporate sustainability practice. They extend biodiversity discourse towards restoration and recovery but are rarely anchored in core organisational systems or supported by consistent performance measures. The concept makes the distance between ecological ambition and institutional practice visible. Although some cases indicate closer links to operational routines, most initiatives continue to appear within broader sustainability narratives rather than as part of structural change. This ambivalence points to both the possibilities and the constraints that shape corporate involvement in ecological restoration.

7. Conclusions

This study contributes to the interdisciplinary debate on how accounting can address biodiversity by bringing legitimacy theory, financial mechanisms, ecological concepts and organisational practice into the same analytical frame. Prior research has documented the expansion of biodiversity disclosures (Adler *et al.*, 2018; Boiral, 2016; Rimmel and Jonäll, 2013) but has more rarely examined how biodiversity is positioned in relation to core organisational activities or how financial instruments interact with broader accountability structures. While earlier studies confirm that reporting has increased across sectors, the present analysis shows that greater visibility appears primarily to reflect growing institutional pressure rather than deeper organisational transformation.

By identifying three analytically distinct levels of engagement, peripheral, operational and strategic, the study differentiates between forms of corporate biodiversity responsibility that are often treated as equivalent. The framework highlights variation in how biodiversity is embedded in organisational structures rather than only how frequently it is mentioned. In doing so, it builds on legitimacy-based interpretations of sustainability reporting (Boiral and Heras-Saizarbitoria, 2017; Deegan, 2019) but moves beyond the symbolic-substantive

distinction by specifying how biodiversity is positioned at peripheral, operational or strategic engagement levels within organisational structures.

Financial instruments associated with biodiversity are largely shaped by institutional arrangements developed around climate finance. In line with earlier studies showing that sustainability-related financial innovations often align with market expectations (Adler *et al.*, 2018; Ferlin and Sternbeck Fryxell, 2020), the present findings suggest that biodiversity-labelled instruments function primarily as responses to investor and regulatory expectations rather than as drivers of operational transformation. Direct links to operational or strategic transformation are comparatively rare. This indicates a structural separation between financial innovation and ecological integration. Allocating capital to biodiversity-labelled instruments does not in itself imply substantive ecological change.

Examining conservation practices alongside rewilding-related initiatives allows us to move beyond reporting formats and consider how ecological ideas are adapted within corporate structures. While ecological literature conceptualises rewilding as the restoration of natural processes and species dynamics (Perino *et al.*, 2019), corporate initiatives tend to reinterpret these ambitions within managed production landscapes. This translation from ecological theory to corporate practice illustrates how ambitious environmental concepts are reshaped when incorporated into organisational settings. In several cases, restoration initiatives are also geographically or operationally detached from the company's primary sites of impact, raising questions about whether biodiversity responsibility is treated as locally embedded or as something that can be symbolically or materially displaced.

Biodiversity accountability is becoming more visible and more frequently articulated, yet its institutional embedding remains partial and uneven. New reporting requirements, financial tools and restoration initiatives are now part of corporate sustainability practice. However, they rarely influence organisational purpose, investment priorities or long-term decision-making, and therefore remain largely peripheral to core value-creating activities. Rather than presenting biodiversity accountability as a uniform development, this study shows that it takes different forms across sectors. These differences are closely linked to how exposed companies are to ecological impacts, the institutional demands they face and how biodiversity relates to their core activities.

Future studies could build on the engagement-level framework developed in this study by examining how companies move between peripheral, operational and strategic forms of biodiversity integration over time. It would also be relevant to investigate more directly whether biodiversity-related financial instruments and restoration initiatives lead to measurable ecological outcomes or primarily reshape corporate reporting practices. Such work would contribute to a clearer understanding of when and how biodiversity accountability moves beyond legitimacy-driven disclosure towards structural organisational change.

References

- Adler, R., Mansi, M. and Pandey, R. (2018), "Biodiversity and threatened species reporting by the top fortune global companies", *Accounting, Auditing and Accountability Journal*, Vol. 31 No. 3, pp. 787-825, doi: [10.1108/AAAJ-03-2016-2490](https://doi.org/10.1108/AAAJ-03-2016-2490).
- Ahrné, K. and Bjelke, U. (2022), *Sammanfattning Rödlista 2020*, SLU Artdatabanken, Uppsala.
- Alkaraan, F. (2020), "Strategic investment decision-making practices in large manufacturing companies: a role for emergent analysis techniques?", *Meditari Accountancy Research*, Vol. 28 No. 4, pp. 633-653, doi: [10.1108/MEDAR-05-2019-0484](https://doi.org/10.1108/MEDAR-05-2019-0484).
- Aluchna, M., Roszkowska-Menkes, M. and Khan, S. (2024), "Corporate governance perspective on environmental reporting: literature review and future research agenda", *Corporate Social Responsibility and Environmental Management*, Vol. 31 No. 3, pp. 1550-1577, doi: [10.1002/csr.2643](https://doi.org/10.1002/csr.2643).
- Amos, G.J. (2023), "Corporate social and environmental reporting in the mining sector: seeking pragmatic and moral forms of legitimacy?", *Journal of Accounting in Emerging Economies*, Vol. 14 No. 3, pp. 548-584, doi: [10.1108/JAEE-05-2021-0152](https://doi.org/10.1108/JAEE-05-2021-0152).

- Amundi (2024), "Measuring the biodiversity footprints of investments: an assessment of the metrics", available at: <https://research-center.amundi.com/files/nuxeo/dl/7c63ed95-9921-4479-9541-e698d4df6849?inline=> (accessed 1 September 2024).
- Archel, P., Husillos, J. and Spence, C. (2011), "The institutionalisation of unaccountability: loading the dice of corporate social responsibility discourse", *Accounting, Organizations and Society*, Vol. 36 No. 6, pp. 327-343, doi: [10.1016/j.aos.2011.06.003](https://doi.org/10.1016/j.aos.2011.06.003).
- Atkins, J.F. and Macpherson, M. (Ed. s) (2022), *Extinction Governance, Finance and Accounting: Implementing a Species Protection Action Plan for the Financial Markets*, Routledge, London and New York.
- Atkins, J.F. and Maroun, W. (2018), "Integrated extinction accounting and accountability: building an ark", *Accounting, Auditing and Accountability Journal*, Vol. 31 No. 3, pp. 750-786, doi: [10.1108/AAAJ-06-2017-2957](https://doi.org/10.1108/AAAJ-06-2017-2957).
- Bebbington, J. and Larrinaga, C. (2014), "Accounting and sustainable development: an exploration", *Accounting, Organizations and Society*, Vol. 39 No. 6, pp. 395-413, doi: [10.1016/j.aos.2014.01.003](https://doi.org/10.1016/j.aos.2014.01.003).
- Blanco-Zaitegi, G., Álvarez Etzeberria, I. and Moneva, J.M. (2022), "Biodiversity accounting and reporting: a systematic literature review and bibliometric analysis", *Journal of Cleaner Production*, Vol. 371, 133677, doi: [10.1016/j.jclepro.2022.133677](https://doi.org/10.1016/j.jclepro.2022.133677).
- Boiral, O. (2016), "Accounting for the unaccountable: biodiversity reporting and impression management", *Journal of Business Ethics*, Vol. 135 No. 4, pp. 751-768, doi: [10.1007/s10551-014-2497-9](https://doi.org/10.1007/s10551-014-2497-9).
- Boiral, O. and Heras-Saizarbitoria, I. (2017), "Managing biodiversity through stakeholder involvement: why, who, and for what initiatives?", *Journal of Business Ethics*, Vol. 140 No. 3, pp. 403-421, doi: [10.1007/s10551-015-2668-3](https://doi.org/10.1007/s10551-015-2668-3).
- Carnegie, G., Parker, L. and Tsahuridu, E. (2021a), "It's 2020: what is accounting today?", *Australian Accounting Review*, Vol. 31 No. 1, pp. 65-73, doi: [10.1111/auar.12325](https://doi.org/10.1111/auar.12325).
- Carnegie, G., Parker, L. and Tsahuridu, E. (2021b), *Redefining Accounting for Tomorrow*, International Federation of Accountants (IFAC), New York.
- Corvino, A., Bianchi Martini, S. and Doni, F. (2021), "Extinction accounting and accountability: empirical evidence from the West European tissue industry", *Business Strategy and the Environment*, Vol. 30 No. 5, pp. 2556-2570, doi: [10.1002/bse.2763](https://doi.org/10.1002/bse.2763).
- Cosma, S., Rimo, G. and Cosma, S. (2023), "Conservation finance: what are we not doing? A review and research agenda", *Journal of Environmental Management*, Vol. 336, 117649, doi: [10.1016/j.jenvman.2023.117649](https://doi.org/10.1016/j.jenvman.2023.117649).
- Cunha, F.a.F.D.S., Meira, E. and Orsato, R.J. (2021), "Sustainable finance and investment: review and research agenda", *Business Strategy and the Environment*, Vol. 30 No. 8, pp. 3821-3838, doi: [10.1002/bse.2842](https://doi.org/10.1002/bse.2842).
- Daugaard, D. (2020), "Emerging new themes in environmental, social and governance investing: a systematic literature review", *Accounting and Finance*, Vol. 60 No. 2, pp. 1501-1530, doi: [10.1111/acfi.12479](https://doi.org/10.1111/acfi.12479).
- Deegan, C. (2002), "The legitimising effect of social and environmental disclosures – a theoretical foundation", *Accounting, Auditing and Accountability Journal*, Vol. 15 No. 3, pp. 282-311, doi: [10.1108/09513570210435852](https://doi.org/10.1108/09513570210435852).
- Deegan, C.M. (2019), "Legitimacy theory: despite its enduring popularity and contribution, time is right for a necessary makeover", *Accounting, Auditing and Accountability Journal*, Vol. 32 No. 8, pp. 2307-2329, doi: [10.1108/AAAJ-08-2018-3638](https://doi.org/10.1108/AAAJ-08-2018-3638).
- Demir, M. and Min, M. (2019), "Consistencies and discrepancies in corporate social responsibility reporting in the pharmaceutical industry", *Sustainability Accounting, Management and Policy Journal*, Vol. 10 No. 2, pp. 333-364, doi: [10.1108/sampj-03-2018-0094](https://doi.org/10.1108/sampj-03-2018-0094).
- D'Amato, D., Matthies, B.D., Hahn, T. and Toppinen, A. (2022), "Private governance of biodiversity and ecosystem services: findings from nordic forest companies", *Frontiers in Sustainability*, Vol. 3, 945374, doi: [10.3389/frsus.2022.945374](https://doi.org/10.3389/frsus.2022.945374).

- Droste, N., Gipperth, L. and Sandberg, J. (2026), "Editorial overview: biodiversity finance", *Current Opinion in Environmental Sustainability*, Vol. 78, 101592, doi: [10.1016/j.cosust.2025.101592](https://doi.org/10.1016/j.cosust.2025.101592).
- Ferlin, M. and Sternbeck Fryxell, V. (2020), *Green Bonds – Big in Sweden and with the Potential to Grow*, Sveriges Riksbank, Stockholm.
- Fonseca, A., McAllister, M.L. and Fitzpatrick, P. (2014), "Sustainability reporting among mining corporations: a constructive critique of the GRI approach", *Journal of Cleaner Production*, Vol. 84, pp. 70-83, doi: [10.1016/j.jclepro.2012.11.050](https://doi.org/10.1016/j.jclepro.2012.11.050).
- Gray, R. (2010), "Is accounting for sustainability actually accounting for sustainability, and how would we know? An exploration of narratives of organisations and the planet", *Accounting, Organizations and Society*, Vol. 35 No. 1, pp. 47-62, doi: [10.1016/j.aos.2009.04.006](https://doi.org/10.1016/j.aos.2009.04.006).
- Gray, R.H. and Owen, D. (1996), *Accounting & Accountability*, London: Prentice Hall, London.
- Gregg, M. and Strengers, Y. (2024), "Getting beyond net zero dashboards in the information technology sector", *Energy Research and Social Science*, Vol. 108, 103397, doi: [10.1016/j.erss.2023.103397](https://doi.org/10.1016/j.erss.2023.103397).
- GRI (2024), "Transparency standard to inform global response to biodiversity crisis", available at: <https://www.globalreporting.org/news/news-center/transparency-standard-to-inform-global-response-to-biodiversity-crisis/> (accessed 1 June 2024).
- Hartman, G. (2022), *100 År Sedan Båvern Återkom till Sverige*, SLU, Uppsala.
- Hassan, A.M., Roberts, L. and Atkins, J. (2020), "Exploring factors relating to extinction disclosures: what motivates companies to report on biodiversity and species protection?", *Business Strategy and the Environment*, Vol. 29 No. 3, pp. 1419-1436, doi: [10.1002/bse.2442](https://doi.org/10.1002/bse.2442).
- Hassan, A., Elamer, A.A., Lodh, S., Roberts, L. and Nandy, M. (2021), "The future of non-financial businesses reporting: learning from the Covid-19 pandemic", *Corporate Social Responsibility and Environmental Management*, Vol. 28 No. 4, pp. 1231-1240, doi: [10.1002/csr.2145](https://doi.org/10.1002/csr.2145).
- Houdet, J., Addison, P., Deshmukh, P., Ding, H., Finisdore, J., Grigg, A., O’Gorman, M., Quétier, F., Atkins, J., Sparg, S. and Vincentz, R. (2021), "Biodiversity diversity protocol. Endangered wildlife trust - biodiversity disclosure project", available at: https://nbbnbdp.org/wp-content/uploads/2022/05/bdp_final_080321.pdf (accessed 1 June 2024).
- IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services) (2019), *Global Assessment Report on Biodiversity and Ecosystem Services*, IPBES secretariat, Bonn, Germany, available at: [https://www.ipbes.net/system/files/2021-06/2020%20IPBES%20GLOBAL%20REPORT\(FIRST%20PART\)_V3_SINGLE.pdf](https://www.ipbes.net/system/files/2021-06/2020%20IPBES%20GLOBAL%20REPORT(FIRST%20PART)_V3_SINGLE.pdf) (accessed 2 July 2025).
- ISSB (2024), "Biodiversity, ecosystems and ecosystem services (BEES) project", *International Sustainability Standards Board*, available at: <https://www.ifrs.org/projects/work-plan/biodiversity-ecosystems-and-ecosystem-services/#current-stage> (accessed 15 April 2025).
- Jones, M.J. (2010), "Accounting for the environment: towards a theoretical perspective for environmental accounting and reporting", *Accounting Forum*, Vol. 34 No. 2, pp. 123-138, doi: [10.1016/j.accfor.2010.03.001](https://doi.org/10.1016/j.accfor.2010.03.001).
- Jones, M.J. and Solomon, J.F. (2013), "Problematising accounting for biodiversity", *Accounting, Auditing and Accountability Journal*, Vol. 26 No. 5, pp. 668-687, doi: [10.1108/AAAJ-03-2013-1255](https://doi.org/10.1108/AAAJ-03-2013-1255).
- King, S., Vardon, M., Grantham, H.S., Eigenraam, M., Ferrier, S., Juhn, D., Larsen, T., Brown, C. and Turner, K. (2021), "Linking biodiversity into national economic accounting", *Environmental Science and Policy*, Vol. 116, pp. 20-29, doi: [10.1016/j.envsci.2020.10.020](https://doi.org/10.1016/j.envsci.2020.10.020).
- Krippendorff, K. (2004), *Content Analysis: An Introduction to Its Methodology*, Sage, Thousand Oaks, CA.
- Kuokkanen, N. (2024), "A problematizing review of the financialization of living beings", *Critical Perspectives on Accounting*, Vol. 99, 102739, doi: [10.1016/j.cpa.2024.102739](https://doi.org/10.1016/j.cpa.2024.102739).
- Lorimer, J., Sandom, C., Jepson, P., Doughty, C., Barua, M. and Kirby, K.J. (2015), "Rewilding: science, practice, and politics", *Annual Review of Environment and Resources*, Vol. 40 No. 1, pp. 39-62, doi: [10.1146/annurev-environ-102014-021406](https://doi.org/10.1146/annurev-environ-102014-021406).

- Luque, S., Pettorelli, N., Vihervaara, P. and Wegmann, M. (2018), "Improving biodiversity monitoring using satellite remote sensing to provide solutions towards the 2020 conservation targets", *Methods in Ecology and Evolution*, Vol. 9 No. 8, pp. 1784-1786, doi: [10.1111/2041-210X.13057](https://doi.org/10.1111/2041-210X.13057).
- Maione, G., Cuccurullo, C. and Tommasetti, A. (2024), "Biodiversity accounting: a bibliometric analysis for comprehensive literature mapping", *Sustainability Accounting, Management and Policy Journal*, Vol. 15 No. 5, pp. 1178-1209, doi: [10.1108/SAMPJ-04-2022-0214](https://doi.org/10.1108/SAMPJ-04-2022-0214).
- Mariani, M., Amoroso, P., Caragnano, A. and Zito, M. (2018), "Green real estate: does it create value? Financial and sustainability analysis on European green REITs", *International Journal of Business and Management*, Vol. 13 No. 7, p. 80, doi: [10.5539/ijbm.v13n7p80](https://doi.org/10.5539/ijbm.v13n7p80).
- Maroun, W. and Atkins, J. (2018), "The emancipatory potential of extinction accounting: exploring current practice in integrated reports", *Accounting Forum*, Vol. 42 No. 1, pp. 102-118, doi: [10.1016/j.accfor.2017.12.001](https://doi.org/10.1016/j.accfor.2017.12.001).
- Matthews, T.J., Triantis, K.A., Wayman, J.P., Martin, T.E., Hume, J.P., Cardoso, P., Faurby, S., Mendenhall, C.D., Dufour, P., Rigal, F., Cooke, R., Whittaker, R.J., Pigot, A.L., Thébaud, C., Jørgensen, M.W., Benavides, E., Soares, F.C., Ulrich, W., Kubota, Y., Sadler, J.P., Tobias, J.A. and Sayol, F. (2024), "The global loss of Avian functional and phylogenetic diversity from anthropogenic extinctions", *Science (New York, N.Y.)*, Vol. 386 No. 6717, pp. 55-60, doi: [10.1126/science.adk7898](https://doi.org/10.1126/science.adk7898).
- Milne, M.J. and Adler, R.W. (1999), "Exploring the reliability of social and environmental disclosures content analysis", *Accounting, Auditing and Accountability Journal*, Vol. 12 No. 2, pp. 237-256, doi: [10.1108/09513579910270138](https://doi.org/10.1108/09513579910270138).
- Mougenot, B. and Doussoulin, J.-P. (2024), "A bibliometric analysis of the global reporting initiative (GRI): global trends in developed and developing countries", *Environment, Development and Sustainability*, Vol. 26 No. 3, pp. 6543-6560, doi: [10.1007/s10668-023-02974-y](https://doi.org/10.1007/s10668-023-02974-y).
- Niranjan, A. (2023), "EU passes nature restoration law in knife-edge vote: MEPs back law to place recovery measures on 20% of EU's land and sea by 2030 by dozen votes", *The Guardian online*, 12 July, available at: <https://www.theguardian.com/world/2023/jul/12/eu-passes-nature-restoration-law-vote-meps> (accessed 1 July 2024).
- Nogués-Bravo, D., Simberloff, D., Rahbek, C. and Sanders, N.J. (2016), "Rewilding is the new Pandora's box in conservation", *Current Biology*, Vol. 26 No. 3, pp. 87-91, doi: [10.1016/j.cub.2015.12.044](https://doi.org/10.1016/j.cub.2015.12.044).
- Nylén, K.-J. (2024), *Sturgeon Makes a Comeback in Swedish Waters*, University of Gothenburg, Gothenburg.
- O'Donovan, G. (2002), "Environmental disclosures in the annual report: extending the applicability and predictive power of legitimacy theory", *Accounting, Auditing & Accountability Journal*, Vol. 15 No. 3, pp. 344-371, doi: [10.1108/09513570210435870](https://doi.org/10.1108/09513570210435870).
- Perino, A., Pereira, H., Navarro, L., Fernández, N., Bullock, J., Ceausu, S., Cortés-Avizanda, A., Van Klink, R., Kuemmerle, T., Lomba, Á., Pe'er, G., Plieninger, T., Benayas, J., Sandom, C., Svenning, J.-C. and Wheeler, H. (2019), "Rewilding complex ecosystems", *Science*, Vol. 364, 6438, doi: [10.1126/science.aav5570](https://doi.org/10.1126/science.aav5570).
- Rimmel, G. and Jonäll, K. (2013), "Biodiversity reporting in Sweden: corporate disclosure and preparers' views", *Accounting, Auditing and Accountability Journal*, Vol. 26 No. 5, pp. 746-778, doi: [10.1108/AAAJ-02-2013-1228](https://doi.org/10.1108/AAAJ-02-2013-1228).
- Roberts, L., Hassan, A., Elamer, A. and Nandy, M. (2021), "Biodiversity and extinction accounting for sustainable development: a systematic literature review and future research directions", *Business Strategy and the Environment*, Vol. 30 No. 1, pp. 705-720, doi: [10.1002/bse.2649](https://doi.org/10.1002/bse.2649).
- Schaltegger, S., Gibassier, D. and Maas, K. (2023), "Managing and accounting for corporate biodiversity contributions. Mapping the field", *Business Strategy and the Environment*, Vol. 32 No. 5, pp. 2544-2553, doi: [10.1002/bse.3166](https://doi.org/10.1002/bse.3166).
- Strömmer, G. (2023), *Nya Regler Om Hållbarhetsrapportering*, Swedish government, Stockholm, 2023/24:124.

- Suchman, M.C. (1995), "Managing legitimacy: strategic and institutional approaches", *Academy of Management Review*, Vol. 20 No. 3, pp. 571-610, doi: [10.2307/258788](https://doi.org/10.2307/258788).
- Sunér Flemming, M. and Lindahl, L.-Å. (2020), "MINING with nature svensk gruv- och mineralnärlings färdplan för ökad biologisk mångfald", *Swedish Mining Innovation /Svemin*, available at: https://admin.svemin.se/app/uploads/2024/06/miningwithnature_sv_hq-1.pdf (accessed 1 June 2025).
- Thulin, C.-G., Ausilio, G.M., Sannö, A., Niklasson, M. and Kjellander, P. (2023), *A Feasibility Analysis of Reintroducing Wisent (Bison bonasus) to Sweden*, Swedish University of Agricultural Sciences, Uppsala.
- TNFD (2022), "Nature-related risk and opportunity management and disclosure framework", available at: https://framework.tnfd.global/wp-content/uploads/2022/11/TNFD_Management_and_Disclosure_Framework_v0-3_B.pdf (accessed 7 June 2024).
- TNFD (2023), "Recommendations of the taskforce on nature-related financial disclosures", available at: https://tnfd.global/wp-content/uploads/2023/08/Recommendations_of_the_Taskforce_on_Nature-related_Financial_Disclosures_September_2023.pdf (accessed 1 September 2024).
- Unerman, J. and Chapman, C. (2014), "Academic contributions to enhancing accounting for sustainable development", *Accounting, Organizations and Society*, Vol. 39 No. 6, pp. 385-394, doi: [10.1016/j.aos.2014.07.003](https://doi.org/10.1016/j.aos.2014.07.003).
- Widyawati, L. (2020), "A systematic literature review of socially responsible investment and environmental social governance metrics", *Business Strategy and the Environment*, Vol. 29 No. 2, pp. 619-637, doi: [10.1002/bse.2393](https://doi.org/10.1002/bse.2393).
- Wolff, A., Gondran, N. and Brodhag, C. (2018), "Integrating corporate social responsibility into conservation policy. The example of business commitments to contribute to the French national biodiversity strategy", *Environmental Science and Policy*, Vol. 86, pp. 106-114, doi: [10.1016/j.envsci.2018.05.007](https://doi.org/10.1016/j.envsci.2018.05.007).

Corresponding author

Kristina Jonäll can be contacted at: kristina.jonall@handels.gu.se