

## RESEARCH ARTICLE

# The nexus between non-governmental organisations involved in conservation and profit-seeking state-owned enterprises: A potential alternative credibility enhancing mechanism for biodiversity disclosures?

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## Abstract

Responding to calls to incorporate biodiversity matters into accounting research, we attempt to provide a balance by moving away from the conventional focus on the reporting of biodiversity impacts and activities by public and private sector organisations, by focusing on how non-governmental organisations active in the conservation space (CNGOs), interact with the public sector. In particular, we confine our study to explaining how South African state-owned enterprises (SOEs) and CNGOs active in South Africa, report on their collaboration engagements. To explain the engagements between SOEs and CNGOs, we use their publicly available reports (annual/integrated) to explore the extent which these entities interact and collaborate. However, although several CNGOs operate in South Africa, we documented little evidence of formalised engagements between these SOEs and CNGOs, with Eskom being the notable exception. Notwithstanding the observed scant formalised reporting on engagements, we suggest that the reporting of CNGOs engagements could be harnessed to indirectly serve as alternative credibility enhancing mechanisms. In this way, it could contribute by attesting to the veracity of organisational biodiversity disclosures, and may provide a basis to hold these organisations to account for their contribution to environmental conservation, or degradation. In this context, we conclude by calling for a research agenda to investigate the relationship between CNGOs and their funding organisations, irrespective of whether they operate in the public or private sectors, as well as the potential of CNGOs to serve as advocacy and activism agents, thereby improving organisational biodiversity accountability.

## KEYWORDS

biodiversity, conservation, conservation non-governmental organisations (CNGOs), extinction accounting, South Africa, state-owned enterprises (SOEs)

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## 1 | INTRODUCTION

This paper responds to calls to expand accounting research on social and environmental accounting (Cuckston, 2018; Zhao & Atkins, 2021), by incorporating conservation and biodiversity issues (hereafter, collectively referred to as biodiversity) into the emerging field of extinction accounting (Büchling & Maroun, 2021; Cuckston, 2018; Rimmel, 2021; Weir, 2018). Biodiversity encompasses the diverse range of species that contribute to the maintenance of healthy ecosystems, ensuring the long-term sustainability and survival of the human population (Hassan et al., 2022). Our study, which moves away from focusing on the sociology of the preparers of corporate non-financial reporting (Bebbington & Larrinaga, 2014), attempts to provide more balanced insights into the emerging research phenomenon of extinction accounting, with specific reference to how South African state-owned enterprises (SOEs) and conservation non-governmental organisations (CNGOs) active in South Africa, report on their collaboration engagements (Cuckston, 2018; Zhao & Atkins, 2021).

CNGOs collaborate with other organisations to optimise their efforts to preserve, sustain and promote biodiversity, especially relating to threatened environmental habitats and species (Brockington & Scholfield, 2010), as indicated by the sustainable development goals (SDGs; particularly SDGs 13 and 14—*life below water* and *life on land*, respectively). Within this context, collaboration refers to CNGOs and SOEs formally or informally working together to achieve biodiversity conservation goals (Atkins et al., 2022). We propose that the reports of CNGOs relating to their collaboration with and funding received from other organisations, may serve as useful credibility enhancing mechanisms (Richard & Odendaal, 2021; Wang et al., 2020), mitigating possible corporate ‘greenwash’ (Gatti et al., 2019). In this regard, we explain how SOEs and CNGOs report on their collaborative engagements (Richard & Odendaal, 2021; Wang et al., 2020). Thus, we scrutinise the reports of CNGOs and the SOEs with whom they collaborate, or that fund their activities, to describe what their collaborative engagements entail (Richard & Odendaal, 2021; Zhao & Atkins, 2021).

Responding to global concerns for concerted efforts by multiple role-players to conserve biodiversity and preserve the planet for future generations (Ackers, 2019; United Nations, 1987), accounting scholars and practitioners are gradually beginning to move away from paradigms based on philanthropic accounting and impression management, towards some form of extinction accounting, underpinned by sincerity reasoning (Atkins et al., 2018). This approach has appropriately broadened the scope of accounting (Zhao & Atkins, 2021), while ensuring that organisations do not ignore their operational impact on society and the environment (Maroun & Atkins, 2021). This has resulted in two distinct approaches to biodiversity accounting research emerging (Cuckston, 2018). The first, integrates biodiversity into existing accountability mechanisms that deal with social and environmental issues, as illustrated by recent CSR reporting. The second, considers the contribution of organisations to biodiversity by investigating how they account for their biodiversity conservation role (Cuckston, 2018; Zhao & Atkins, 2021). These developments

represent the contribution of the accounting profession in respect of the SDGs, with particular reference to SDG17 (*partnering for attaining the SDGs*), especially SDGs 13 and 14, highlighted earlier. While most research appears to have focused on the first approach (Cuckston, 2018), there has been little convergence on the second. Despite its importance, the skewed focus on the first approach, that is, on the ‘sociology of preparers’ (Bebbington & Larrinaga, 2014), failed to meaningfully address biodiversity loss, prompting Cuckston (2018, p. 218) to argue that ‘the second approach offers research in accounting for biodiversity the most potential to develop into a force for conservation’. We submit that Cuckston’s (2018) argument on the emergence of biodiversity research within accounting, should also apply to related assurance practices. In this regard, the heterogeneity and inconsistent application of existing nonfinancial assurance practices (Sonnerfeldt & Pontoppidan, 2020), do not adequately address biodiversity or extinction accounting disclosures. Furthermore, the lack of research using the second approach, may have contributed to perceptions that assurance within a biodiversity accounting context, was not important. Thus, it may be suggested that robustly documenting the activities of organisations such as CNGOs, with particular reference to their engagements with other organisations and funders, may add a layer of credibility (Richard & Odendaal, 2021) to their reports, if properly harnessed. This may be possible by corroborating the veracity of information reported by organisations, while reducing the propensity for philanthropic accounting and impression management (Maroun, 2018). This is more important where credibility enhancing mechanisms are not in place, or explicit (Daubanes & Rochet, 2019).

Despite current research into CNGO, the interrelationship between CNGOs and the organisations that fund their programmes and activities, remain under-researched (Atkins et al., 2022). Although scholars such as Atkins et al. (2022), Koot (2021), Maroun and Atkins (2018), and Taylor et al. (2019), have investigated the relationships between CNGOs and private sector enterprises (PSEs), and notwithstanding more general collaboration on biodiversity-related matters (Ackers, 2019; Atkins & Maroun, 2018; Chanyandura et al., 2021; Lindsey et al., 2020; Maroun & Atkins, 2021; Roberts & Elamer, 2021; Samkin & Wingard, 2020; Statistics South Africa, 2021; Taylor et al., 2019), the relationship between CNGOs and profit-seeking public sector organisations, such as SOEs<sup>1</sup> has not been investigated. Exploring the collaboration between CNGOs and their funding organisations, contributes to the emerging literature on accounting for biodiversity loss and species extinction. Atkins et al. (2018) analysed rhinoceros conservation and protection disclosures by top South African-listed companies, while Atkins et al. (2022) explored the engagement between CNGOs as therapists, and corporations as clients. We attempt to address the paucity of research into the engagements between NGOs and SOEs, by explaining how they report on their collaborative engagements.

<sup>1</sup>For the purposes of this study, the term ‘SOEs’ refers to enterprises created to contribute to the social and economic goals of their owning states. SOEs are also referred to as state-owned companies (SOCs) or government business enterprises (GBEs).

To achieve the study objectives, we purposively selected a sample of CNGOs operating in South Africa, as well as the Major SOEs listed in Schedule 2 of the Public Finance Management Act (PFMA) (South Africa, 1999). The rationale for focusing on South African SOEs includes: (1) South Africa is often lauded for the quality of governance and reporting, particularly on integrated reporting which disclose in an integrated manner how organisations use material resources and relationships (the capitals) to create and sustain value (Prinsloo & Maroun, 2020); (2) South Africa has the most SOEs in Africa (USA, 2022); (3) SOEs in South Africa cover different sectors, including those with social and developmental mandates (Ackers & Adebayo, 2022c); and (4) South Africa is strategically positioned in the evolving scholarly discourse on environmental, social and governance (ESG) issues, featuring prominently in emerging research studies on integrated reporting, CSR, and ESG, making it the only African country included in Singhania and Saini's (2023) comparative study on ESG institutional frameworks in developed and developing countries. The content of the most recent reports and websites of CNGOs were thematically coded and analysed to identify pertinent biodiversity-related information, as well as to establish their interaction with SOEs. Similarly, the reports and websites of SOEs were thematically coded and analysed for pertinent information about their biodiversity activities. To corroborate their respective disclosures, we compared the observations from the thematic analyses of the SOE and CNGO disclosures. Although not conclusive, we suggest that such an approach may provide users of this information with some degree of confidence about the veracity of the underlying disclosures, thereby mitigating potential greenwash (Gatti et al., 2019).

With the exception of Eskom, which appears to have well-developed and formalised relationships with CNGOs, we observed that the relationships between other SOEs and CNGOs operating in South Africa were seldom as strong, or formalised. Notwithstanding the absence of formalised reporting on engagements, we suggest that the reporting of CNGOs engagements may still be harnessed as part of a combined assurance framework (Prinsloo & Maroun, 2020), indirectly serving as an alternative credibility enhancing mechanism to confirm the veracity of organisational biodiversity disclosures. This would provide a basis to hold these organisations to account for their contribution to environmental conservation or degradation. Despite not being part of our initial study objectives, we note various forms of collaboration between CNGOs and South African educational institutions, as well as with other public sector entities.

This exploratory paper makes five primary contributions to the emerging body of literature. First, as far as we are aware, this represents one of the early studies exploring the collaboration between CNGOs and SOEs, with resultant implications for theory and practice. Although previous studies have focused on collaboration between CNGOs and other organisations, or on SOEs and CNGOs individually, following our study, we suggest that if properly harnessed, publicly disclosing the nature and extent of the interactions between CNGOs and other organisations, could be incorporated into a combined assurance model that may enhance the credibility of their respective biodiversity reporting. This study is particularly important, since as an

extension of the public sector, SOEs are expected to pay attention to social and environmental issues on behalf of their owning states. Second, it responds to calls to expand accounting research into biodiversity issues, moving away from siloed reporting by CNGOs or other organisations, to providing a more balanced perspective reflecting on the integrated collaboration between CNGOs and their funding organisations required to preserve biodiversity. Third, it identifies and categorises the different types of biodiversity activities that CNGOs are involved in. Fourth, it documents the collaborations of the CNGOs with other not-for profit organisations. Finally, it proposes a possible assurance role for CNGOs, which could be harnessed to ameliorate the inadequate assurance practices relating to the nonfinancial biodiversity disclosures of their funding organisations, calling for a convergence of research on this emerging phenomenon.

## 2 | LITERATURE

This section discusses the literature on CNGOs and SOEs within the context of their biodiversity activities. Our discussion provides a brief overview of the mandates and objectives of SOEs, and justifies studying them within a biodiversity accounting context. Our discussion on CNGOs briefly addresses how they operate and their contribution to the biodiversity landscape.

Notwithstanding recent moves towards a more stakeholder-centric approach (Ferrero-Ferrero et al., 2018), possibly for impression management (Deegan, 2019), the activities of profit-seeking organisations are theoretically underpinned by the stewardship model of shareholder primacy (Mudawi & Timan, 2018; Styhre, 2018). Despite their ostensibly commercial orientation, being owned by the governments of their respective countries, on behalf of its citizens, coupled with their social mandates, suggests a stronger intrinsic stakeholder orientation for SOEs. Since CNGOs are usually owned by, or operate for the benefit of civil society, it may be argued that the stewardship model applies less to CNGOs, where the democratic model (stakeholder theory), may be more relevant (Ackers & Adebayo, 2022c). In this context, organisational legitimacy and accountability may therefore be more important than organisational efficiency, effectiveness (Suchman, 1995), or even profitability, as supported by some variants of institutional theory (Scott, 2009). Stakeholder theory seeks to manage the competing interests of different stakeholders, with organisations therefore expected to add value to all legitimate stakeholders (Mansi et al., 2017).

Without disregarding the importance of maximising shareholder value (Ashe, 2012), early proponents of stakeholder theory (such as Clark, 1916 and Dodd, 1932), suggest that managers should contribute to serving the interests of the community and key stakeholders. Managers should therefore consider the legitimate interests of all parties impacted by their operations, whom Freeman (1984) argues are entitled to pertinent organisational information (Papenfuß, 2014). Since the interests of stakeholders and organisations should be aligned (Alam, 2006; Freeman, 1984), stakeholder theory requires organisations to optimise the legitimate interests of all parties,



including the public, employees and clients (Eldar, 2017). Kamal (2010) categorises stakeholders as: (1) those representing the general public, the media, local communities, the courts and governments; and (2) other interest groups representing minority shareholders, lenders, customers and suppliers (Tan-Mullins & Mohan, 2013). The stakeholder approach adopted for this study therefore emphasises the importance of the impact of organisational operations on the environment within which they operate, which has technical, cultural (Scott, 2009), political and economic (Pfeffer, 1972) components, all of which should be incorporated into the stakeholder approach.

## 2.1 | SOEs, CNGOs and biodiversity

Around the world SOEs are established to assist in the delivery of socioeconomic objectives (Ackers & Adebayo, 2022a). SOEs are often the primary mechanisms used by states for the provision of public goods and services, making it crucial for them to operate in a competitive market and regulatory environment. Notwithstanding the long running, but still unresolved privatisation versus nationalisation debate, many countries appear to agree that SOEs and allied businesses are important socioeconomic policy instruments to assist with delivering their mandates (Bernier, 2014; Florio, 2014). The effectiveness of SOEs as socioeconomic levers has been demonstrated in various countries around the world, Southeast Asia in particular (Hayashi, 2010; Pereira, 2008). The observation that SOEs now comprise more than one-fifth of the world's top businesses (OECD, 2018), clearly illustrates their global significance. To facilitate sustainable growth and development, SOEs should therefore adopt the highest standards of accountability and governance, operating in a socially, environmentally and financially stable manner. Since SOEs utilise scarce public resources, and are often funded or subsidised by their owning states, they have a broad range of stakeholders, including citizens, to whom they should account.

Penfold et al. (2015) identify four types of SOEs as those: (1) addressing public policy objectives; (2) responsible for providing public utilities, such as water, electricity and gas; (3) providing particular goods or services required by the state, such as supplying military equipment; and (4) generating revenue for the state and competing with profit-seeking PSEs. SOEs in South Africa are not grouped strictly according to Penfold et al. (2015). Notwithstanding the observation that most South African SOEs are loss making and require bail outs (Adebayo & Ackers, 2022), the assertion by Thomas (2012) that Schedule 2 SOEs are expected to generate revenue, is consistent with Penfold et al.'s (2015) fourth category of SOEs. Given the need to balance socioeconomic and commercial objectives, South African SOEs may best be categorised as a combination of Penfold et al.'s (2015) SOE categories. For example, the Independent Development Trust Fund addresses public policy objectives (category 1). Eskom is responsible for providing the country with a stable supply of electricity, a public utility (category 2). DENEL and ARMSCOR provide the state with defence and military goods and services (military equipment) (category 3). Whereas Telkom and

Alexkor generate revenue for the state and compete with profit-seeking PSEs (category 4).

Although many countries have managed to sustain socioeconomic growth through effective and appropriate SOE performance management and governance (Tsheola et al., 2013), in many other countries including South Africa, SOEs face serious governance and accountability concerns, exacerbated by high levels of corruption (Hope, 2020), poor competition and incentives, principal-agent issues, soft budget constraints, pursuing multiple objectives, direct political interference, bureaucracy, punitive labour legislation and regulations, stifling labour laws, lack of attention on environmental issues, and other factors.

South Africa has two categories of SOEs: Schedule 2 (Major Public Entities) and Schedule 3 (Other Public Entities) SOEs (South Africa, 1999). Unlike Schedule 3 SOEs, Schedule 2 SOEs operate independently of the state and are expected to raise their own funds to cover operational expenses and expansion plans (Thomas, 2012). South African SOEs are regulated by the provisions of the PFMA (South Africa, 1999) and its associated Treasury Regulations (South Africa, 2005), the Companies Act (South Africa, 2008), the Public Audit Act (South Africa, 2004), as well as the provisions of the respective enabling legislation of each SOE in many cases. Extending the mandatory versus voluntary discourse, similarly to companies with primary listings on the Johannesburg Stock Exchange (JSE), we interpret the regulations as requiring South African SOEs to apply the provisions of King IV,<sup>2</sup> which include the provision of integrated reports (IoDSA, 2016). In this regard, the objective of integrated reporting is to holistically integrate financial and nonfinancial disclosures, to reflect how organisations create and sustain value for their beneficiaries (Ackers & Adebayo, 2022c). Integrated reporting provides organisations with an opportunity to address stakeholders' normative expectations by disclosing pertinent forward-looking information about the sustainability of their performance and prospects. Although integrated reports are essentially a form of annual reports, conventional annual reports typically do not provide a full picture of organisational activities (Stubbs & Higgins, 2018). Conventional annual reports typically focus on historical financial performance and may include non-financial disclosures, these disclosures are seldom integrated.

The need for SOEs to balance social and economic objectives, adds a unique, but important dimension to the biodiversity accounting phenomenon (Hossain, 2017). Since social and economic objectives are often in conflict, one may be prioritised to the detriment of the other (Adebayo & Ackers, 2022). Since SOEs are owned by the state, on behalf of its citizens, it is submitted that they must act in the best interests of the country as a whole. As organs of the state, SOEs therefore should ensure that their activities do not compromise the environmental commitments of their respective governments in global forums such as the Conference of Parties (COP27) of the United Nations Framework Convention on Climate Change (UNFCCC), or agreements such as the United Nations 2030 Agenda for Sustainable Development (United Nations, 2015), and the United Nations 2050

<sup>2</sup>King IV, which refers to the fourth iteration of the King Reports on Corporate Governance in South Africa, describes the philosophy, principles, practices and outcomes informing the corporate governance practices in the South African public and private sectors.

Vision for Biodiversity (Ackers & Adebayo, 2022b; UNEP, 2020). As socioeconomic mechanisms established by their owning states, SOEs should prioritise social objectives in relation to their operations and mandates. These factors, together with the expectation that SOEs should account to the public as taxpayers and accordingly their 'real owners', imposes a greater responsibility on them to focus on environmental issues, than their private sector counterparts.

The environmental activities of PSEs may be labelled as corporate philanthropy, or aimed at being perceived as responsible corporate citizens for impression management purposes (Koot, 2021; Samkin & Wingard, 2020). However, the rationale for SOE involvement in environmental issues is more closely aligned to their social mandates and not compromising the commitments of their governments to combat global climate change, preserve biodiversity and prevent species extinction. The fundamental difference between commercially oriented SOEs and PSEs, is that SOEs are obliged to incorporate crucial social issues, such as biodiversity preservation, into their strategies and accordingly their operations.

Contemporary academic discourse on biodiversity appears to indicate that a method based on dialogic, cooperative and proactive interaction is emerging to replace the previous adversarial approach between CNGOs and other organisations (Atkins et al., 2022), as illustrated by the marked increase in alliances and joint ventures between CNGOs and other organisations (Büchling & Maroun, 2021; Cherrett et al., 1995; Taylor et al., 2019). For example, the Endangered Wildlife Trust (EWT) and Eskom work together on conserving birds that could fly into high voltage powerlines, or Eskom's collaboration with the Wildlife and Environment Society of South Africa's (WESSA) to provide environmental education. Proactive engagements between CNGOs and other organisations represent opportunities that may result in exchanging experiences, viewpoints and technical know-how, which collectively provide different perspectives on how organisations should interact with the world within which they operate (Atkins et al., 2022). Such collaborations increase the reach and impact of programmes to safeguard and improve biodiversity, habitats and ecosystems (Büchling & Maroun, 2021), and may assist organisations internalise their environmental impacts and facilitate timeously taking corrective action.

Although CNGOs involved in promoting social justice and environmental stewardship are making a positive contribution, questions remain about their overall efficacy (Brockington & Scholfield, 2010). Some view CNGOs as 'green grabbing' organisations that lack significant corporate interaction and are influenced by neoliberalism (Atkins et al., 2022; Taylor et al., 2019). These CNGOs may be criticised for being overly bureaucratic and focusing on expansion, at the expense of biodiversity protection (Cherrett et al., 1995). Atkins et al. (2022) suggests that these CNGOs may succumb to the same capitalistic pressures, and sacrifice the environment for their revenue growth, especially when working too closely with profit-seeking organisations. Other commentators are more convinced, emphasising that CNGOs should encourage open environmental reporting and hold organisations to account for their poor environmental performance (Taylor et al., 2019). Laine and Vinnari (2017) describe CNGOs as creators of

positive organisational activities that can be used to counter unsustainable practices and promote corrective action.

Although the negative perceptions about the contribution of CNGOs, described above, may undermine their ability to collaborate with other organisations on biodiversity projects, this is contemporaneously changing (Atkins et al., 2022; Büchling & Maroun, 2021). CNGOs and environmental professionals now contribute significantly to organisational biodiversity governance, confirming the importance of CNGOs working with other organisations and pooling their resources and expertise to develop and implement innovative solutions to sustainably resolve critical environmental concerns (Taylor et al., 2019). Engaging stakeholders about pending biodiversity concerns, particularly knowledgeable and credible CNGOs, increases the legitimacy of organisational biodiversity management, enables knowledge-sharing, prevents confrontation with concerned citizens in the areas where they operate (Atkins et al., 2022; Taylor et al., 2019), and secures their literal and figurative licences to operate (Hilson et al., 2019). Although poor collaboration between CNGOs and for-profit organisations may seem to imply that the intended objectives may not be fully accomplished, biodiversity and society are nevertheless beneficiaries. Benefits, including improved relationships with internal and external stakeholders, greater learning, measurable cost reductions and a better grasp of stakeholder values, may be enhanced through formalising these collaborative relationships.

CNGOs working to promote social justice and environmental stewardship, especially relating to biodiversity, may be classified into three overlapping categories, namely: (1) habitat conservation; (2) species conservation; and (3) people and conservation (Taylor et al., 2019). The activities of CNGOs in the habitat conservation space, include monitoring protected areas and uplifting neighbouring communities. The activities of CNGOs in the species conservation space, include maintaining orphanage homes for species, caring for species and working with owners of protected areas such as reserves and parks to protect threatened or endangered species. The activities of CNGOs in the people and conservation space, include biodiversity-related education and training, promoting environmental sustainability, and uplifting impoverished communities neighbouring environmentally sensitive areas. The foregoing discussion clearly shows that activities in these three categories are not discrete, with some CNGO activities overlapping significantly, which informed our decision to include all CNGOs and not only those operating in the biodiversity space.

A number of studies have been conducted on biodiversity in the public sector. For example, Barut et al. (2016), who investigated the disclosure of biodiversity material in 151 local government authorities in New South Wales, Australia, found significant disparities in the reporting of biodiversity issues, which refer to the disclosure of strategic biodiversity information as lukewarm, at best. Similarly, Hossain (2017) investigated biodiversity reporting by the Murray-Darling Basin Authority, an Australian public-sector company. Hossain (2017) observed that despite increased disclosure of individual species, such as flora and fauna, and habitat-related disclosures, such information was insufficient to compile a comprehensive inventory of natural



assets. Although previous research had attributed nonavailability of data as the main hurdle to operationalise biodiversity accounting, Hossain (2017) found the amount of biodiversity data available in Australia should make producing such a statement comparatively easier. Schneide et al. (2014) use a variety of sources, such as statutory accountability documents to investigate whether local authorities in New Zealand disclosed biodiversity-related information. Noting the absence of an established framework that local administrations could use to communicate biodiversity-related information, they found that regional and unitary authorities provided stakeholders with more biodiversity-related information than territorial authorities. Weir (2018), who explored extinction accounting practices in the UK public sector, identified applications of extinction accounting practices across the three councils. These practices are used to report species loss in each region and to plan for species preservation and recovery. Weir (2018) however cautions that using this knowledge creates trade-offs between economic and ecological objectives, especially relating to developing protection schemes. Our current study builds on and extends the studies on this emerging accounting phenomenon, by adding the influence of CNGOs as another layer of accountability to biodiversity reporting.

Despite recently gaining prominence, concern about species extinction was not a new phenomenon, as illustrated by McBride et al. (2023) who examined the disclosures of the Russian American Company from 1840 to 1863, to explore the extent to which emancipatory extinction accounting practices were used for successful extinction management. They identified the desire to use natural resources in a sustainable manner, as driving the production of these reports.

### 3 | METHODS

Using a social constructivist or interpretivist research approach, we follow the approach of Zhao and Atkins (2021), who in a similar study in China, used interpretive content analysis to illustrate how collaboration between SOEs and CNGOs on biodiversity-related issues disclosed in their annual/integrated reports could meaningfully and sustainably contribute to mitigating biodiversity concerns. Informed by the inherent nature of the involvement by CNGOs in biodiversity-related issues and the normative expectation that as a component of the public sector, SOEs should not contribute to biodiversity loss and species extinction, we thematically analyse the content of publicly available disclosures, as an appropriate tool to gather pertinent information about the biodiversity-related activities of CNGOs and SOEs.

#### 3.1 | Data collection

To identify the NGOs operating in the South African biodiversity space, we used the following keywords in a Google search: 'conservation NPOs in South Africa'; 'conservation NGOs in South Africa'; 'biodiversity

NPOs in South Africa'; 'biodiversity NGOs in South Africa'; 'environmental NPOs in South Africa'; 'environmental NGOs in South Africa'; 'extinction NPOs in South Africa'; and 'extinction NGOs in South Africa'. After excluding NGOs not involved in biodiversity-related issues, we identified 87 CNGOs operating in South Africa. The websites, reports and other relevant documents of these CNGOs were scrutinised for pertinent information relating to their biodiversity activities and partnerships with the 21 SOEs listed in Schedule 2. Similarly, the SOE websites, reports and other relevant documents were scrutinised for pertinent information about their biodiversity impacts and activities, particularly about their collaboration with CNGOs, aimed at managing the impacts of their activities on biodiversity.

To establish the extent of interaction and collaboration of SOEs with CNGOs, pertinent disclosures on their respective websites and reports were scrutinised for the following keywords: 'conservation', 'biodiversity', 'extinction', 'NGO', 'CNGO', 'NPO', 'collaboration', 'engagement' and 'partnership.' Since we did not intend scoring or rating these keywords (Gatti et al., 2019), instead opting to subjectively document how they were described, it was considered inappropriate to use a coded scoring or disclosure index. Despite substantial overlap in the spaces where CNGOs operate, these CNGOs were categorised according to three primary areas: (1) habitat conservation; (2) species conservation; and (3) people and conservation, as well as those operating across a combination thereof (as summarised in Table 1 and identified in Table A1 in the Appendix).

#### 3.2 | Data analysis and interpretation

The most recent reports and websites of the 87 CNGOs were thematically coded and analysed to identify pertinent biodiversity-related information, as well as their interaction with SOEs. Similarly, the reports and websites of the 21 SOEs were scrutinised and thematically analysed for pertinent information about their biodiversity activities and interaction with CNGOs. To corroborate their respective disclosures, the observations from the respective thematic analyses of the SOE and CNGO disclosures, were compared. We suggest that such an approach could provide users of this information with some degree of assurance about the veracity of the underlying disclosures, partially mitigating potential greenwash (Gatti et al., 2019).

The data were interpretively analysed using thematic codes, documented on a word register. Despite creating several themes, such as CNGO collaborations and disclosure with other CNGOs, SOEs, and other institutions, before data collection, we approached the data collection phase with an open mind, resulting in additional themes, such as collaborations between CNGOs and other institutions being deleted and replaced with one dealing with the collaboration among CNGOs, government departments, agencies and educational institutions, during data collection, after clarifying other forms of collaborations. The expanded scope of the study included collecting and analysing pertinent data, not initially considered when the study was conceptualised.

**TABLE 1** Number of conservation non-governmental organisations (CNGOs) per category.

	CNGO categories	Number of CNGOs	Proportion of CNGOs (%)
1	Habitat conservation	4	5
2	Species conservation	8	9
3	People and conservation	33	38
4	Habitat and species conservation	11	13
5	Habitat and people conservation	9	10
6	Species and people conservation	6	7
7	Habitat, species and people conservation	16	18

### 3.3 | Research control

Acknowledging the impact of researcher bias that may be associated with qualitative research (Mackieson et al., 2019), we used purposive and not convenience sampling and described the selection process to minimise selection bias (Smith & Noble, 2014). To minimise analysis bias (Smith & Noble, 2014), we developed thematic codes to structure the data, enabling a systematic and rigorous analysis (Mackieson et al., 2019). Researcher bias was limited using the applied thematic approach (ATA) (Guest et al., 2012), ensuring that qualitative research was purposeful and systematic, while assisting to plan and prepare for text-based qualitative analysis (Mackieson et al., 2019). To further reduce bias, we analysed the data in three different phases, using insights from Mackieson et al. (2019) and Guest et al. (2012). First, we developed appropriate thematic codes relating to the study objectives. Second, we independently analysed the reports of the sampled CNGOs and SOEs. Third, before concluding, we compared the results and deliberated on identified discrepancies.

## 4 | ANALYSIS AND INTERPRETATION OF RESULTS

Despite the global nature of biodiversity loss, our study focuses on South Africa, due to a combination of South Africa's unique biological diversity, the impact of biodiversity loss on society, the economy and the environment, and South Africa's acknowledged leadership in corporate governance and reporting practices (Atkins et al., 2015). Climate change, poaching, overfishing and intensive agriculture are examples of factors accelerating biodiversity loss (Atkins et al., 2018, 2022; Minnaar & Herbig, 2018), contributing to the number of CNGOs operating in South Africa, which vary in size, scope and activities. We observe that CNGOs appear to be well represented across the three primary biodiversity categories in South Africa: (1) habitat conservation; (2) species conservation; and (3) people and conservation (Taylor et al., 2019). We also consider the extent to which CNGO disclosures corroborate the biodiversity disclosures of SOEs.

### 4.1 | Distribution of CNGOs in South Africa

The extensive diversity of CNGOs operating in South Africa impaired our ability to easily categorise them into the three primary biodiversity

categories proposed by Taylor et al. (2019). Our analysis therefore included four additional categories (drawn from combining the three primary categories), to more comprehensively classify the CNGOs: (4) habitat and species conservation; (5) habitat, people and conservation; (6) species, people and conservation; and (7) habitat, species, people and conservation, as illustrated in Table 1, below.

Table 1 reveals that the activities of 38% of CNGOs relate to 'people and conservation', followed by 18% in the 'habitat, species, people and conservation' category. The crucial role of people in conservation is evidenced by categories 3, 5, 6 and 7, collectively accounting for 64 CNGOs (74%) in South Africa.

These observations are unsurprising since CNGOs appear to recognise that the key to sustainable biodiversity preservation programmes and interventions involves education and training on biodiversity-related issues, particularly amongst the historically marginalised communities neighbouring environmentally sensitive and protected areas, reserves and parks. This is consistent with Lunstrum and Givá (2020) finding that while community members want to be better off than their parents, they lack meaningful employment opportunities in the rural communities where they live, but still need to feed their families, possibly through illicit means. These factors collectively contribute to increased poaching and environmental degradation. Although habitat conservation may have the fewest dedicated CNGOs (i.e., 5%), when combining habitat conservation with other dimensions, such as species and people, this increases to 46%. The tendency of CNGOs to expand the scope of their activities, illustrates the interrelated nature of habitat, species and people in the biodiversity equation. To effectively ameliorate biodiversity loss, CNGOs cannot operate in isolated siloes, needing to address concerns outside of their primary mandates. While such diversification may appear to detract from the primary biodiversity-related objectives that may have created these CNGOs, it also reflects an evolution towards a more integrated and comprehensive biodiversity preservation service, potentially attracting more funding, improving economies of scale and offering donors and funders 'more bang for their buck'. It is however, recognised that some organisations may only want to fund specific activities directly related to offsetting the adverse impacts of their operations, such as birds of prey which may fly into high-voltage powerlines, and not a more holistic approach to diverse conservation issues. Although all CNGOs appear to contribute to and in many cases collaborate with, preserving the natural environment for future generations, in reality, CNGOs usually compete for funding and donations, especially when faced with limited corporate resources and support,

and under tough economic conditions, brought about by events such as the COVID 19 pandemic, or economic recessions.

## 4.2 | CNGO collaboration

As described in Section 3.1, collaboration between CNGOs and other organisations (Atkins et al., 2022) refers to formally or informally working towards achieving biodiversity conservation goals. Current literature has documented the collaboration between CNGOs and PSEs, and highlighted the importance of more general biodiversity-related collaboration, contributing to preserving species, conserving biodiversity and mitigating extinction (Roberts & Elamer, 2021; Weir, 2018), with a paucity of research into their collaboration with public sector organisations. Despite the initial objective of the study to focus on the relationship between CNGOs and SOEs, we found that few CNGOs published their reports, with those that do, seldom publishing sufficiently detailed reports. Nevertheless, our data collection process identified five types of CNGO collaborations: (1) collaborations with SOEs; (2) with educational institutions; (3) with PSEs; (4) with fellow CNGOs; and (5) with other public sector organisations, such as government departments and agencies.

### 4.2.1 | Collaborations with SOEs

To ensure that all pertinent biodiversity collaboration between CNGOs and SOEs were comprehensively included in the study, we scrutinised the publicly available reports and websites of CNGOs and SOEs for pertinent disclosures. Although several CNGOs operate in South Africa, few made their annual reports publicly available, with those that did, providing little information about their collaboration with SOEs. Similarly, the annual or integrated reports of very few SOEs provided sufficient information about their biodiversity activities, or their interaction with CNGOs. Although outside the scope of this study, it is a concern that not all SOEs appear to have adopted integrated reporting, which we previously interpreted as being mandatory for all SOEs. Since SOEs are an extension of the public sector, not only funded by taxpayers, but also with mandates to act on behalf of the state, in the best interests of the public, the lack of biodiversity-related disclosures may suggest an unwillingness of SOEs to account to the public about their biodiversity impacts. Table 2 reveals that the websites of only three SOEs, namely, Airports Company of South Africa, Alexkor Limited and Eskom provide some information on their biodiversity activities.

Surprisingly, despite being involved in a web of corruption, incapacity and incompetence, which have contributed to South Africa's unstable electricity supply, Eskom appears to be the most active SOE in the biodiversity space, collaborating with several CNGOs. For example, Bird Life South Africa's website describes its partnership with Eskom on the Ingula Project.<sup>3</sup> The EWT's 2021 integrated report discloses that

**TABLE 2** Biodiversity disclosures by state-owned enterprises (SOEs).

	SOEs	Biodiversity and conservation disclosures
1	Air Traffic and Navigation Services Company	NA
2	Airports Company	YES
3	Alexkor Ltd.	YES
4	Armaments Corporation of South Africa	NA
5	Broadband Infrastructure Company (Pty) Ltd.	NA
6	CEF (Pty) Ltd.	NA
7	DENEL	NA
8	Development Bank of Southern Africa	NA
9	Eskom	YES
10	Independent Development Trust	NA
11	Industrial Development Corporation of South Africa Ltd.	NA
12	Land and Agricultural Bank of South Africa	NA
13	SA Broadcasting Corporation Ltd. (SABC)	NA
14	SA Forestry Company Ltd.	NA
15	SA Nuclear Energy Corporation	NA
16	SA Post Office Ltd.	NA
17	South African Airways Ltd.	NA
18	South African Express (Pty) Ltd.	NA
19	Telkom SA Ltd.	NA
20	Trans-Caledon Tunnel Authority	NA
21	Transnet Ltd.	NA

its strategic partnership with Eskom commenced in 1996 to address the most pressing issues related to unintended wildlife interaction with South African's electrical infrastructure, more recently including the use of drone technology. Eskom's partnership with WESSA, provides school learners with environmental education and encourages environmental support at over 150 projects in schools countrywide.

As previously indicated, several organisations, including profit-seeking organisations, may not disclose their nonfinancial performance, including activities to prevent biodiversity loss, to reflect their commitment to sustainable environmental practices, but rather for impression management purposes (Atkins et al., 2018; Koot, 2021; Maroun, 2018; Samkin & Wingard, 2020). Therefore, the observation that the integrated or annual reports of SOEs with established CNGO partnerships, and Eskom in particular, seldom disclose these collaborations and sponsorships, may suggest a sincere attempt to mitigate their environmental footprints, and not merely an exercise in impression management. Nevertheless, the websites of the following SOEs disclosed their interactions with CNGOs as follows:

<sup>3</sup>A project to manage the Ingula Pumped Storage Scheme as a sustainable conservation site.



- The Airports Company noted that: 'Due to the potential of airport operations interfering with wildlife habitats, Airports Company South Africa's business operations compels the company to focus on the conservation of wildlife. As such, Airports Company South Africa has formed strategic partnerships with leading non-governmental organisations to support their environmental programmes'. Further stating that: 'These projects focus on communities adjacent to the airports, while maintaining a link to national programmes. Partnerships with Ezemvelo Wildlife in KwaZulu Natal and BirdLife South Africa are amongst some of the major environmental projects'. Noting that: 'Airports Company South Africa and BirdLife South Africa, together with the City of Ekurhuleni are in partnership to train twelve youth to become Nature Guides. The City of Ekurhuleni provides a monthly stipend for the learners. The learners, who were all unemployed, will obtain an NQF 2 qualification at the completion of the programme'.
- Similarly, Alexkor indicated that: 'it supports the environment by providing facilities such as funding of the local tourism website Diamondcoast, the running of guest houses in and around Alexander Bay, the running of the local airport, local museum and river mouth towards harnessing the tourism potential of the area where it operates'.
- Eskom also noted that: 'If we are to make a sustainable impact on the country's future, an important aspect in assuring sustainability is a commitment to the environment', adding that: 'This is the message that Eskom's energy and sustainability programme spreads to learners in schools across the country through their long-standing partnership with the Wildlife and Environment Society of South Africa (WESSA). This programme encourages support for the environment through over 150 projects in schools around the country'.

Although the above disclosures do not provide sufficient credible detail to assess the extent to which SOEs and CNGOs collaborate to mitigate biodiversity loss, it is nevertheless encouraging to observe some interaction aimed at mitigating important environmental challenges facing South Africa and the world.

Although only three SOEs (14.3%) provided information relating to their biodiversity activities, it may be argued that with the possible exception of the SA Post Office and the SABC, the remaining SOEs have a direct or indirect impact on the environment, since they operate in, or fund operations in ecologically sensitive sectors. It is therefore concerning that these SOEs have not provided more detailed information about the impact of their operations on the environment, or about their interactions and collaboration with CNGOs in the biodiversity space. While the reasons for these observations may not appear obvious, and are beyond the scope of this study, it may be worthwhile for future researchers in this field to research this aspect.

#### 4.2.2 | Collaboration with other organisations

Therefore, despite the initial focus on CNGO collaboration with SOEs, our study also briefly considered collaboration with other CNGOs and

public sector organisations. We deliberately excluded collaboration with PSEs, which has already been done by other scholars. With regard to educational institutions, Grootbos Foundation collaborated with Stellenbosch University on bee keeping, EWT collaborated with the University of Cape Town in respect of vulture conservation, Delta Environmental Centre collaborated with the University of South Africa and the University of Johannesburg. Rivers of Life also disclosed that they operate with the support of the Universities of Kwazulu-Natal and Mpumalanga. CNGOs listed these universities amongst their funders, donors and supporters.

Inter-CNGO collaboration included Project 90 by 2030 and 350 Africa developing an infographic dealing with the effects and consequences of climate change. Similarly, the Southern African Foundation for the Conservation of Coastal Birds (SANCCOB) and CapeNature collaborated to mitigate the extinction of African penguins, and with South African National Parks (SANParks) to save seabirds affected by oil spills. The Wildlife Conservation Trust engaged the Black Mamba Anti-Poaching Unit, South Africa's first majority female anti-poaching unit, to patrol Hoedspruit Endangered Species Centre facilities. The Southern African Wildlife College, the Peace Parks and the Worldwide Fund for Nature (WWF) are collaborating to develop the necessary skills within communities to sustain and rehabilitate wildlife areas.

CNGO collaboration with other public sector organisations, such as government agencies, included Bird Life South Africa and the EWT amongst 12 partners working with the South African National Biodiversity Institute (SANBI) to strengthen spatial biodiversity assessment, prioritisation and planning in Southern Africa. The Delta Environmental Centre lists the National Research Foundation (NRF) as one of its funders, donors and supporters. As reflected on their respective websites, Project 90 by 2030 and the Well-Worn Theatre Company were funded by the South African National Lottery Commission. The Department of Forestry, Fisheries and the Environment collaborates with Bird Life South Africa to restore the once-pristine beauty of Marion Island, by eradicating invasive house mice, and established the National Biodiversity and Business Network in partnership with the EWT. The nature and extent of these collaborations sustain Ackers' (2019, p. 204) stance that 'It is clear that this battle (against extinction and environmental unsustainability) can only be won through a concerted collaborative effort by all parties concerned, including public and private sector organisations and NGOs'.

#### 4.2.3 | Discussion of findings

Consistent with Hossain (2017) whose findings highlighted limited available research data on biodiversity and conservation issues, we also found limited information about collaborations between CNGOs and public sector organisations, especially when compared with the private sector.

Our findings on CNGO collaborations are aligned to stakeholder and legitimacy theories described earlier (Atkins & Maroun, 2018; Barut et al., 2016; Weir, 2018), and consistent with Weir's (2018) arguments for a stakeholder-centric biodiversity conservation



approach. Weir (2018) asserts that the primary objective of collaborating with, and involving public sector organisations in biodiversity conservation is to develop an inclusive project, in terms of which local stakeholders and the general public identify and report conservation violations. This would assist in developing a stakeholder-oriented or dialogic reporting, incorporating diverse perspectives on the loss and recovery of species. Barut et al. (2016) added that easy accessibility to pertinent information by all relevant stakeholders is essential for accountability, with mandatory reporting to stakeholders expected to enhance accountability. Weir (2018) however, cautioned that such accounts may reflect attempts to leverage social or organisational legitimacy, or could become disjointed due to competing organisational pressures, in turn constraining the scope of disclosing the full impact of human activity on local ecosystems, local species or biodiversity. Atkins and Maroun (2018) position legitimacy as the fundamental outcome of the extinction accounting framework, in terms of which legitimacy does not simply reflect a ceremonial adoption of a new accounting discourse, or symbolic demonstrations of sustainability. Contextualising the importance of legitimacy to conservation, Atkins and Maroun (2018) narrowly define biodiversity and conservation legitimacy as a genuine organisational response to the threats posed by extinction, using procedurally rigorous methods to inform and implement a strategic plan that is reported to stakeholders in an attempt to reverse emerging extinction trends. Organisations with which CNGOs have collaborated, as observed in this study, represent broader stakeholders in the conservation and biodiversity space.

### 4.3 | The importance of CNGO disclosures

Until recently, the literature has documented acrimonious relationships between NGOs in general and profit-seeking PSEs, each representing opposing worldviews (Atkins et al., 2018, 2022; Atkins & Maroun, 2018). Najam (2000) attributes this conflict to a perception that NGO advocacy, or activism, places undue pressure on PSEs to conform with what CNGOs believed were correct, and for immediate remediation of any adverse operational impacts, irrespective of the resultant impact on profitability.

Increasing awareness of the debilitating impact of climate change and biodiversity loss, are changing the nature of SOE accountability relationships, not only by proactively interacting with CNGOs, but also through addressing biodiversity issues more directly. This changing paradigm provides SOEs with an ideal opportunity to meaningfully account for their biodiversity impacts and remediation interventions. However, to allow stakeholders to consistently and comparably evaluate biodiversity-related performance, SOEs should adopt and implement the Global Reporting Initiative (GRI) standards—particularly, *GRI 304: Biodiversity*—to guide their biodiversity reporting practices.

The inadequacy of existing assurance frameworks and standards to effectively address biodiversity issues, requires auditors, specialist consultants and environmentalists involved in biodiversity, to consider developing a specific assurance standard to address biodiversity disclosures. This will assist in mitigating potential greenwash, by

providing stakeholders with some confidence about the veracity of biodiversity disclosures. The proposed standard should draw on the new International Standard on Sustainability Assurance (ISSA 5000) presently under development by the International Auditing and Assurance Standards Board.<sup>4</sup>

#### 4.3.1 | Discussion of findings

Although we only found a few instances where SOEs disclosed any collaboration with CNGOs, interestingly many CNGOs disclosed the funding and collaboration with other organisations. Thus, it is suggested that the disclosures of CNGOs could contribute to confirming the veracity of biodiversity disclosures, not only of SOEs, but also of other public and private sector organisations, as well as other CNGOs. To harness the potential of this alternative credibility enhancing mechanism, we accordingly suggest additional research to consider using the disclosures of NGOs to corroborate the nonfinancial social and environmental disclosures of organisations that fund, or collaborate with them.

In addition to collaborating with SOEs and other organisations, CNGOs are actively involved in environmental advocacy, which may be argued is a step in the right direction to expand non-financial reporting and accountability. Therefore, despite not being a specific objective of the study, we note that CNGO activism appears to encourage SOEs to account for their biodiversity performance. For example, championing a 'Green New Eskom', 350 Africa is pushing Eskom to transition to 'a more socially owned, renewable energy powered economy, providing clean, safe, and affordable energy for all'. Similarly, Earthlife Africa challenges the sustainability of Eskom's existing and planned coal-fired power stations, noting that 'Eskom is a public company and even though this should make the company sensible towards the political developments into renewable energy, Eskom is still busy burning mostly coal to generate electricity. Hence, Earthlife Africa has taken it up to challenge Eskom over its unsustainable and harmful actions'. Calling on South African public financial institutions to spearhead the drive towards environmental sustainability, 350 Africa found that South African development financial institutions were doing less to promote environmental sustainability, than their international counterparts. Similarly, the Centre for Environmental Rights calls on the IDC and the DBSA to review their financing activities, which they argue are largely unsustainable and 'not only fall short of international social, environmental and governance standards, but are not yet being deployed to support a just transition towards a climate resilient future'. After lifting of the moratorium on ship-to-ship refuelling in Algoa Bay threatening marine life, several CNGOs in South Africa including SANCCOB, Bird Life South Africa and WESSA continued fighting to have the decision overturned. These CNGO activities appear to indicate that if properly leveraged, CNGO activism and donor disclosures may indirectly contribute to providing

<sup>4</sup>See <https://www.iaasb.org/consultations-projects/assurance-sustainability-reporting> (Accessed 23 February 2023).

assurance on environmental disclosures, since CNGOs appear to promote and push organisations to improve their focus and reporting on environmental activities. It may therefore be noted that Earthlife's challenge (above) may be a step in the right direction and that more should be done to promote the indirect auditing and assurance capabilities of CNGOs. Acknowledging that PSEs typically prioritise profits to the detriment of society and the environment, we suggest that CNGOs may represent mechanisms to hold opportunistic organisations to account. However, since some organisations may only engage in socially responsible, or sustainable, business practices for perception management purposes, in order to legitimise their organisations, the disclosures of CNGOs may meaningfully facilitate improving organisational commitment to sustainable business practices, simultaneously contributing to confirming the veracity of disclosures.

## 5 | CONCLUSIONS, IMPLICATIONS AND FURTHER RESEARCH

We explain how SOEs and CNGOs report on their biodiversity collaboration engagements by identifying and scrutinising the publicly available disclosures on the activities of the 87 CNGOs operating in South Africa and the 21 Schedule 2 SOEs. Additionally, we investigate whether CNGOs are funded by, or collaborate and interact with, South Africa's 21 Major SOEs, on environmental or biodiversity matters. Using thematic content analysis, we analysed pertinent disclosures in the reports, documents and websites of CNGOs and SOEs, finding little evidence of engagement or interaction between SOEs and CNGOs. Eskom, which partnered with several CNGOs on environmental matters, was the only observed exception.

Since SOEs are owned and funded by the state, mandated to act on the state's behalf, and given South Africa's commitment to global initiatives aimed at reducing the impact of climate and biodiversity loss, it is not only disconcerting that few SOEs appear to interact with CNGOs to mitigate their biodiversity impacts, but also that few even disclose their environmental activities. This is especially concerning, since as organs of the state, it is not unrealistic to expect SOEs to assist the state prevent biodiversity loss. Interestingly, despite finding little collaboration between SOEs and CNGOs on biodiversity matters, and although not initially part of the study objectives, various forms of interaction between CNGOs and educational institutions, government departments and agencies, as well as other CNGOs were observed.

Because Atkins et al. (2018) and Atkins et al. (2022) already confirmed collaboration between CNGOs in South Africa and JSE-listed companies, our study excluded the relationships between CNGOs and PSEs. However, as highlighted earlier, our findings are consistent with Hossain (2017), who observed limited data on biodiversity and conservation issues. Further, Atkins et al.'s (2022) findings of a mutually beneficial relationship between CNGOs and private sector companies, characterised by constructive dialogue, facilitation and mediation are consistent with our assertion that CNGOs may have more important roles that should be harnessed going forward. As proposed by Atkins

et al. (2018), the potential contribution of CNGOs in reporting and assurance is enhanced by the awareness created by CNGOs which could contribute to addressing the risk of species becoming extinct. These authors importantly recommend the use of a structured framework to document engagements amongst important stakeholders, including institutional investors, CNGOs and companies. Also, Chertt et al. (1995) introduced additional ideas about other important roles of CNGOs, which should be taken into account when harnessing the contribution of CNGOs.

Despite the lack of disclosed interaction with CNGOs, a particularly noteworthy observation emerging from our study is that if properly harnessed, CNGO advocacy or activism may provide a mechanism for validating organisational biodiversity reporting. Despite our study excluding PSEs, we suggest that the disclosures of CNGOs may also serve as credibility enhancing mechanisms for the biodiversity disclosures of these PSEs as well. In this regard, assurance providers, including auditors, specialist consultants, environmentalists, as well as those charged with organisational governance, such as boards of directors, should endeavour to harness these CNGO disclosures to assist with their assurance processes, or to add credibility to their biodiversity disclosures. Our study contributes to the emerging discourse of nonfinancial assurance and combined assurance by suggesting that the advocacy or activist roles of CNGOs, may encourage SOEs and other organisations to improve their accountability and may also potentially indirectly serve as assurance mechanisms for biodiversity accounting, where suitable assurance frameworks and standards have not yet been developed.

Our findings have important implications for policy and the development of extinction accounting practices. First, the suggested contribution of CNGOs towards authenticating organisational biodiversity impacts, activities and disclosures should be considered and harnessed to mitigate increasing biodiversity loss and species extinction. Second, the lack of disclosed interaction and collaboration between CNGOs and SOEs may suggest that to combat increasing threats to South Africa's unique biological assets, South African policymakers should consider developing and implementing mandatory environmental policies applicable to all public sector organisations, including SOEs. Third, given the South African government's commitment to preventing environmental degradation and biodiversity loss, it should hold its SOEs to account for activities that undermine its biodiversity preservation commitment, as highlighted by Earthlife Africa on the extent of Eskom's pollution. Fourth, given the inherent credibility of several established CNGOs, especially relating to advocacy and activism, their disclosures could be used to hold private and public sector organisations to account for their biodiversity impacts and even possibly to authenticate their biodiversity disclosures.

Although we argue that as an extension of the public sector, SOEs are obliged to consider the environmental impacts of their operations and to adopt responsible practices, we found that this was not necessarily the case. Despite proposing that public sector policymakers should introduce regulations that all public sector bodies, such as SOEs, must comply with, we contemporaneously argue that as employees of the state, responsible for public resources, public-



sector managers should be more responsive to sustainably addressing environmental concerns. While our study reveals that Eskom appears to have emerged as an iconic SOE environmental champion, and notwithstanding the importance of its programmes to protect vulnerable bird species and its environmental awareness programmes, the obvious question that remains unresolved is how the excessive pollution from its coal-fired power stations, impacts South Africa's natural environment in general, and biodiversity in particular? In light of the negative publicity arising from widespread corruption, exacerbated by cadre deployment in South Africa's SOEs (Swanepoel, 2022), which have directly contributed to numerous service delivery failures, raises the question about whether these biodiversity disclosures reflect a sincere commitment to preserving the planet, or whether it is really greenwash for perception management, intended to deflect attention away from their failures?

Studies of this nature are bound to have limitations, which provide avenues for further research. Since we did not investigate the reasons for the apparent lack of collaboration between CNGOs and SOEs, or the lack of disclosure thereof, future research could extend this study by conducting interviews with SOEs and CNGOs to understand why this appears the case. Also, since we confined our study to profit-seeking SOEs listed on Schedule 2 of the PFMA, future research could explore collaborations between CNGOs and non-profit-seeking SOEs listed on Schedule 3, to establish whether the importance of biodiversity mitigation, is sufficiently prioritised, especially when compared with social and economic goals. Additional studies could explore the interaction and collaboration between CNGOs and public and private sector organisations, which could assist in establishing the extent to which organisations consider and incorporate biodiversity issues into their organisational strategies.

Given that the data for this study was confined to the publicly available disclosures of SOEs and CNGOs, it is submitted that one of the main avenues for further research highlighted by our study relates to how effectively harnessed CNGO activism could serve as accountability agents to encourage organisations to improve the manner through which they account for their biodiversity practices and performance. In proposing this research agenda, we noted earlier that if properly harnessed CNGO disclosure activities could possibly serve as an alternative credibility and accountability mechanism. However, since CNGOs tend to be fiercely passionate about their independence and their ability to pursue their objectives without fear or favour, it is unlikely that they would willingly undertake such a role, which could result in conflicts of interest. Since stakeholders, including civil society, require some level of assurance about the veracity of the biodiversity disclosures of SOEs and other public and private sector organisations, internal and external assurance providers, independent consultants, investment analysts, boards of directors and civil society organisations could compare these disclosures to achieve some level of confidence about their veracity. In this regard, it is recommended that cross checking the CNGO disclosures should be incorporated into a more holistic combined assurance framework to increase the confidence of the users of the reports of their funding and/or partner organisations, about

the veracity of their biodiversity disclosures. It is accordingly recommended that this current study be extended to include semi-structured interviews with appropriate representatives of CNGOs, and their funding or collaborating organisations (not confined to SOEs). Thereby providing deeper insights into the feasibility of comparing their respective disclosures to confirm the veracity of their mutual biodiversity disclosures. Further studies could also document how this could be achieved. We encourage observers to contribute to the convergence of research into this important area.

In conclusion, it may be appropriate to briefly revisit the 1987 Brundtland report, which defined sustainable development as the ability to ensure that addressing present needs does not compromise 'the ability of future generations to meet their own needs' (United Nations, 1987), and provided the platform for the Earth Summit in Rio de Janeiro in June 1992, the largest environmental conference ever. Moreover, Brundtland emphasised the importance of ethically dealing with human-environmental relationships (Sneddon et al., 2006). Finally, we argue that the world is presently at a tipping point, between preserving natural resources for future generations, or contributing to a total environmental collapse. It is therefore imperative that governments, public and private sector organisations, NGOs and other members of civil society all join hands to address pending biodiversity loss and species extinction. Given the immediate need for intervention, organisations can no longer afford to continue adopting a siloed approach to dealing with what is arguably the greatest challenge facing humankind.

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## APPENDIX

**TABLE A1** Classification of conservation non-governmental organisations in South Africa according to biodiversity spaces.

Habitat conservation	Species conservation	People and conservation	Habitat conservation and species conservation	Habitat conservation and people and conservation	Species conservation and people and conservation	Habitat conservation, people, species conservation and conservation
A	B	C	A & B	A & C	B & C	A, B & C
Greenpeace SA	The Rhino Orphanage	350 Africa	Peace Parks Foundation	Grootbos Foundation	SANCCOB	WILDTRUST
Greenpop	Centre for Rehabilitation of Wildlife	Project 90 by 2030	Black Mambas	Wildlife Conservation Trust	Wilderness Foundation Africa	The African Conservation Trust (ACT)
Fresh	Botanical Society of South Africa	CER: Centre for Environmental Rights	Eco Care Trust	WESSA	Care for Wild	Endangered Wildlife Trust
Wild Tomorrow Fund	The Ann Van Dyk Cheetah Centre	Cape Town Environmental Education Trust (CTEET)/Nature Connect	Leadership for Conservation in Africa	Food and Trees for Africa	Project Leopard Conservation	Wildlife ACT
	LEO Africa	Sea Change Project	Working with Wildlife	Earthlife Africa	Project Rhino	Conservation South Africa
	International Wildlife Fellowship Foundation	Well Worn Theatre Company	Sustainable Seas Trust	Thrive	Riverside Wildlife Rehabilitation & Environmental Education Centre	South African Shark Conservancy
	Hoedspruit Elephant Rehabilitation & Development	SAFCEI	The Bird Life South Africa	Kloof Conservancy		Wilderness Wildlife Trust
	Free Me	Green Anglicans	Gouritz Cluster Biosphere Reserve	Vaal Environmental Justice Alliance		Cheetah Experience
		Natural Justice	Elephants Alive	The Federation for a Sustainable Environment		Nature's Valley Trust
		The Heinrich Böll Foundation	Flying for Rhino & Conservation			Conservancies KZN
		Environmental Monitoring Group	Fynbos Fish Trust			The Green Connection
		Worldwide Fund for Nature (WWF)				Rhino Revolution
		Groundwork Environmental Justice Action				Nature's Spirit
		Delta Environmental Centre				Environmental Sustainable Agency

(Continues)

TABLE A1 (Continued)

Habitat conservation	Species conservation	People and conservation	Habitat conservation and species conservation	Habitat conservation and people and conservation	Species conservation and people and conservation	Habitat conservation, people, species conservation and conservation
		The South African Association for Marine Biological Research (SAAMBR)				Institute of Natural Resources
		The Southern African Wildlife College				Wild Serve
		BioWatch South Africa				
		Earth Justice				
		National Association for Clean Air				
		Mining and Environmental Justice Community of South Africa				
		Frontier				
		Wildlife Education Foundation				
		Ocean Research Conservation Africa				
		All Rise—Attorneys for climate and environmental Justice				
		GenderCC				
		Indigo Development and Change				
		Wild and Free Foundation				
		Sustainable Energy Africa				
		People's Environmental Planning				
		Enviro Insight				
		Freshwater Research Centre				
		Save the Vaal Environment				
		Rivers of Life				
<i>n</i> = 4	<i>n</i> = 8	<i>n</i> = 33	<i>n</i> = 11	<i>n</i> = 9	<i>n</i> = 6	<i>n</i> = 16