

Making biodiversity their business:

A mixed methods analysis of stakeholder perceptions
on the business drivers, benefits and barriers
of a corporate biodiversity certification scheme

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A handwritten signature in black ink, appearing to read 'H. Hamilton'. The signature is written in a cursive style with a long, sweeping underline.

Abstract

Biodiversity loss has emerged as a threat to humanity equal to that of climate change. Urgently addressing this loss requires transformational change across many sectors of society. Global studies have highlighted the significance of the private sector's role in driving biodiversity loss and the importance of transformational systems change in harnessing the power of business to support biodiversity conservation targets and objectives. However, little research has been done to explore the connections between business and biodiversity, and even less has been done to understand the business case for action. This research project seeks to address a specific aspect of that gap. It focusses on a multi-sectoral group of companies that have undertaken a voluntary certification scheme – the Biodiversity Benchmark – to assess their on-site biodiversity management systems. The scheme is administered across the United Kingdom by The Wildlife Trusts, a well-known conservation charity. To understand the business drivers, benefits and barriers to engagement with this scheme, I first conducted a small-scale exploratory study to gather empirical data on employees' perceptions. I took a mixed methods approach to first identifying potential drivers, benefits and barriers through semi-structured interviews with The Wildlife Trusts' Biodiversity Benchmark assessors. The findings were then translated into an online survey that was circulated to a wider group of employees at the participating companies. Lastly, the survey findings were further explored through semi-structured interviews with a subset of the survey respondents. Survey and interview findings were then synthesised and discussed to establish the cross-sectoral drivers, benefits and barriers of business engagement with voluntary on-site biodiversity management within the sample. I found that a passionate individual with a personal interest in biodiversity was thought to be an important driver of business engagement. I also found that doing the right thing – both in terms of corporate responsibility and an

effective approach based on embedding biodiversity in management systems to ensure continual improvement – apparently drove engagement, as did the recognition and validation of efforts by a trusted third party (in this case, a well-known environmental charity). The perceived business benefits of undertaking the scheme included: an enhanced reputation among and better relationships with local communities and regulators; the management of risk in terms of access to licences and permissions and compliance with legislation and conditions; improved employee engagement – especially in terms of health and wellbeing, staff morale and a sense of pride; and benefits around businesses being seen as leaders by external stakeholders for striving for best practice. Combined, my analysis of responses suggests that a passionate and highly motivated employee together with an enabling corporate culture and a business-relevant management framework can drive positive outcomes for biodiversity, employee engagement, business reputation, community relationships and risk management. Further research is needed to interrogate these findings in larger samples and to explore similar questions in other areas of business action on biodiversity, especially through interdisciplinary studies that investigate the business perspective. Business impacts and dependencies on nature are widely discussed in conservation science but, while there are signs of increased engagement, the implications of biodiversity loss generally remain poorly understood in the private sector. In the context of evermore ambitious policy goals for biodiversity and increasingly stringent environmental legislation, there is an urgent need to develop the business case for biodiversity and support broad cross-sectoral action through the development of tools, methodologies and approaches that businesses value.

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1 General Introduction

The global loss of biodiversity is emerging as an existential threat to humanity that is at least equal to the threat of climate change. Reversing this trend is a challenge for all sectors of society, including businesses. While resource efficiency and carbon reduction have become established aspects of companies' approach to environmental management, biodiversity and ecosystem services have remained largely invisible, sitting outside the scope of traditional management and reporting systems.

Things are changing, however, and the business case for engagement with biodiversity is increasingly clear. Concepts of natural capital accounting and No Net Loss of biodiversity have become mainstreamed in international policy, Biodiversity Action Plans are published by corporates with increasing frequency, business networks focussing on nature have emerged, and biodiversity action within the pantheon of Corporate Social Responsibility and sustainability have become more common.

More and more companies are becoming aware of their two-way relationship with biodiversity and the wider benefits of working to conserve it. These have been identified by a range of academic, governmental and industrial researchers as including the mitigation of physical, operational, financial, regulatory and reputational risk, as well as the opportunity to enhance sustainability, engage employees and strengthen relationships with external stakeholders (Convention on Biological Diversity, n.d.-b; Hanson, Ranganathan, Iceland, & Finisdore, 2012; IPBES, n.d.-a; World Economic Forum, 2020). However, a majority of businesses are yet to make these connections in ways that are sufficiently material to result in significant action. Questions on how to drive engagement

in corporate biodiversity management are yet to be conclusively answered, especially in a cross-sectoral context.

The aim of this thesis is to conduct a preliminary investigation into employee perceptions of the business benefits of voluntary corporate biodiversity management and gain insights across a range of industry sectors into the factors that employees believe motivate and hinder action. To do this, I identified an accreditation scheme led by the Wildlife Trusts in the UK that certifies businesses' on-site biodiversity management approaches. At the time the research was undertaken, the Biodiversity Benchmark (BB) had been achieved on 55 sites by 18 companies from a wide range of sectors including quarrying and mining, food and beverages, education, power generation, tourism, aviation and retail. I used a mixed methods research approach involving small scale semi-structured interviews and an online questionnaire in order to generate exploratory, descriptive and non-inferential observations that could shed some light on this nascent field of study.

1.1 Understanding the biodiversity crisis

1.1.1 What is biodiversity?

Biodiversity is a relatively new term within the biological sciences. A contraction of the words "biological" and "diversity", it was coined by Walter G. Rosen during preparations for the 1986 'National Forum on BioDiversity'. The conference proceedings, written by the acclaimed biologist E. O. Wilson, took the term 'BioDiversity' as the title and it rapidly gained traction in the academic literature. However, it was defined in different ways by

different people and drew criticism for lacking consistent meaning (DeLong, 1996; Sarkar, 2002).

The definition that emerged from the United Nations Convention on Biological Diversity in 1992 has since become the most commonly-used (United Nations, 1992):

"The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems".

Many other definitions, including the European Commission's definition of biodiversity as the "extraordinary variety of ecosystems, species and genes that surrounds us" (European Commission, 2011), as well as descriptive metaphors such as "the web of life" (WWF, n.d.) and "our life insurance" (European Commission, 2011), also play an important role in communicating what is an essentially complex term. Though it is often conflated with more commonly used concepts such as 'nature', 'wildlife' and 'the environment', biodiversity refers specifically to three key levels of diversity that underpin all ecosystem processes. It determines the environment on which life depends through the interactions of these processes with the atmosphere, hydrosphere and geosphere (Lead et al., 2010). The three levels of diversity are as follows (Campbell et al., 2008):

1. **Genetic diversity**, which comprises individual genetic variation both within and between populations
2. **Species diversity**, which is the variety of species in an ecosystem or throughout the biosphere
3. **Ecosystem diversity**, which describes the variety of the biosphere's ecosystems

Across the world, biodiversity is declining at a pace that is significantly above the natural rate of extinction, and it is not slowing down (IPBES, 2019a). Some scholars have suggested that life on earth is on the cusp of the sixth mass extinction (Barnosky et al., 2011) while others suggest it is already well underway (Ceballos, Ehrlich, & Raven, 2020). Biodiversity is a prerequisite for sustainable, productive ecosystems (Grace et al., 2016) and its loss is a major driver of ecosystem change (Hooper et al., 2012). Biodiversity has been pushed beyond “safe” levels of biotic intactness across more than 50% of the world’s land, with existential implications for people (Newbold et al., 2016). Five direct drivers of global change in nature have been identified – changes in land and sea use, direct exploitation of organisms, climate change, pollution and the introduction, establishment and spread of alien species – which are themselves underpinned by “societal values and behaviours”: production and consumption patterns, human population dynamics and trends, trade, technological innovations, and governance (IPBES, 2019a).

1.1.2 The ‘common concern’ of humankind

The challenge of biodiversity loss emerged as a global concern at the Rio de Janeiro Earth Summit in 1992, when the United Nations Convention on Biological Diversity was opened for signature. This multilateral treaty saw the vast majority of nations recognise for the first time the importance of biodiversity in maintaining the life-support systems of the biosphere, acknowledge the impact of human activities on its loss, and affirm its conservation as a “common concern of humankind” (United Nations, 1992).

Ten years later, when world leaders met again at the sixth Conference of the Parties in 2002, a strategic plan was adopted under decision IV/26 that included a global target to “significantly reduce” biodiversity loss by 2010 (Convention on Biological Diversity, n.d.-c; Secretariat CBD, 2005). This target was endorsed at the World Summit on Sustainable

Development and the United Nations General Assembly at the 2005 World Summit, and consequently translated into the new Millennium Development Goals that were to guide the international development agenda over the coming decade (Convention on Biological Diversity, n.d.-a).

1.1.3 Connecting nature with people

Meanwhile, as decision-makers were agreeing global policy objectives, a major scientific assessment of socio-ecological system dynamics was underway to establish the scientific basis for action. The Millennium Ecosystem Assessment (MA), published in 2005, found that in seeking to improve wellbeing and prosperity, humans had changed ecosystems more rapidly and extensively over the previous 50 years than at any other point in human history. It reflected that reversing this degradation while simultaneously meeting increased demands on nature from an expanding human population required “significant changes in policy, institutions and practices that [were] not currently underway” (Millennium Assessment, 2005).

The MA built on concepts that integrated ecology and economics to connect biodiversity with human wellbeing. Ideas around nature’s utility – how it benefits us, the allocation of those benefits, and the limits to their provision – had emerged in the academic literature in the 1970s. The Club of Rome published its seminal paper ‘Limits to Growth’ in 1972 and a year later in 1973, the book ‘Small is Beautiful’ by E.F. Schumacher (Schumacher, 1973) illustrated the observation that the modern industrial system treats the liquidation of nature’s assets – which provide benefits to people – as income, using the term ‘natural capital’ for the first time. In a 1977 paper titled ‘How much are nature’s services worth?’, Walter E. Westman defined the structure of an ecosystem - its species, their mass, and their arrangement - as nature’s “free goods” or “stock” and the functions of an ecosystem

that flow from the stock as nature's "free services", such as waste assimilation, nutrient cycling, climate regulation and solar energy fixation (Westman, 1977). In the intervening decades, these concepts were explored and refined, primarily through the field of ecological economics (Costanza et al., 1997; De Groot, Wilson, & Boumans, 2002; Farber et al., 2006; Fisher, Costanza, Turner, & Morling, 2008; Gómez-baggethun, Groot, Lomas, & Montes, 2010; Turner & Daily, 2008).

The MA defined ecosystem services as "the benefits people obtain from ecosystems", and categorised four key types:

1. Provisioning services, such as food, water, timber and fibre;
2. Regulating services, that affect climate, floods, disease, wastes, water quality, populations of organisms and ecosystem functioning;
3. Cultural services, that proved recreational, aesthetic and spiritual benefits; and
4. Supporting services, such as soil formation, photosynthesis and nutrient cycling, which underpin the above three.

The MA sought to examine how changes in ecosystem services influenced the constituents of human wellbeing, such as the basic material for a good life, health, good social relations, security, and freedom of choice and action, in order to establish "the scientific basis for actions needed to enhance the conservation and sustainable use of ecosystems and their contributions to human wellbeing" (Millennium Assessment, 2005).

1.1.4 The interdisciplinarity problem

In the decade since the MA, scientific understanding of society's impacts and dependencies on the natural world improved considerably. Studies have shown that biodiversity directly influences or is strongly correlated with certain regulating and provisioning ecosystem services that are important to society and the economy, including crop yield, wood production, fisheries yield, pest control, soil fertility and carbon

sequestration (Cardinale et al., 2012; IPBES, 2019a). Advances in modelling have revealed a strong and consistent enhancement of ecosystem productivity by one aspect of biodiversity, namely species richness (Grace et al., 2016). However, despite mounting evidence, greater public awareness and unprecedented global agreement on targets, biodiversity decline has continued and pressures have increased, with one study finding that biodiversity loss has been pushed past its safe limit across 58.1% of the world's surface (Butchart et al., 2010; Newbold et al., 2016).

It can be argued that the challenge of mobilising all sectors of society to reverse biodiversity loss is reflected in the challenge of establishing the scientific basis for cross-sectoral action. While the MA explicitly sought to answer interdisciplinary questions, subsequent analyses revealed a lack of research at the interfaces of natural science, social science and economics that hindered the development of targeted actions for the primary intended audiences of decision-makers in policy and the private sector (Norgaard, 2008; Reid & Mooney, 2016; Ring, Hansjürgens, Elmqvist, Wittmer, & Sukhdev, 2010). These knowledge gaps were described as being especially problematic and, perhaps consequently, the ultimate impact of the MA on its primary intended audiences was described as 'very mixed' in the terminal assessment report (Reid & Mooney, 2016).

Another aspect of the challenge is the framing and purpose of conservation itself, and how perceptions of the relationship between people and nature have changed over time across sectors and disciplines. Four framings were identified as having emerged since the 1960s (Mace, 2014):

- Nature for itself, emerged c. 1960 and underpinned by ideas around species, wilderness and protected areas

- Nature despite people, emerged c. 1980 and underpinned by ideas around extinction, pollution and habitat loss
- Nature for people, emerged c. 2000 and underpinned by ideas around ecosystems, ecosystem services and economics
- Nature and people, emerged c. 2010 and underpinned by ideas around environmental change, resilience and socioecological systems

These four framings are all present in modern conservation science, sometimes in mutually supporting ways, and all purport to seek the same outcome of enhancing nature and reversing biodiversity loss. However, the ideological nuances between them, especially in the potentially over-utilitarian “nature for people” framing that the MA espoused, has led to a certain amount of friction within the environmentalist community (Mace, 2014) that future global assessments would seek to mitigate in order to unify the cause of conservation and mainstream action across diverse political, cultural and socio-economic realities.

1.1.5 A global science-policy assessment

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) was established in 2012 as an independent body, with members from over 130 Governments. In a move that could be considered a response to the criticisms of the MA, one of its overarching objectives was to provide Government, the private sector and civil society with “objective scientific assessments about the state of knowledge regarding the planet’s biodiversity, ecosystems and the contributions they make to people, as well as the options and actions to protect and sustainably use these vital natural resources” (IPBES, 2019a). Its “demand-driven” 2030 work programme focusses on three core topics (IPBES, n.d.-b):

- a) Understanding the importance of biodiversity in achieving the 2030 Agenda for Sustainable Development
- b) Understanding the underlying causes of biodiversity loss and determinants of transformative change and options for achieving the 2050 Vision for Biodiversity
- c) Measuring business impact and dependence on biodiversity and nature's contributions to people

Through IPBES, the efforts of 150 experts and 350 contributing authors were harnessed to analyse more than 15,000 scientific publications in order to inform its 2019 landmark study, the Global Assessment of Biodiversity and Ecosystem Services, which was widely recognised as the most comprehensive assessment of the state of nature and its implications for people since the MA in 2005. It found that nature and its vital contributions to people, which encompass the biodiversity and ecosystem functions and services that enable human existence and good quality of life, were deteriorating worldwide, that the biosphere was being altered to an unparalleled degree across all spatial scales and that biodiversity is declining faster than at any time in human history.

Some of the key findings included (IPBES, 2019a):

- 75% of the earth's land surface is now significantly altered,
- 66% of the world's ocean area is experiencing increasing cumulative impacts,
- over 85% of wetland areas have been lost,
- deforestation is continuing (albeit at a slower – if unequally distributed – rate),
- and approximately half the live coral cover on coral reefs has been lost.

Furthermore, it found that the average abundance of native species in most major terrestrial biomes had fallen by at least 20%, population sizes of wild vertebrate species had declined over the last 50 years on land, in freshwater and in the sea, and rapid declines of insect populations had been documented in some areas. Around 1,000,000

species face extinction, many within decades, with the global rate of species extinction already at least tens to hundreds of times higher than in the past 10 million years. The report connected these losses to socio-economic systems, showing that while trends for agricultural production, fish harvest, bioenergy production and material harvesting had increased since 1970, more than three quarters of the indicators for the systems that underpin these benefits – such as soil organic carbon and pollinator diversity – had declined, starkly highlighting the unsustainability of these industries. It also highlighted the rate of global change. The ‘direct’ drivers of this change – changes in land and sea use, exploitation of organisms, climate change, pollution and invasive alien species, which are in turn caused by a range of ‘indirect’ drivers driven by organisational and governance systems – have accelerated during the past 50 years, and their current trajectory is incompatible with the achievement of goals for the conservation and sustainable use of nature (IPBES, 2019a).

While the implementation of policy responses and actions to address these challenges had progressed, the report noted that it was not enough, and called for transformative changes across economic, social, political and technological factors. Individual and collective action for transformative change could be enlisted through the rapid and improved deployment of existing policy instruments and new initiatives, it said, and identified five main “levers” to tackle the indirect drivers of biodiversity loss: incentives and capacity building, cross-sectoral cooperation, pre-emptive action, decision-making in the context of resilience and uncertainty, and environmental law and implementation. A key component of sustainable pathways, it said, was the evolution of the global financial and economic systems to build a sustainable economy that could be enabled through taxation, multilateral agreements, better environmental monitoring and evaluation, and a

mix of policies and tools, including incentive programmes, certification and performance standards (IPBES, 2019a).

1.1.6 The view from Europe

In 2019, the European Environment Agency published its latest five-yearly State and Outlook of the European Environment Report (SOER). The report covered a range of environmental aspects including waste, air pollution, marine environment, land and soil, freshwater and climate change, as well as biodiversity and nature. Despite the broader scope, the report's key messages echoed that of IPBES, highlighting "serious gaps between the state of the environment and existing EU near- and long-term policy targets" and declaring that "the message of urgency cannot be overstated". The report found that Europe was continuing to lose biodiversity "at an alarming rate" and noted that this loss was equally as catastrophic as climate change.

Focussing on biodiversity, the report showed that while the Natura 2000 network of protected areas designated under the EU Habitats and Birds Directives had steadily increased in EU Member States since 2010, designation in itself was not a guarantee of effective biodiversity protection: the status of protected species and habitats under the Habitats Directive was, it found, predominantly unfavourable (60% for species, 77% for habitats). Of habitats, bogs, mires and fens had the highest proportion of unfavourable assessments, with grasslands the second-worst. Under the Birds Directive meanwhile, 17% of species were threatened and another 15% were declining or depleted (EEA, 2019).

Beyond protected areas, the report presented worrying long-term downward trends in populations of common birds. The most serious declines in numbers of common farmland birds (declined by 32% since 1990) and grassland butterflies (declined by 39% since 1990).

It is worth noting that these declines were in addition to pre-1990 declines. A number of drivers – similar to those identified in the IPBES Global Assessment Report – were identified; primarily the loss, fragmentation and degradation of natural and semi-natural ecosystems through agricultural intensification, intensive forest management, land abandonment and urban sprawl. Looking forward to 2030, the report noted that these underlying drivers were not changing favourably (EEA, 2019).

The SOER also incorporated findings from the International Union for the Conservation of Nature's regional assessment of European species under threat – the Red Lists. Of the 9,735 species of vertebrates, invertebrates and plants assessed, 1,677 were threatened with extinction, four were no longer found in the wild and 36 had gone extinct in Europe. It found that 59% of freshwater molluscs, 40% of freshwater fishes, 23% of amphibians, 22% of terrestrial molluscs, and 20% of reptiles were threatened with extinction – and these are just the top five of 15 groups of species listed (International Union for Conservation of Nature, 2015). It also brought in findings from the IPBES Regional Assessment for Europe and Central Asia, which showed the majority of nature's contributions to people (or ecosystem services) are also declining across the region, with negative trends across a range of ecosystem services between 1960 and 2016 (IPBES, 2018).

The SOER was stark in its conclusions: Europe was not doing enough, and the next decade from 2020 to 2030 would be “of vital importance in determining Europe's opportunities in the 21st Century”. A shift was needed in “the character and scale of Europe's responses and coordinated actions across society and internationally”, because (EEA, 2019):

“The majority of EU2020 targets related to protecting, maintaining and enhancing natural capital will not be achieved. The overall objective of the EU biodiversity strategy to halt the loss of biodiversity and ecosystem services by 2020 will not be met. The outlook for 2030 is not

encouraging ... In essence, Europe, along with the rest of the world, is running out of time to avoid catastrophic impacts on the economy and society from climate change, ecosystem degradation and overconsumption of natural resources. We are running out of time and space to adapt to such impacts. There is an urgent need to mitigate pressures more rapidly and restore ecosystems to support sustainability objectives.”

1.1.7 A national-level focus: the UK & Ireland

The poor status and declining trends for biodiversity at the global and regional level are echoed at the national level in both the UK and Ireland. In its sixth national report to the Convention on Biological Diversity, the UK is on track to achieve only five of the 20 global Aichi targets for biodiversity by 2020, with the remaining 15 demonstrating progress at an insufficient rate (JNCC, 2019b). The 2019 Biodiversity Indicators report for the UK, meanwhile, comprises 24 indicators and 49 measures, 42 of which are measured over the long term and 39 of which are measured over the short term. Of the long term measures, 57% are improving compared to 46% of short term measures, while 33% are deteriorating compared to 26% of short-term measures. Examples of improving indicators over both the long and short terms include volunteer time spent in nature conservation, sustainable fisheries and pressure from pollution. Examples of deteriorating indicators over both the long and short terms include the status of European habitats and species, the status of UK priority species, and farmland and woodland birds of the wider countryside (DEFRA, 2019b).

The UK's 2019 report to the EU on the implementation of the Habitats Directive under Article 17 showed that of the 77 designated habitat types in the UK, over 80% were in bad condition, 10% were in inadequate condition, and only 7.7% were in favourable condition (the remaining 1.5% were unknown). Of the 80% bad status habitats, only 20% were improving, 42% were stable, 30% were deteriorating and 8% were unknown. Of the 10% inadequate status habitats, 25% were improving, 62% were stable, none were

deteriorating and 12% were unknown. Of the favourable status habitats, 33% were improving and 66% were stable, with none deteriorating or unknown. Of the 93 species in the UK listed under Article 17, 17% had bad status, 26% had inadequate status, 36% had favourable status, and the remaining 22% were unknown. Of the 17% bad status species, 19% were improving, 19% were stable, 44% were deteriorating and 19% were unknown. Of the 26% inadequate status species, 4% were improving, 29% were stable, 38% were deteriorating and 29% were unknown. Of the 36% favourable status species, 33% were improving, 58% were stable, none were deteriorating and 9% were unknown (JNCC, 2019a).

Statistics on the UK's wild bird populations published in 2019 revealed that, in 2018, the all-species index of wild birds were 11% below the 1970 value, whereas the farmland birds index was less than half its 1970 value, the woodland bird index was 29% less than its 1970 value, the water and wetland bird index was 17% lower than in 1975, and the seabirds index was 28% below its 1986 value (DEFRA, 2019c). Statistics on the UK's specialist and generalist butterflies for 2018 reveal a similarly negative picture: the specialist butterflies index has fallen by 60% since the baseline year of 1976, and over the same period, the index for species of the wider countryside has fallen by 30%. In a small sliver of good news, no significant change has been shown in trends for either specialist or generalist butterfly species since 2013 (DEFRA, 2019a).

In Ireland, 2019 also brought the publication of the Status of EU Protected Habitats and Species report, which was submitted to the EU as per requirements under the Habitats Directive. While more favourable than the UK, the results did not paint a positive picture: 39% of habitats were of bad status and 46% were of inadequate status, with just 15% favourable. Furthermore, 46% were showing a declining trend, 53% a stable trend, and

only 2% improving. Of the 68 Habitats Directive-listed species in Ireland, 57% were in favourable status, 15% were of inadequate status, 15% were of bad status and 13% were unknown. Of these species, 55% demonstrated a stable trend and 17% were improving, but 15% were declining and 13% were unknown (NPWS, 2019).

A report on the 2018 status and trends of Ireland's National Biodiversity Indicators was published in 2019. These indicators are structured around eight focal areas, with 32 headline indicators and 71 sub-indicators. The eight focal areas include the status of biodiversity, threats, measures that safeguard it, measures that mainstream it, awareness, knowledge, benefits derived and impacts on biodiversity outside of Ireland. For many, the long-term status is currently unknown since many of the National Biodiversity Indicators are relatively new, but they do provide a useful snapshot. The overall assessment shows that, of the 71 sub-indicators, 31% have a positive current assessment, 40% are intermediate, 25% are poor and 4% are unknown. According to the report, the greatest gains have been in relation to awareness raising and knowledge of Irish biodiversity. Measures to mitigate threats and mainstream biodiversity have declined over the short-term but remain positive in the long term. Most significantly though, the report gives the status of biodiversity itself as intermediate to poor and states that it has not improved over the long term (National Biodiversity Data Centre, 2019).

1.1.8 Rising to the challenge?

Policy makers have sought to respond to the challenge of biodiversity loss through a range of policy instruments at various levels of governance. Globally, the Aichi Targets for biodiversity were launched in 2010 by the United Nations Convention on Biological Diversity, comprising five strategic goals and 20 targets that aimed to (Convention on Biological Diversity, 2018b):

“Take effective and urgent action to halt the loss of biodiversity in order to ensure that by 2020 ecosystems are resilient and continue to provide essential services, thereby securing the planet’s variety of life, and contributing to human well-being and poverty eradication.”

Target 4 was aimed at Governments, businesses and stakeholders, and stated that:

“By 2020 at the latest, these groups should have taken steps to achieve or have implemented plans for sustainable production and consumption, and have kept the impacts of use of natural resources well within safe ecological limits.”

The United Nations Sustainable Development Goals, an ambitious framework of universal and indivisible goals that were launched in 2015, focussed on biodiversity directly in two of its 17 goals: Goal 14 Life below water and Goal 15 Life on land. However, it has been argued that all of the goals – from ending poverty to ensuring sustainable consumption and production to promoting peaceful and inclusive societies – are all indirectly related to biodiversity because it is at the centre of so many economic activities (Convention on Biological Diversity, 2016).

The Convention on Biological Diversity’s vision for 2050 states that, by that year, “biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people” (Convention on Biological Diversity, 2018b). This vision is echoed at the European level, where it is stated that by 2050, “all of the world’s ecosystems are restored, resilient, and adequately protected” (European Commission, 2020a). The EU’s State of the Environment Report reminded us that “Europe stands at a critical juncture in 2020”, calling on leaders to recognise that they have opportunities to shape future developments that will not be available to their successors, and stressing the “decisive importance” of the coming decade in determining Europe’s opportunities in the 21st Century (EEA, 2019). To achieve this, the European Commission has said that the EU is ready to show ambition to reverse

biodiversity loss, lead the world by example and action, and help to agree a post-2020 global agenda for biodiversity as part of the UN Convention on Biological Diversity's 15th Conference of the Parties, where the successor to the Aichi Targets will be determined (European Commission, 2020a).

In the UK, 2018's 25-year environment plan set broad ambitions for government action to help the natural world "regain and retain good health" by achieving 10 goals, including thriving plants and wildlife, using resources from nature more sustainably and efficiently, and enhanced beauty, heritage and engagement with the natural environment. The plan connects a number of policies that are directly related to biodiversity, including on land use and sustainable land management which provides for the embedding of environmental net gain as a principle for development, re-incentivising land management, improving soil health and protecting peatlands, maximising the benefits of woodlands and reducing flooding and coastal erosion risks. Further policies support the recovery of nature and enhancement of the beauty of the landscape, by protecting and recovering nature, conserving and enhancing natural beauty, and respecting nature in how we use water (Her Majesty's Government, 2019).

In Ireland, the National Biodiversity Action Plan (NBAP) 2017-2021 aligned national objectives to the achievement of the Aichi Targets, setting out a vision for an Ireland in which biodiversity and ecosystems are "conserved and restored, delivering benefits essential for all sectors of society" (DCHG, 2017). The NBAP (2017) articulates seven objectives to achieve this vision:

1. Mainstream biodiversity into decision-making across all sectors (including among businesses)

2. Strengthen the knowledge base for conservation, management and sustainable use of biodiversity
3. Increase awareness and appreciation of biodiversity and ecosystem services (including among businesses)
4. Conserve and restore biodiversity and ecosystem services in the wider countryside
5. Conserve and restore biodiversity and ecosystem services in the marine environment
6. Expand and improve management of protected areas and species
7. Strengthen international governance for biodiversity and ecosystem services

All of the policies, plans and strategies outlined here contain some reference to business and/or acknowledge the need to engage with and harness the power of business.

However, the business case rationale for engagement with biodiversity remains unclear and the question of what exactly they are being asked to do is similarly opaque.

1.2 The business case for biodiversity

To recap, biodiversity underpins human wellbeing and its loss is driven by socio-economic systems that simultaneously depend on it. Businesses, which are a part of these systems, have a unique ability to mobilise human, physical and financial capital; they may hold large landholdings; and they are part of complex global value chains that impact a wide array of ecosystems around the world (Armsworth et al., 2010). This increased awareness has revealed a hidden risk to the private sector that is only beginning to be understood. In 2020, the World Economic Forum published its annual Global Risks Report and found that, for the first time, the top five global risks all come from a single category – the environment. Biodiversity loss and ecosystem collapse is among them, ranking as a mid- to high-level global risk in terms of both impact and likelihood and the report showed that

“...more than half the world’s GDP is moderately or highly dependent on nature and its services, and therefore exposed to risks from nature loss” (European Commission, 2020a; Hanson et al., 2012; IPBES, n.d.-a; TEEB, 2012; World Economic Forum, 2010, 2020).

Meanwhile, policymakers, NGOs and business groups are increasingly calling for action but there remains a poor understanding of what businesses should actually do (Addison et al., 2020; Thomas Smith et al., 2019). Many tools have been developed to help businesses incorporate biodiversity, including risk evaluation tools, certification schemes, biodiversity strategy and action planning, natural capital accounting initiatives, and CSR reporting methodologies (Bull, Bryant, Baker, & Milner-Gulland, 2015; Hanson et al., 2012; Houdet, Trommetter, & Weber, 2012; MacDonald, 2010; Rainey et al., 2014). However actual use remains limited, and research shows that businesses are often uncertain about the business case for protecting ecosystems and biodiversity (van den Burg & Bogaardt, 2014). Despite this, it is widely acknowledged that businesses play an increasingly significant role in contemporary biodiversity conservation (Bull et al., 2015; MacDonald, 2010; Rainey et al., 2014) and studies suggest corporate engagement is growing (Bull et al., 2015; MacDonald, 2010; Overbeek, Harms, & Van den Burg, 2013; Rainey et al., 2014).

However, while the risks of biodiversity loss and non-action in the private sector have been outlined in a range of high-profile studies (Hanson et al., 2012; IPBES, 2019a; Millennium Ecosystem Assessment, 2005; TEEB, 2012; World Economic Forum, 2010, 2020), the drivers of action and the business benefits of having engaged with biodiversity and their connection to the risks that have been identified in the literature are less well understood. The scientific studies that do exist have relied primarily on non-empirical data that companies have made publicly available to draw inferences, and some have tended to focus on specific sectors (Addison et al., 2020; Boiral & Heras-Saizarbitoria, 2017b, 2017a;

Bull et al., 2015; Overbeek et al., 2013; Rainey et al., 2014; T Smith, Addison, Smith, & Beagley, 2018a; Thomas Smith et al., 2019; Wolff, Gondran, & Brodhag, 2018).

1.2.1 A risk management framing

Despite the interdisciplinary knowledge gaps, the Millennium Ecosystem Assessment (MA) did target the private sector directly through the synthesis report, *Ecosystems and Human Health: Opportunities and Challenges for Business and Industry*. The report framed the private sector as users of ecosystem services and contributors to ecosystem change, and spelled out the business risk inherent in the 'nature of nature' (Millennium Ecosystem Assessment, 2005):

“Business cannot assume that there will be ample warning of a change in the availability of key services or that a company’s past responses to changes will be successful in the future. Ecosystems often change in abrupt, unpredictable ways. Most ecosystems are being altered by human actions in unprecedented ways. Consequently, it is difficult to predict the future state of an ecosystem or the availability of an ecosystem service. In addition, these uncertainties mean that past successes in ecosystem management may not apply to current or future conditions.”

It identified biodiversity loss as a material risk to the private sector by outlining three key business implications of the degradation and unsustainable use of ecosystem services (Millennium Assessment, 2005):

- 1) Limited access to resources and resultant cost increases as ecosystem services that are free today become more scarce or unavailable entirely;
- 2) Changing customer and stakeholder preferences, regulatory and policy environments, and the availability of finance and insurance;
- 3) New business opportunities emerging in response to these changes.

Business-focussed organisations, the World Resources Initiative (WRI) and the World Business Council on Sustainable Development (WBCSD) built on the MA’s work with The

Corporate Ecosystem Review (CER), which was first published in 2008 and updated in 2012 (Hanson et al., 2012). The CER highlighted the relevance of ecosystem degradation to the private sector and went on to outline a methodology that businesses could use to identify and manage the risks and opportunities that emerged from their impacts and dependencies on biodiversity and ecosystem services, and tested it with five companies in a range of sectors, from chemicals, mining, power generation, paper and packaging, and agribusiness.

Its core position was that “companies not only impact ecosystems and the services they provide but also depend on them” (Hanson et al., 2012). It explained that the traditional ways businesses manage environmental aspects - i.e. through environmental management systems and due diligence tools - tend to focus on impacts rather than dependencies. The result, they said, is that many companies may be unprepared for changes in ecosystem service delivery or miss new business opportunities associated with these changes. The authors highlighted five different types of risk and opportunity that span the entire business and relate to the work of multiple departments within an organisation. They are outlined briefly, with examples, as follows (Hanson et al., 2012):

1. *Operational* – risks such as higher costs for access to freshwater due to scarcity; opportunities such as increasing water efficiency
2. *Regulatory and Legal* – risks such as new fines, user fees, and lawsuits from communities; opportunities such as engaging governments to protect or restore ecosystems
3. *Reputational* – risks such as being the target of NGO campaigns; opportunities such as brand differentiation
4. *Market and Product* – risks such as customers choosing more sustainable products; opportunities such as gaining those customers
5. *Financing* – risks such as more rigorous lending requirements; opportunities such as more favourable loan terms

This analysis articulated a need for the private sector to engage with issues of biodiversity loss and ecosystem degradation in a much more strategic way than it had been doing previously. By stressing business's dependency on degrading ecosystems as well as its impact, it presented environmental risk and opportunity in a new, business-critical light.

In a 2010 report on Biodiversity and Business Risk, the World Economic Forum identified biodiversity as being at the nexus of many risks, including coastal flooding, desertification, food security, and explained how it exacerbated existing 21st Century challenges – like freshwater provision, climate change and sustainable agriculture – that are more widely understood among the business community (World Economic Forum, 2010). More recently, the World Economic Forum published a new report on the rising risk to businesses and the economy of “the nature emergency”. It updated the hidden risks to business that it had first published a decade earlier, adding the risk of businesses holding stranded assets, along with a range of systemic geopolitical risks that have the potential to destabilise the environments in which businesses operate, such as risks to global health, risks to global peace, risks to global trade, risks to economic development and risks to gender equality (World Economic Forum, 2020). The full suite of business risks related to biodiversity loss and ecosystem degradation from both the 2010 and 2020 reports are listed below, with the 2020 additions in italics:

- Physical risks, such as:
 - Reduced productivity
 - Scarcity and increased cost of resources
 - Disruption of operations (*Damage and business continuity risk*)
 - *Commodity risks*
 - *Supply chain performance risks*
 - *Business value risk*
- Regulatory and legal risks, such as:
 - Restricted access to land and resources

- Litigation
- Reduced quotas (*moratoria, bans, fines on access*)
- Pricing and compensation regimes (*Subsidy removals, taxes, emissions pricing*)
- *New taxes and fees*
- *New laws, regulations and policies*
- *Standards, certifications, changes in disclosure requirements*
- Market risks, such as:
 - Changing consumer preferences
 - Purchaser requirements
- Other risks, such as:
 - Reputational risk (*Shifts in public sentiment and lower brand value*)
 - Financial risk
 - Supply chain risk (*Incorporated into Physical risk above in 2020*)

Other groups and initiatives have also reported on the risks associated with biodiversity loss. The UN Convention on Biological Diversity (CBD) outlined the business risks associated with biodiversity: resource dependency and scarcity, loss of investment, Governmental regulation, brand reputation, clean up and compensation costs, and insurance costs. It also outlined the opportunities of engaging, including increased market share, better relationships with stakeholders, attraction and enhanced loyalty of employees, long-term viability of business, and new products (Convention on Biological Diversity, n.d.-b). In 2007, at a meeting of environment ministers from the G8+5 countries, a new initiative was proposed to analyse the global economic benefit of biodiversity, the costs of the loss, and the costs of the failure to take protective measures versus the costs of effective conservation. This led to the establishment of The Economics of Ecosystems and Biodiversity (TEEB), which produced a series of study reports that demonstrated the power of economics as an instrument in biodiversity policy by supporting decision making and governance and fostering discourse between science, economics and governing

structures (Ring et al., 2010). In the scientific literature, researchers reflected that “...economic systems are blind to the destruction of the natural world” and called for regulatory and voluntary economic instruments that put a price on the services nature provides in order to dissuade businesses from plundering the natural resources they depend on (Bayon & Jenkins, 2010). A TEEB study report published in 2012 focussed on business and enterprise. It highlighted the fact that business risks and opportunities associated with biodiversity and ecosystem services are growing, there will be more pressure on and more restricted access to land and natural resources, consumers will increasingly consider biodiversity in purchasing decisions, and – perhaps most significantly – that businesses around the world are starting to wake up to the threat (TEEB, 2012).

1.2.2 The emerging policy approach

It is not just businesses that are starting to wake up to the potential risks and opportunities associated with corporate biodiversity management though, policymakers are too. Multilateral global and regional governance structures such as the UN and the EU, along with national governments, are increasingly calling on businesses to do more. At its 13th meeting in 2018, the Conference of the Parties on the UN Convention on Biological Diversity (CBD) adopted a “comprehensive decision on mainstreaming and the integration of biodiversity within and across sectors, focussed on the sectors of agriculture, forestry, fisheries and tourism” and committed to considering additional sectors of energy and mining, infrastructure, manufacturing and processing industry and health at the 14th meeting (Convention on Biological Diversity, 2018a). A strong business engagement stream is expected to form part of the post-2020 global biodiversity agenda, as the CBD works towards the successor to the Aichi Targets, which expired in 2020. Also at the global level, albeit outside of the policymaking arena but designed to inform policy, one of the three prioritised topics in the IPBES 2019-2030 work programme was “Measuring business

impact and dependence on biodiversity and nature's contributions to people". Under this topic, IPBES was tasked with categorising business impacts and dependencies on biodiversity and developing the criteria and indicators required to measure it (IPBES, 2019b). A scoping report is currently underway (IPBES, n.d.-a).

Meanwhile, the Dasgupta Review is underway in the UK to assess the economics of biodiversity, along the lines of the 2006 Stern Review on the Economics of Climate Change. The Terms of Reference require the examination of the evidence for the implications of biodiversity loss on economic growth and, among other asks, to determine the range of best practices, initiatives and interventions for industry, communities, individuals and governments "...that best achieve the simultaneous goals of enhancing biodiversity and delivering sustainable economic growth" (HM Treasury, 2019). The Interim Review of the project stated that, in identifying options for change, the Review will "set out the hard choices ... and the significant, coordinated actions required", name-checked businesses and financial institutions, and said that it will recognise "...that citizens have the power to insist that international organisations, governments, businesses and regional authorities act" (Dasgupta, 2020).

In Europe, the EU Biodiversity Strategy for 2030 articulates the compelling business case for biodiversity and outlines a strong role for business in the achievement of its targets: "In the partnership spirit of this strategy, all parts of the economy and society will have to play their role". A new legislative proposal will be put forward in 2021 on sustainable corporate governance that will address human rights, environmental duty of care and due diligence across economic value chains. Additionally, biodiversity is expected to be incorporated in business reporting obligations under the forthcoming 2020 review of the Non-Financial Reporting Directive (European Commission, 2020a). Furthermore, in the

accompanying 'Business Case for Biodiversity Factsheet', the European Commission (European Commission, 2020b) outlined that more than half of global GDP relies on nature. It said that the food and drink, agriculture and construction sectors were all highly dependent on nature and called out six specific industries – chemicals and materials; aviation, travel and tourism; real estate; mining and metals; supply chain and transport; and retail, consumer goods and lifestyle – as depending on nature for more than 50% of their gross value added across the value chain.

1.2.3 Making biodiversity their business

Traditionally, the private sector has engaged directly with biodiversity in two main ways: 1) as part of the planning process, for instance through Environmental Impact Assessment and Appropriate Assessment in Natura 2000 sites, and 2) through the regulation of certain activities that impact on ecosystems, for instance primary industries such as agriculture, mining, forestry, fishing and oil and gas (Hanson et al., 2012; Overbeek et al., 2013; Rose, 2000). Indirect private sector impacts on biodiversity have typically been managed through the regulation and management of emissions to air, land and water, including waste, all of which ultimately impact on ecosystems, and therefore biodiversity. In certain instances, these environmental aspects are regulated through compliance with discharge licences and Integrated Pollution Control (IPC) licences that are allocated and monitored in Ireland by local authorities and national agencies such as the EPA. Typically though, both in instances where licences are required and where they are not, businesses manage environmental performance through Environmental Management Systems (EMS) such as ISO 14001, EMAS and BREEAM. As a result, businesses have typically viewed biodiversity as another external environmental pressure that acts against competitiveness (Houdet et al., 2012).

Businesses are attempting to transition beyond traditional Environmental Management to consider biodiversity, especially in sectors with direct and material impacts and dependencies on biodiversity such as agrifood, energy and transport. Research suggests that biodiversity is gaining attention at Board level, networking with external stakeholders is increasing, biodiversity initiatives such as No Net Loss or Net Positive Impact are growing, more large corporations are addressing biodiversity in sustainability reporting and the development of corporate biodiversity strategies is becoming more commonplace, yet establishing commitment for biodiversity within a business remains challenging. Companies struggle in multiple ways, including: identifying actions that incorporate biodiversity into decision making, implementing actions across operations, developing effective and business-relevant indicators, and connecting those indicators to impact for nature (Addison, Bull, & Milner-Gulland, 2019; Addison et al., 2020; Bull et al., 2015; Harms & Overbeek, 2011; Overbeek et al., 2013; Rainey et al., 2014; Ruckelshaus et al., 2015; van den Burg & Bogaardt, 2014; van den Burg & Overbeek, 2012).

These challenges have been attributed to a range of issues, including the complexity of the topic, the problem of identifying biodiversity metrics and indicators that are authentic in terms of conservation science, the difficulty of integrating actions in business planning and strategy, and also to the intangibility of its value. Perhaps as a result, businesses' responses have been found to be generally 'reactive', whereby companies reduce their environmental impact in order to manage external stakeholder expectations, but fail to engage in a transformational change of business philosophy or primary production processes. Examples of this include activities that promote biodiversity protection at the local level and local encouragement of nature (Overbeek et al., 2013). Furthermore, while multiple business sectors are undertaking a range of biodiversity actions, their connection

to the achievement of biodiversity goals is poorly defined, the actions themselves tend to be ad hoc and lacking in strategic connection to material business impacts and primarily qualitative in terms of assessment, and there is a focus on activity-based indicators, few of which are quantitative, even fewer of which are related to biodiversity outcomes (Addison et al., 2019; Thomas Smith et al., 2019). Future research will need to “provide a full review of current initiatives and build a comprehensive framework to interpret and classify them” (Winn & Pogutz, 2013).

1.2.4 Types of business engagement with biodiversity

Voluntary biodiversity action by business has been somewhat overlooked in the scientific literature but some studies have explored specific sectors (Wolff et al., 2018). Research focussing on the forestry and mining sectors has shown that corporate practices for biodiversity as reported under the Global Reporting Initiative can be considered in terms of two conceptual axes: management issues vs technical issues, and internal operational actions versus external actions in partnership with stakeholders (Boiral & Heras-Saizarbitoria, 2017a). However, there remains no standardised and widely accepted cross-sectoral framework for business engagement with biodiversity. Perhaps due to this, and combined with the emerging enthusiasm for business action, a variety of types of initiative have emerged through practice (T Smith, Addison, Smith, & Beagley, 2018b; Wolff et al., 2018). Actions take a wide range of scales, focus on a wide range of business areas, and involve a wide range of stakeholders. It is probable that there is a wide range of effectiveness in terms of their impact on nature too. Types of action include:

- **Corporate Biodiversity Action Plans and Strategies:** Typically preferred by companies with a direct impact and/or dependency on nature, these standalone

documents focus on biodiversity and ecosystem services across a range of scales, scopes and organisational levels. They usually have a fixed timeframe and articulate a set of actions, with associated targets and key performance indicators.

- **Using Biodiversity Management Tools:** A number of tools, approaches and more formal methodologies have been developed to help businesses determine the right management technique for a biodiversity issue (e.g. through accounting or valuation or through project-level initiatives, etc.). These include initiatives like the Natural Capital Protocol, the Integrated Biodiversity Assessment Tool for Business, NI4Biz, SDG Compass, No Net Loss/Net Positive Impact, biodiversity offsets, and the Environmental Profit and Loss methodology.
- **Corporate Responsibility Programmes:** Initiatives actioned under corporate responsibility programmes include site-level habitat creation, enhancement or restoration, employee volunteering, addressing biodiversity in the supply chain, engaging with community stakeholders on biodiversity and joining an existing conservation initiative. For example, when developing Business in the Community Ireland's Biodiversity Framework for Business, I identified a number of corporate responsibility approaches to managing biodiversity across the five pillars of corporate social responsibility (Fig. 1.1).



Fig. 1.1: The Business in the Community Ireland Biodiversity Framework for Business (Hamilton et al., 2019)

- Corporate Responsibility and Sustainability Reporting:** International sustainability standards feature biodiversity criteria, including the Global Reporting Initiative (GRI 304 Biodiversity), which states that protecting biological diversity is important for ensuring the survival of plant and animal species, genetic diversity, and natural ecosystems, and the UN Global Compact's Principle 7, which requires that businesses should support a precautionary approach to environmental challenges. The EU's Directive on Non-Financial Reporting states that disclosures may include information on business impacts on the use of natural resources and related protection of biodiversity. In Ireland, the Business Working Responsibly Mark includes a criterion on biodiversity and ecosystem services that is related to business impacts and dependencies on nature. Also in Ireland, the State-

sponsored agrifood sustainability programme, Origin Green, includes an option for participating companies to take voluntary action for biodiversity on site.

- **Business Networks:** In recent years, a range of business networks focussing on biodiversity and ecosystems have emerged. First among them was the Convention on Biological Diversity established its Global Business for Biodiversity Partnership in 2010, with 21 national and regional initiatives subsequently created to advance progress and collaboration (Convention on Biological Diversity, n.d.-d). This network is expected to grow and deepen under the post-2020 global biodiversity framework. Additional business networks and groups focussing on nature include the One Planet Business for Biodiversity, Business for Nature, We Value Nature and We Mean Business Coalition.
- **Sectoral Initiatives:** A range of sectoral initiatives exist for biodiversity, particularly in quarrying and mining sectors through the Cement Sustainability Initiative (there is a nature and environment pillar under which companies must implement projects) and the Mining with Principles accord (Principle 7, which requires companies to contribute to the conservation of biodiversity and integrated approaches to land use planning, is mandatory).
- **Site-level Certification:** Gaining third party verification or assurance on site-level biodiversity management or conservation practices is another way in which businesses engage with biodiversity. In the UK, the Wildlife Trusts' Biodiversity Benchmark is an example of such a business-focussed scheme and has been in existence since 2006. It is aligned to the popular environmental management standard, ISO14001, and is designed to audit or assess a company's existing

biodiversity management processes and practices. As of August 2020, it was in place across 53 sites comprising 8,700 hectares of land across the UK. The smallest certified site was 11 hectares, suggesting that most sites are substantial in size. At the global level, the Wildlife Habitat Council's Conservation Certification programme evaluates wildlife habitat management and conservation education programmes. Unlike the Biodiversity Benchmark, it does not focus on management systems, instead certifying a range of site-based conservation projects or activities, including 'Habitat Projects' (e.g. monitoring and maintenance activities across nine high-level habitat types such as grasslands, forests, rocky areas, landscaped areas, marine intertidal areas, wetlands and waterbodies, etc.), 'Species Projects' (e.g. monitoring and maintenance activities focussing on birds, bats, invasives, mammals, pollinators, reptiles, etc.), 'Education Projects' (e.g. assessing wildlife and habitat learning and/or project logistics across awareness and community engagement, formal learning and training), 'Other Projects' (e.g. green infrastructure, integrated vegetation management, invasive species, land conservation agreements, remediation, protecting species of conservation concern). The Wildlife Habitat Council was founded in 1989 and as of 2020, its Conservation Certification has been undertaken by 94 companies on business sites in 25 countries, including 48 states across the USA. There are currently 649 certified projects, covering an estimated 800,000 hectares (personal communication, The Wildlife Trusts).

(Boiral & Heras-Saizarbitoria, 2017a; Bull et al., 2015; Convention on Biological Diversity, n.d.-d; Hamilton, Reynolds, & McMahon, 2019; Jones & Comfort, 2020; Rainey et al., 2014; T Smith et al., 2018a; The Wildlife Trusts, n.d., 2020; Wildlife Habitat Council, 2020).

1.2.5 A closer look at site-level certification

Site-level biodiversity projects are some of the most common types of business action on biodiversity. A number of businesses in Ireland have undertaken site-level projects, including Intel, Cook Medical, the Central Bank and Gas Networks Ireland (Hamilton et al., 2019). Meanwhile, the third party certification standards that audit, evaluate and/or verify such actions are some of the longest-standing formalised business and biodiversity schemes (The Wildlife Trusts, 2020; Wildlife Habitat Council, 2020; *personal communication, The Wildlife Trusts*). The Wildlife Trusts' Biodiversity Benchmark and the Wildlife Habitat Council's Conservation Certification cited here are particularly interesting because they are cross-sectoral initiatives, in that companies from a wide range of industrial sectors undertake them. These schemes are therefore less biased than commodity-based or sector-based initiatives, though they are probably biased towards companies with landholdings, and potentially biased towards those that own rather than rent their premises.

Neither the Wildlife Trusts' Biodiversity Benchmark or the Wildlife Habitat Council's Conservation Certification schemes are active in Ireland, nor are there any similar schemes led by other operators. In a 2014 review of the environmental performance of its 90+ corporate members, Ireland's leading corporate responsibility and sustainability organisation Business in the Community Ireland found that biodiversity was the environmental aspect on which Irish corporates were doing least, compared to energy, carbon management, waste, pollution control, water, transport and environmental management (Business in the Community Ireland, 2014). This suggests that biodiversity is a potential growth area for businesses in Ireland, and given the increasing number of available case studies demonstrating activity in site-level action in the intervening five years (Hamilton et al., 2019), site-level biodiversity initiatives could be an interesting area

for exploratory study, particularly in terms of understanding the business case for such actions.

Given the lack of certification schemes operating in Ireland, and that there are significant differences in wildlife and habitat legislation between Ireland and non-EU countries, which are where the majority of the Wildlife Habitat Council's certifications are located, this was not considered a suitable scheme for investigation in this thesis. Furthermore, Ireland's business culture is closer to that of the UK, including with regards to environmental management systems and approaches to corporate social responsibility. In addition, the Wildlife Trusts' Biodiversity Benchmark scheme focusses on assessing and auditing biodiversity management processes rather than certifying discrete biodiversity conservation projects, suggesting that it is a more systems-based approach that seeks to embed biodiversity in day-to-day business operations. For these reasons, this thesis will focus on using the Biodiversity Benchmark as a model through which to explore business and biodiversity issues more deeply.

1.2.6 Focussing on the Biodiversity Benchmark

The Wildlife Trusts' Biodiversity Benchmark (BB) is a voluntary certification standard for business that recognises and rewards continual biodiversity improvement at site-level. It is designed to assess and certify an organisation's systems for achieving continual biodiversity protection and enhancement on its landholdings. It was originally developed in 2003 as part of a sponsored PhD programme by a consultancy called Middlemarch Environmental. It was subsequently handed over to the Wildlife Trusts and following a review in 2004, it was re-launched in 2006 in its current format. The first company to undertake the BB – Center Parcs – was certified in 2007. The major objective of the BB is

to encourage management of land by businesses and public sector organisations for the benefit of wildlife by protecting and enhancing existing wildlife-rich sites and sites of conservation importance, establishing wildlife habitat on land previously used for other purposes, connecting habitats through networks that enhance the permeability of the landscape for wildlife and inspiring people and communities to value and take action for nature.

The BB aligns closely with existing Environmental Management Systems such as ISO14001, making it very familiar to organisations that already use such 'Plan Do Check Act' systems for continual environmental improvement, but can also operate as a standalone system (the BB includes an additional step at the beginning of the 'Plan Do Check Act' cycle – Commit.) It requires that a company undertakes the following steps (The Wildlife Trusts, 2014):

1. COMMIT: Commit to enhancing biodiversity by developing a biodiversity policy, involving external partners and demonstrating continual biodiversity protection and enhancement.
2. PLAN: Plan for biodiversity by conducting a baseline survey, assessing impacts, identifying objectives and implementing an action plan.
3. DO: Implement a biodiversity management system, assign responsibility for biodiversity within the company, ensure relevant staff are trained and communicate internally and externally.
4. Check that the system is working by measuring, monitoring, identifying problems, and conducting an internal audit and management review.

5. ACT: Analyse the outcomes of the monitoring process, engage with partners, review and revise the biodiversity management system and address key issues at a senior level within the organisation.

Businesses engage with the BB by first making an enquiry to the Wildlife Trusts' Corporate Relations Manager, then joining an introductory workshop, and after that undertaking the BB. There is a financial cost to the business for participation at introductory workshops and for the assessment and certification process. The Biodiversity Benchmark Development Document (personal communication, The Wildlife Trusts) interviewed a small number of clients and found that achieving the BB "...represents a significant commitment in terms of cost and time for a client". Costs of assessment in 2016 were £3,435 for the initial certification and £900 for annual maintenance of the certification for a single site. For 2-4 sites, this figure rose to £4,818 for initial certification and £1,579 for annual maintenance. For 4-8 sites, it was £6,862 for initial certification and £2,470 for annual maintenance. These prices included initial on-site assessment, main on-site assessment, quality assurance, certification, a framed certificate and plaque, and membership of the corporate conservation group 'Club BB'. As of February 8th 2016, 18 companies from a wide variety of sectors had achieved the Biodiversity Benchmark across a combined total land area of approximately 8,700 hectares. These include Center Parcs, Marks and Spencer, Mars, the Met Office, Heathrow Airport, LaFarge, Aggregate Industries, EDF Energy, E.On Energy, High Speed 1 Ltd, Gatwick Airport, National Air Traffic Services, Veolia, Viridor, the Met Office, Lilly, Wrigley, Anglia Ruskin University and Green Park Business Campus (The Wildlife Trusts Biodiversity Benchmark Development Document – personal communication).

1.2.7 What's the business case?

“If a company is investing resources, time and money in voluntary conservation efforts, it must be able to report value” (O’Gorman, 2020). This begs the question: what kinds of value are companies generating through their actions? What kinds of value creation do companies anticipate by engaging with such initiatives in the first place (i.e. what drives or motivates them)? What value do companies actually generate as a result of having undertaken an action (i.e. what are the benefits)? What challenges hinder or prevent that value creation (i.e. what are the barriers)? These are important questions. In order to drive private sector engagement with biodiversity, it is necessary to understand the business case. Doing this requires the cultivation of cross-disciplinary discourse, the nurturing of multidisciplinary perspectives and connection to innovative practitioner-led approaches (Winn & Pogutz, 2013). However, little academic research exists in this emerging and understudied multidisciplinary field, particularly in relation to the kinds of cross-sectoral site-level certification schemes described in Chapter 1.2.5 and Chapter 1.2.6.

Some studies do exist in relevant fields, however. A 2017 study aimed to address the research gap and investigate motivations for biodiversity management by examining 430 sustainability reports from companies in the mining and forestry sectors using the Global Reporting Initiative’s reporting framework (Boiral & Heras-Saizarbitoria, 2017b). It found that the main objective of companies is not necessarily to conserve biodiversity in and of itself, stating that “...companies may be mostly seeking to improve their image and relationships with stakeholders through biodiversity initiatives.” Four interdependent motivations emerged in the study, as follows:

1. To address ethical concerns and exemplify corporate good practices (mentioned in 55% of mining sector reports and 60% of forestry sector reports).

2. To improve relationships with stakeholders (mentioned in 50% of mining sector reports and 45% of forestry sector reports)
3. To seize economic opportunities (mentioned in 10% of mining sector reports and 60% of forestry sector reports)
4. To comply with legal or non-regulatory requirements (mentioned in 30% of mining sector reports and 35% of forestry sector reports).

Another study reviewed 10 publicly available case studies on corporate biodiversity action to explore the drivers of business engagement (Thomas Smith et al., 2019). The cases selected including a luxury goods company, an airport, a water company, an energy company and an electronics company, and were located in South America, Europe, Central Asia, East Asia and Australia. The study identified the following business drivers, all of which agree with the findings of Boiral *et al.* above:

1. Compliance with environmental regulation
2. Operational efficiencies
3. Reputational benefits
4. Meeting stakeholder demands (consumers and civil society)
5. Financial incentives
6. Supply chain sustainability
7. Employee engagement
8. Community engagement

One study outlined the potential for on-site business action on biodiversity to cross over with objectives in the social realm through enhanced employee health and wellbeing by increasing opportunities for outdoor recreation at work and enhancing views (Snep, Van Ierland, & Opdam, 2009). A more recent study revealed similar findings by surveying 366

employees across five low-density urban fringe science parks to explore employee preferences in terms of different natural features such as lawns, trees, meadows, bushes and flowering plants, water features and countryside views and connected access to them to self-reported employee perceptions of wellbeing. The results showed that “both use of the open space and views of some vegetation types, namely trees, lawn and shrubs or flowering plants, were positively and independently associated with self-reported wellbeing levels” (Gilchrist, Brown, & Montarzino, 2015).

However, other studies found that it does not appear to pay to be green: a 2017 study investigated the relationship between ‘green’ management and performance in Italian firms, finding that ‘green’ companies are performing no better than those with no environmental activity, particularly in energy-intensive sectors, and that ‘green’ management has strong sectoral patterns and no linear relationship with performance (Riillo, 2017). Furthermore, another study found no relationship between environmental disclosures and profitability, but stated that such efforts may be driven by public pressure and the need to acquire social legitimacy for a firm's operations (Qiu, Shaukat, & Tharyan, 2016).

Other literature on the topic is more revealing. In 2020’s ‘Strategic Corporate Conservation Planning’, O’Gorman outlined the business drivers for on-site corporate conservation, describing them as an “expression of the multiple ways to place nature-based efforts within a corporate framework”, and stressed the importance of clear business drivers in demonstrating a compelling business case for biodiversity that can be sustained over time (O’Gorman, 2020):

“Whether working to implement a conservation action at a business with a single location or operation, or developing a strategic corporate conservation plan for a multinational corporation, identifying one or more business drivers will help to answer the question “Why?”

and will bring more support and resources to the stewardship effort, creating a place for corporate conservation that is sustainable over time and across budget cycles.”

O’Gorman defined 16 distinct business drivers (or “risk mitigation activities”) that intersect with biodiversity management across three themes, as follows:

Operations:

1. Mitigate biodiversity impacts.
2. Inform better remediation remedies.
3. Permit acquisition and renewal.
4. Secure social licence to operate.

Management:

5. Improve government relations.
6. Increase employee engagement.
7. Address climate change.
8. Implement nature-based solutions.
9. Improve lands management and realise cost savings.
10. Position for talent acquisition.

Citizenship:

11. Inform reporting and disclosures.
12. Provide a sustainability goal and performance metric.
13. Create meaningful community engagement.
14. Frame corporate investment in education.
15. Satisfy SRI and shareholders.
16. Drive action along supply chain/circular economy.

Additional to these, the following business benefits are cited elsewhere in the book (p167) as potent drivers:

17. Recognition for efforts.

18. Verification from a trusted third party.

The Biodiversity Benchmark Development Document also cited a selection of the motivations that clients reported for engaging with the BB as (personal communication, The Wildlife Trusts):

1. assurance that they are meeting their internal and external biodiversity obligations,
2. enhancing reputation and improving public relations, and
3. product differentiation (The Wildlife Trusts, personal communication).

For comparison, I identified, tabled and categorised motivations with colour codes (Table 1.1) along with the business drivers and potential benefits identified in O’Gorman (2020), Boiral *et al.* (2017) and Smith *et al.* (2019). I also integrated the biodiversity-related risks that businesses are exposed to, as outlined by WEF (2010; 2020) and the Corporate Ecosystem Review (2012) (Chapter 1.2.1). As O’Gorman (2020) notes, business drivers and motivations connect to risk mitigation efforts, so it is appropriate to include them here.

Table 1.1: Categorising academic and grey literature findings on business drivers, motivations, risks, benefits to corporate biodiversity management

O’Gorman (2020)	World Economic Forum (2010; 2020)	Smith <i>et al.</i> (2019)	Boiral <i>et al.</i> (2017)	The Wildlife Trusts (2016, pers. comm.)	Hanson <i>et al.</i> (2012)
Mitigate biodiversity impacts	Reduced productivity	Compliance with environmental regulation	Exemplify best practices	Meeting internal/external biodiversity obligations	Access to resources
Better remediation	Access to resources and commodities	Operational efficiencies	Stakeholder relationships	Reputation and PR	Improve efficiencies
Planning permissions and licences	Business continuity	Reputational benefits	Economic opportunities	Product differentiation	Fines, fees, lawsuits
Social licence to operate	Business value risk	Meet external stakeholder demands	Comply with biodiversity requirements		Engaging governments

Engage with government stakeholders	Supply chain sustainability	Financial incentives			Reputation risk management
Improve employee engagement	New laws, regulations, litigation	Supply chain sustainability			Brand differentiation
Climate change & nature-based solutions	Changes in standards and disclosures	Employee engagement			Change in customer preference
Save money on land management	Taxes, fees, pricing	Community engagement			Difficulties accessing loans
Appeal to new employees	Change in customer preference				
Inform reporting, disclosures, metrics, KPIs	Change in client requirements				
Engage with communities	Shifts in public opinion				
Invest in education	Reduced brand value				
Meet shareholder expectations					
Supply chain sustainability					
Be recognised for efforts					
Get verification from a third party					

COLOUR CODED CATEGORIES:

Red = Risk management

Yellow = Employee benefits

Green = Financial or Competitive Advantage

Blue = Leadership

Purple = Reputation

Separate to the motivations and drivers, but equally important, is the importance of considering the challenges that businesses could face in undertaking a biodiversity project.

A 2018 report from the Convention on Biological Diversity outlined the challenges or barriers to business engagement with biodiversity. These include (Convention on Biological Diversity, 2018a):

- Lack of senior business engagement and answering the 'so what?' question.
- Lack of economic relevance, in that economic quantifications of nature's value to society are felt to have little relevance to business and do not sufficiently articulate financial risk.
- Language, in that the term biodiversity does not resonate and is difficult to understand to non-specialists.
- Capacity of corporate sustainability teams, who are dealing with many complex issues, of which biodiversity is just one.
- A lack of trust between sectors leading to a lack of cooperation and progress.
- Lack of a coordinating force to drive action on business and biodiversity.

1.2.8 Evaluating value

Most of the academic studies of the risks, drivers, benefits and barriers of business engagement with biodiversity based their research on publicly available information from businesses, including case studies (Jones & Comfort, 2020; T Smith et al., 2018a; Thomas Smith et al., 2019), corporate responsibility and sustainability reports (Addison et al., 2019; Wolff et al., 2018), and disclosures regarding the biodiversity and ecosystem services criteria for the Global Reporting Initiative standard (Boiral & Heras-Saizarbitoria, 2017b; Potdar, Gautam, Singh, & Unnikrishnan, 2016). However, the type and extent of information that is publicly disclosed in companies' reports and action plans is highly variable (Thomas Smith et al., 2019), case studies are not necessarily directly comparable

and, while cross-sectoral, the practices that companies are reporting on are heterogeneous (Wolff et al., 2018). Furthermore, the information contained in such reports and case studies can fail to capture the lived experiences or perceptions of the individuals – be they employees, contractors or external stakeholders – who were instrumental in their implementation.

While not directly related to business and biodiversity initiatives, other studies have explored stakeholder perceptions of environmental actions to establish a deeper understanding of their value by engaging with a range of actors including farmers, consumers and employees. As discussed in Chapter 1.2.7, Snep *et al.* (2009) explored stakeholder preferences for biodiversity management options on business sites by defining five categories of primary stakeholders: companies, employees, local government, neighbours and environmental NGOs. The perspectives of local government, companies and environmental NGO stakeholders were surveyed through questionnaires, while researchers chose to use data from international literature as a proxy for the opinions of employees and citizens (Snep et al., 2009). The study provided rich insights into the perspectives of stakeholders in terms of biodiversity management of business site landscapes, however not collecting empirical data from employees and citizens is a major weakness of the study.

A more recent study from Gilchrist *et al.* (2015) surveyed 366 employees at 82 organisations across five Scottish science parks to gain insights into the connections between green space use and views and employee wellbeing. The study utilised an online survey comprising 40 questions divided into five sections and the results were analysed using regression models predicting employee wellbeing. This quantitative approach generated interesting results around employee preferences that are potentially useful in

terms of future science park design, but it was building on a relatively well established field connecting green space with mental and physical health rather than exploring a novel field, and the paper did not dig into the underlying 'Why?' questions for the preferences cited by employees.

A 2010 study by Michael *et al.*, meanwhile, examined the perceptions of business executives in adopting an environmental certification programme in order to understand why they do it and how they view the benefits and challenges of certification. The researchers focussed on a very narrow industrial sub-sector – companies that make kitchen cabinets – and surveyed 81 executives using postal questionnaires that contained eight 'challenge' items and 19 'benefits' items (Michael, Echols, & Bukowski, 2010). As with the Gilchrist *et al.* (2015) study, this approach generated useful data but did not dig into deeper 'Why?' questions and also focussed on a very narrow industry.

Another study focussed on the perceptions of the value of Environmental Social Responsibility to managers of sports and performing arts facilities. The researchers took a qualitative approach, using semi-structured interviews to gather data from 15 respondents and analysed them through an automated thematic analysis programme that is familiar to the social sciences, Nvivo (Uecker-Mercado & Walker, 2012). This generated rich and nuanced data, with supporting quotations that gave tangible insights into the themes identified in the analysis, albeit through a non-representative sample and focussed on a very specific industry.

Ozaki (2011) took a different approach to the aforementioned studies in investigating the motivations for consumers to adopt a green electricity tariff. The paper sought to understand consumers' values and social contexts and understand how opinions are

formed and decisions are made in order to inform insights on perspectives around the adoption of innovative services. The researcher took a mixed methods approach by first conducting a focus group that was recorded and analysed thematically, then developing a questionnaire survey (n=103) based on the literature review and the issues raised in the focus group, and following that up with a semi-structured interview (n=10) to qualitatively investigate drivers of consumer behaviour (the 'Why?' question) through thematic analysis. This three-part sequential mixed methods approach generated rich data, drawing findings that had implications for business strategy, public policy and future research (Ozaki, 2011).

These five studies variously used non-empirical data, did not answer 'Why' and 'How' questions, focussed on specific sectors, and/or targeted areas not related to business and biodiversity, which is the topic this thesis seeks to investigate.

1.3 Conclusion

Biodiversity is the variety of life on earth at the level of the gene, the species and the ecosystem. Biodiversity loss is occurring at unsustainable rates around the world, including in Europe, the UK and Ireland. Global studies have outlined nature's benefits to people and the extent to which societies depend on nature, and articulated the scientific basis for the urgent transformational change that is required in order to respond to the crisis. One aspect of this response is in the private sector's relationship with biodiversity. In a future where access to resources may be reduced, regulations may be tightened, consumer awareness may be increased, and supply chains may be compromised by biodiversity and ecosystem collapse, a lack of robust and coherent engagement with biodiversity may expose businesses to a range of physical, legal, financial, operational and reputational risks. Businesses both impact and also depend on biodiversity and ecosystem services, yet

biodiversity is not typically incorporated into business models and where it is, the approaches are often ad hoc rather than strategic, discrete rather than systemic, and disconnected from businesses' impacts and dependencies. Examples of approaches include biodiversity action plans and strategies, corporate social responsibility projects and reporting mechanisms, business networks and site-level certification initiatives. Of these, the latter are among the longest in existence and also among the most common approach. The Wildlife Trusts' Biodiversity Benchmark scheme audits companies' biodiversity management systems using a 'Plan Do Check Act' model that is familiar to environmental management. In certifying best practice, The Wildlife Trusts had verified the biodiversity management systems of 18 companies at 55 sites, comprising 8,700 hectares across the island of Great Britain in 2016. A review by The Wildlife Trusts' found that clients cited costs and the time implications of participation as a barrier to engagement, so why do they do it? Little scientific research exists on the business drivers, benefits and barriers of companies' engagement with biodiversity action and what does exist typically utilises non-empirical data. This thesis seeks to investigate that research gap.

2 Research Design

2.1 Research questions

Having reviewed the literature, I found that there was a lack of empirical research around voluntary business engagement with biodiversity in general. The academic studies that did exist had reviewed publically available reports and case studies to understand the business case for biodiversity, but rarely engaged with the businesses themselves. Studies

from other fields, meanwhile, had produced insightful data by engaging directly with stakeholders to evaluate perceptions. Prompted by the richness of the latter group's findings, I was interested in finding out how stakeholders perceived the business case for biodiversity.

I also found that there was also a lack of scientific research on the business case for businesses' action on biodiversity at site-level specifically. I was interested to explore the motivations behind businesses' initial engagement with such projects, the business benefits of having taken biodiversity action on-site, and the barriers or challenges that exist for companies looking to improve the way they manage biodiversity on their sites.

Furthermore, I was interested in exploring the cross-sectoral business case in particular, as most of the academic research that had been published on similar topics (e.g. publically available sustainability reports) had focussed on specific sectors, and the growing interest in on-site biodiversity action by business in Ireland was cross sectoral in nature (Hamilton et al., 2019).

Furthermore, there was very little academic research focussing specifically on site-level biodiversity certification schemes such as The Wildlife Trusts' Biodiversity Benchmark, which I considered to be especially interesting due to its alignment to existing environmental management systems used by business. I also considered this area to be ripe for research given that no third party verification scheme for on-site initiatives existed in Ireland.

These gaps in the research led me to a series of questions to consider:

- Why do businesses engage in voluntary on-site biodiversity management?

- How do internal business stakeholders perceive the business case for biodiversity in general?
 - What motivates or drives them to take action?
 - What are the benefits of having taken action?
 - What are the barriers or challenges hindering that action?
- How do internal business stakeholders perceive the business case for voluntary on-site biodiversity management?
 - What motivates or drives them to take action?
 - What are the benefits of having taken action?
 - What are the barriers or challenges hindering that action?
- How do external business stakeholders (third parties) perceive the business case for voluntary on-site biodiversity management?
 - What do they think motivates or drives businesses to take action?
 - What do they think are the business benefits of having taken action?
 - What barriers or challenges do they think are hindering that action?
- Do internal and external business stakeholder perceptions of drivers, benefits and challenges for on-site biodiversity management agree with the literature for those issues in relation to biodiversity management in general?
- What evidence is there for the benefits of biodiversity management extending into the socio-ecological realm through employees, communities and human and/or social capital development?
- What can the answers to these questions tell us about the cross-sectoral business case for on-site biodiversity management?
- What can the answers to these questions tell us about the sector-specific business case for on-site biodiversity management?

Reviewing and condensing the above high-level questions led me to the following three specific research questions that this research project seeks to address:

1. What do business stakeholders think are the business benefits of voluntary on-site biodiversity management?
2. What do business stakeholders think drives businesses to engage with voluntary on-site biodiversity management?
3. What barriers do business stakeholders think exist for businesses in engaging with voluntary on-site biodiversity management?

2.2 Research design

To determine the most appropriate research design that would enable me to explore the drivers, benefits and barriers of voluntary on-site biodiversity management, I reviewed the literature on approaches to similar questions. I found that Ozaki (2011) had explored similar questions around the equally under-studied area of stakeholder motivations and benefits of behaviour change in an environmental context. The researcher used a three-part mixed methods approach that incorporated both qualitative and quantitative research methods in a sequential design, where the data gathered in each of the three stages was used to build on, inform and interrogate the others. The researcher started with a qualitative focus group from which themes were identified, then tested those findings against a quantitative online survey among a group of stakeholders, and finally interrogated the results of the survey and dug more deeply into the themes through a series of qualitative semi-structured interviews with some of the stakeholders that had taken part in the survey (Ozaki, 2011). Given that mine was also a new and emerging field of study, and that I was interested in exploring preliminary ‘Why?’ questions that are most commonly addressed through qualitative research as well as ‘What?’ questions that are

most commonly addressed through quantitative research, I undertook to explore mixed methods approaches further.

Molina-Azorin *et al.* (2016) conducted a meta-analysis of mixed methods approaches in environmental management research, reviewing a total of 340 articles that had been published in the aforementioned journal between 2004 and 2013. Of the 340, they identified 26 that could be classified as “mixed methods”. They noted that this means of enquiry offered “...enormous potential for exploring new and relevant dimensions” and had “great promise for addressing important environmental management issues”. The authors described four key purposes for mixed methods research, which I considered to be very useful in terms of defining my research strategy (Molina-Azorín & López-Gamero, 2016):

1. **Development**, in which qualitative research can help to improve understanding of the characteristics of a specific context, facilitating the development of a theory. This in depth knowledge can then be used to inform the design of survey questions for a structured questionnaire.
2. **Expansion**, in which breadth and range of inquiry are expanded using different methods to assess different facets of a phenomenon.
3. **Complementarity**, in which the results from one method can be clarified with the results from another method.
4. **Triangulation**, in which researchers analyse the same question using quantitative and qualitative methods, looking for corroboration and mutual confirmation.

2.3 Research strategy

Since my research question involved exploring and comparing alternative perspectives on a relatively new phenomenon, I selected an interpretivist paradigm approach in order to

facilitate the development of understanding and insights into my interviewees' beliefs and lived experiences (Denscombe, 2014). To advance this, I decided to take a mixed methods approach to explore the business drivers, benefits and barriers to on-site voluntary biodiversity management. The Wildlife Trusts' Biodiversity Benchmark (BB, Chapter 1.2.6) offered the potential of a defined sample of companies (n=18 in 2016) across the UK that had been certified under the standard. This bounded sample would enable me to explore potential answers to my research questions and contextualise my findings among the group. The fact that certified companies were from a wide range of industrial sectors would also allow for potential cross-sectoral agreement on key topics, which I felt was especially interesting. Having approached The Wildlife Trusts to seek their engagement with the study, I was met with a positive response. Their Corporate Relations Manager offered to help me contact the relevant companies and provide background information on the BB that was not publically available in order to inform my research. I also felt that collaborating with an environmental NGO that was proactively engaged with businesses would present an interesting dimension to the study. I determined to take a three-part sequential mixed methods approach: qualitative > quantitative > qualitative. This would enable me to maximise the benefits described by Molina-Azorín and López-Gamero (2016) and replicate aspects of the approach taken by Ozaki (2011), thereby adding to the nascent field of mixed methods research in environmental management.

Of the range of qualitative research approaches available, I determined that small-scale semi-structured interviews would be the most appropriate to help me investigate my research questions. Semi-structured interviews enable interviewees to go into detail on topics, present new topics, and share examples, opinions and perceptions that they consider important, thereby enabling the development and expansion purposes that were identified by Molina-Azorin and Lopez-Gamero (2016). They also enable a degree of

consistency in data collection since the use of an interview schedule of questions ensures that the same key issues and questions are posed to each interviewee (Denscombe, 2014). In analysing them, a grounded theory approach provides for a methodologically systematic thematic analysis that can compare, reorganise and focus the data into categories and codes through iterative and cumulative coding cycles, enabling a synthesis of the data that leads to the development of a theory and central themes that are grounded in the original data (Saldaña, 2009).

Of the range of quantitative research approaches available, I selected an online questionnaire. Online questionnaires present a defined set of questions in a format that can be easily accessed by a wide range of people. I considered this to be especially useful since the companies certified under the BB were based in the UK. I posited that this approach would enable me to gather a substantial volume of data that I would be able to test and interrogate through subsequent semi-structured interviews, enabling the complementarity and triangulation purposes identified by Molina-Azorin and Lopez-Gamero (2016).

Given that so little had been published examining the specific drivers, benefits and challenges of business engagement with on-site biodiversity management (or, indeed, certification), it was challenging to know where to start. Having reviewed the general literature around the business drivers, benefits and barriers of biodiversity, I undertook to synthesise these data and present them in an interview schedule of questions that I could then pose to the assessors of the BB scheme. The assessors included a number of Wildlife Trusts ecologists and the Corporate Relations Manager, as well as external consultants who had worked on the scheme for a number of years. I determined that, having implemented the scheme and worked with a variety of businesses engaging in the

certification process (in the case of the Corporate Relations Manager, all of the businesses), that these individuals would have had a lot of exposure to businesses implementing the scheme and would likely have informed opinions and perceptions on what the drivers, benefits and barriers to engagement might be. By using the general findings from the literature review to frame my questions to them, I would be able to give the interviews some structure and consistency while also allowing for new information to be presented.

Having analysed the perceptions of The Wildlife Trusts assessors and considered them in terms of the literature to identify potential drivers, benefits and barriers, I concluded that I would have a sufficiently robust data set with which to investigate the perceptions of the certified businesses themselves. This would enable me to gather preliminary quantitative data in response to the research questions. I decided to use the findings from the first phase of the research to form the online survey questionnaires, which would then be distributed to the individual representatives from the relevant companies. I could use the survey to invite respondents to volunteer to take part in further semi-structured interviews, and then use the quantitative data that emerged from the surveys to inform those interviews. The findings from the third phase of the research could then be compared and triangulated against the findings from the second phase, and investigate my research questions more deeply. I predicted that more people would be likely to complete an online survey than engage in a semi-structured interview, and so the cross-comparison between results and findings could be interesting, and add greater richness to my findings.

The following three chapters present the outcome of this research strategy. Each chapter includes an introduction and an individual methods section that sets out the approach

taken in detail. The quantitative chapter includes separate results and discussion sections, and a conclusion. The qualitative chapters include a synthesised findings and discussion section, which is common in social research, and a conclusion. Chapter 3 presents a qualitative identification of potential drivers, benefits and barriers to corporate biodiversity management. Chapter 4 presents a quantitative assessment of employee perspectives on the drivers, benefits and barriers to corporate biodiversity management. Chapter 5 presents a qualitative assessment of employee perspectives on the drivers, benefits and barriers of corporate biodiversity management. The learnings from all three chapters are synthesised, interrogated and discussed in the General Discussion in Chapter 6.

3 Identification of potential drivers, benefits and barriers to voluntary on-site biodiversity management

3.1 Introduction

The literature review revealed a research gap around the drivers and benefits of voluntary biodiversity conservation by businesses. In this chapter, I set out the findings from the first

of a three-part research strategy to explore that gap. This first phase of research sought to explore all the possible multi-sectoral business benefits that a company undertaking the Biodiversity Benchmark (BB) – a corporate conservation scheme administered by the Wildlife Trusts that focusses on site-level biodiversity management in the United Kingdom (The Wildlife Trusts, 2020) (Chapter 1.2.6) – might encounter, from the point of view of the scheme’s assessors.

The aim of this preliminary phase was to gather business and biodiversity-specific data to provide an evidence-base for a set of questions that would be circulated to businesses participating in corporate conservation activities via an online survey (Chapter 4). I took a grounded theory approach to qualitative enquiry through semi-structured interviews and thematic analysis (Saldaña, 2009). I determined the interview questions through an extensive literature review that examined the drivers, motivations, benefits of voluntary corporate biodiversity initiatives, as well as the barriers (Chapter 1.2.7).

I chose the semi-structured interview approach because it allowed for the questions to be replicated across each interview, but also allowed for interviewees to present novel ideas and rationales that I had not come across in the literature review. Because there has been so little research conducted specifically on the drivers for voluntary biodiversity action by business, I considered this element of flexibility to be an important factor in selecting the methodology. I conducted interviews with the assessors of the Biodiversity Benchmark (BB). The assessors gave their perceptions of the businesses’ motivations, expectations, barriers and benefits of the BB scheme for the purposes of this research. These methods are described in detail below in Chapter 3.2, the findings are presented and discussed in Chapter 3.3, and conclusions are presented in Chapter 3.4.

3.2 Methods

3.2.1 Defining the Sample

I undertook one-to-one semi-structured interviews with employees and associates of the Wildlife Trusts (hereafter referred to as the ‘assessors’). The Wildlife Trusts is the group-level organisation, under which county-level Wildlife Trusts are administrated (The Wildlife Trusts, 2020). County Wildlife Trusts employ ecologists, some of whom have been trained as auditors to assess the biodiversity management practices of companies seeking certification under the BB scheme. This group of assessors was my sample for the interviews.

The sample was somewhat diverse, in that one was a Corporate Relations Manager, one was an independent auditing specialist, while the others were ecologists who had been trained as BB auditors. The assessors’ experience with the BB ranged from two years to 10 years. To protect their anonymity, names have been changed, the names of the counties they work in or near have been removed and the names of any companies that they reference have been amended to reflect the sector only. Table 3.3.1 presents profile information on each interviewee:

Table 3.3.1: Profile information on the assessor group of interviewees

Pseudonym	Organization	Role in organisation	Role in BB process	Other details
Charlie	County branch of the Wildlife Trusts	Senior Ecologist	Certified Auditor of Biodiversity Benchmark for 10 years	Audited 10 organisations and 14 sites
Alex	County branch of the Wildlife Trusts	Ecology Services Manager	Certified Auditor of Biodiversity Benchmark for two years	Audited five sites

Chris	Wildlife Trusts	Corporate Relations Manager	Manages the process of the Biodiversity Benchmark (its marketing, development, and administration)	Has contact with every company that goes through the BB process, from beginning to end
Jamie	Ecological consultancy	Director and Principal Consultant	Certified Auditor of Biodiversity Benchmark for around 10 years	Audited around a dozen companies and many more sites
Mike	County branch of the Wildlife Trusts	Senior Conservation Officer	Certified Auditor of Biodiversity Benchmark for nine years	Audited 10 companies, around half of which had multiple sites
Stephen	External consultant	Independent Quality Assurance Assessor	Helped to define the methodology and assessment processes; develop and refine the standard; select and train the auditors. He also samples and scrutinises their work	Worked on the Biodiversity Benchmark for 10 years and in that time has reviewed many of the Benchmark reports

As the above breakdown shows, four of the interviewees work directly in conservation and/or ecology, and are certified assessors. These individuals primarily have contact with the BB companies they are auditing. Because the question was not asked, there is no information on potential sectoral bias in the groups of companies each of these interviewees has had contact with. This is a limitation of the study. The remaining two, an independent expert in standards and certification and a Corporate Relations Manager, both engage with many more, if not all, of the BB companies. Given the sectoral diversity of BB-certified companies, the likelihood of there being a sectoral bias informing their opinions is lower.

Given that the scheme had been operational since 2006 and there had been considerable changes of staff over time, it was not possible to determine a total population of

assessors. As a result, it was necessary to take a convenience or purposive sampling approach, which by its nature is not representative. The results therefore are considered in that context and I did not conduct any inferential statistical analyses.

I delivered an online presentation to the group of assessors on 17th March 2016 where the research questions and research design were set out via Powerpoint slides, and assessors were invited to take part in the first phase of data collection. After the presentation, the Corporate Relations Manager circulated an email to his colleagues encouraging them to take part in the survey. I then followed up with an email to each assessor individually with a request to participate in the interviews. Six (including the Corporate Affairs Manager) responded in the affirmative.

3.2.2 Semi-Structured Interviews

I chose to collect the data through semi-structured interviews because they enable a level of consistency by presenting the same key issues and questions for each interviewee to answer, while also allowing for interviewees to elaborate on topics or present new ones that they consider important (Denscombe, 2014). Having reviewed the literature in the context of the research question and identified the gaps (Chapter 1.2), I finalised the Interview Schedule (Appendix 1, Chapter 7.1).

To explore the assessors' perspectives widely and to ensure they were considering all of the potential business benefits that they had encountered from businesses before, during and after implementing the BB scheme, questions were posed around the following key areas (as per the Interview Schedule:

1. Businesses' initial motivations for engaging with the BB, (i.e. before undertaking BB)

2. Businesses' expectations before undertaking the scheme, (i.e. while learning more about it, attending workshops and engaging in conversations with the team of assessors), and
3. The business benefits that BB accredited companies have seen, (i.e. having undertaken it and reflected on the value).

I determined that it was important for the assessors to be able to elaborate and raise new ideas, given that this is such an under-studied area and that it was possible that key topics had been missed in the set of interview questions. For these reasons, the Interview Schedule was comprised of broad, open-ended questions that were based on the research questions, with an accompanying list of prompts that would be suggested to the interviewee during the course of the conversation to ensure key topics were addressed, if the interviewee did not raise them themselves.

All of the assessors were based at various locations across the UK and it was not possible to conduct face-to-face interviews. I decided against video interviews as not all interviewees had access to a video, but also because recording videos can disrupt the flow of conversation – particularly if the internet connection is poor or if the interviewee is uncomfortable on camera. This meant that non-verbal communications were missing from the data that were collected, however given the subject matter was primarily work-related rather than personal or emotional, I concluded that this was unlikely to be a significant limitation of the study.

Through email conversations with the six assessors, Skype voice and telephone interviews were arranged at mutually convenient times during March and April 2016. I recorded the first two interviews using a dictaphone and the remaining four were recorded using a

digital recorder on a laptop. The tapes were stored in a locked drawer in the laboratory in Trinity College Dublin and the audio files were saved as MP4 files on Google Drive that only I had access to. I conveyed these details to the respondents at the start of each interview and gave a verbal outline of the research project, a request for assessors to confirm that they were happy to be recorded and have their data used for the purposes of the research, and a request for them to confirm if they were happy to have their names used in the final thesis. All gave verbal consent and the interviews then proceeded according to the structure set out in the interview schedule. Each interview took approximately one hour.

I had presented to the team of assessors beforehand and explained the purpose of the research, the research question, the structure of the research design, the intended outputs and the way the data would be used and stored, and started each interview by repeating this information and seeking verbal consent for the interviewee's participation in the study. Because of this, a written consent form was not circulated.

3.2.3 Interview Transcription

Once the interviews were completed, I transcribed them into a Microsoft Word document in preparation for analysis. In total, the transcription was 15,924 words. Interviews were transcribed verbatim in their entirety in order to ensure that no insight was missed and also to maximise my familiarity with the data post-interview and pre-analysis. During the transcription process, I annotated the data with informal comments and notes as appropriate, i.e. where a comment was particularly insightful or interesting, or where the interviewee had an especially strong opinion. Points in the conversation where the interviewee was unsure or had no strong opinion were also transcribed and all the natural

pauses (e.g. “aahs” and “uhms”) were also retained for completeness. Sentences were transcribed as they were spoken rather than amended to grammatically correct written English, because of the importance of having an accurate and raw first draft (Silverman, 2013).

3.2.4 Analysing the Data

To analyse the data, I took an inductive grounded theory approach to thematic analysis. Grounded theory is usually associated with the analysis of interview transcripts and involves coding the data and then categorising it, with the aim of “deriv[ing] concepts and theories that capture the meaning contained within the data”. These concepts and theories are arrived at through an iterative process of analysis, whereby the researcher identifies codes and refines them, before developing them into categories that are themselves refined and further developed into concepts and general conclusions (Denscombe, 2014). Fig. 3.1 shows a schematic I developed to illustrate this process.

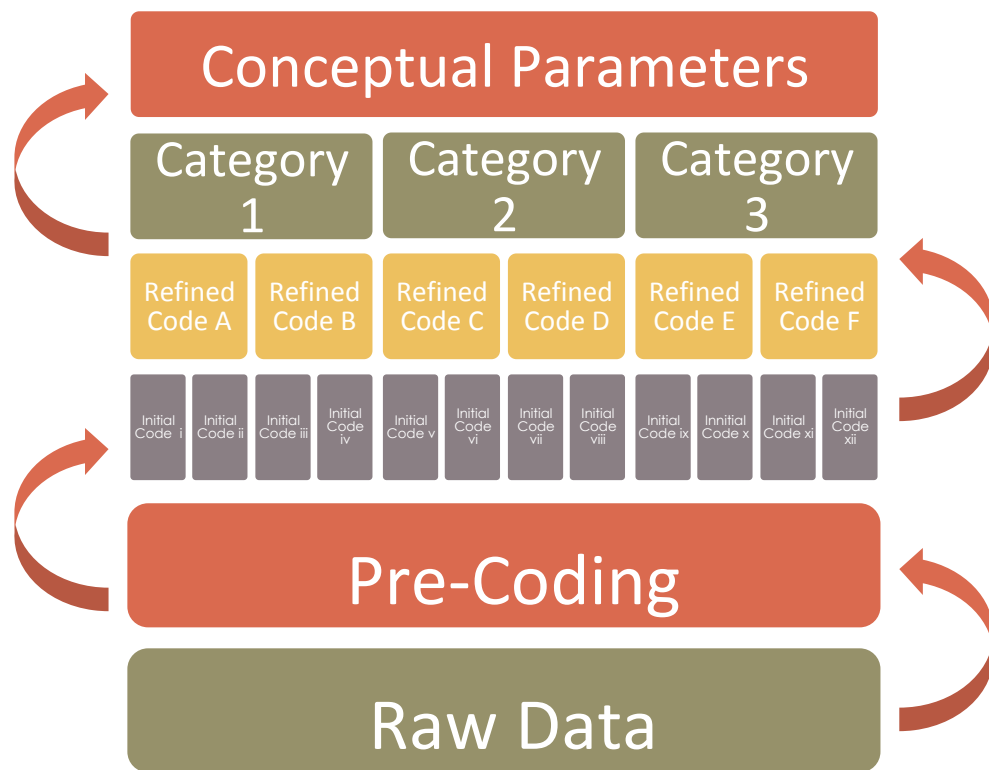


Fig. 3.1: A schematic I developed to illustrate the data analysis hierarchy as a 'qualitative taxonomy' of concepts, categories, refined (or higher-level) codes, initial (or preliminary) codes, pre-coding and raw interview transcript data

Codes are tags or labels in the form of words or numbers that are applied to raw data and can comprise keywords or phrases referring to events, actions and/or opinions that are either novel, in agreement with the literature, or stressed by the interviewee. They are essentially the smallest unit of analysis. A combination of Descriptive, In Vivo, and Process Coding processes was used during the initial stage of coding analysis. Descriptive Coding summarises words in a short phrase, In Vivo Coding uses participants' own language, while Process Coding uses gerund ("-ing") words to describe observable or conceptual action in the data. A combination of Focused, Axial and Theoretical Coding processes was used during the second or 'refining' stage of analysis. These analytical processes "compare, reorganise or 'focus' the codes into categories, prioritise them to develop 'axis' categories around which others revolve, and synthesise them to formulate a central or core category that becomes the foundation for explication of a grounded theory" (Saldaña, 2009). I

coded the data manually in Excel rather than by using computer-assisted qualitative data analysis software because the volume of data was not so large that it was necessary to use software in order to manage it or extract the relevant themes for the purposes of analysis. Furthermore, I had experience with manual coding and was familiar with the practice (Denscombe, 2014; Saldaña, 2009).

To prepare for the analysis, I read the raw interviews multiple times to ensure maximum familiarity with the data. I then pre-coded the data by highlighting 109 individual extracts, paragraphs and passages of text that I considered to be especially significant or illustrative key sentences in the context of the research question, in order to facilitate the analysis process (Denscombe, 2014; Saldaña, 2009). After the pre-coding stage of analysis was complete, I extracted the highlighted sentences, paragraphs and passages and put them into an Excel table. I then attributed preliminary codes to each one, with a final count of 243 codes. I used individual words and phrases as the coding unit. The events, actions or opinions given by interviewees that had been highlighted during pre-coding were coded using In Vivo and Process Coding styles. Some of the pre-coded extracts were given multiple preliminary codes (Denscombe, 2014; Saldaña, 2009). Once I had attributed preliminary codes to each extract, I made links between the preliminary codes, and grouped them together thematically. The refinement process resulted in seven groups of codes. The next step was to refine the preliminary codes in each group and reduce the number by determining 38 'higher-level' codes that were succinct but still encompassed the meaning of the initial codes. I then refined the grouped higher-level codes into categories to create a kind of 'qualitative taxonomy' for the data (Fig. 3.1). Towards the end of the analysis, overarching conceptual parameters began to emerge from the data, against which higher-level codes could be considered. These are presented in the discussion to facilitate interpretation of the findings. Throughout this iterative process, I

reviewed the analysis repeatedly in order to ensure that the codes and categories agreed with the raw data (Denscombe, 2014; Saldaña, 2009).

In the next section, I present a selection of findings from the interviews and discuss them in detail. To minimise researcher bias in the selection of extracts for presentation, I have endeavoured to ensure that selected findings respond to the interview schedule of questions and prompts. A minority are new opinions and ideas introduced by the interviewees that were stressed by them as being important. The findings are presented in terms of their categories and high-level codes, with supporting extracts taken verbatim from the text to illustrate the categories.

3.2.5 Limitations of the approach

There are a number of limits to the approach taken to this first phase of the research. Though this was a small-scale study, the fact that only six assessors were interviewed could be considered a weakness. However, as there were only eight professional assessors involved in running the BB scheme at the time the research took place, it is in fact a significant proportion of the total. That said, it is not representative since the scheme had been operational since 2006 and there had been considerable changes of staff over time. Therefore, a total population could not be defined and it was necessary to take a convenience or purposive sampling approach. The research cannot make any broader inferences beyond the opinions and beliefs of the six people who were interviewed.

From this, it is clear that there is an inherent selection bias in the sample: all of the assessors were involved in the management of the BB and employed by the Wildlife Trusts, who operate the scheme. However, the purpose of these interviews was to mine the assessors' perceptions of the range of business benefits they thought the businesses

they have worked with had encountered in order to inform the survey for businesses in the second phase of the research, where their ideas would be tested. Had there been sufficient literature, the need to interview the assessors to form a baseline would not have been there, but the literature revealed little of the business benefits, drivers and barriers to voluntary corporate conservation, and that is the research gap this project sought to target. That said, this selection bias is a limitation of the study. It is addressed through the interpretation of the findings as non-representative, where insights, perceptions and opinions are considered in the context of a sample group that is professionally invested in the scheme, and that no inference can be made as to their consistency across the wider population.

Additionally, because the question was not asked, there is no information on potential sectoral bias in the groups of companies each of these interviewees has had contact with. This is also a limitation of the study.

The fact that the interviews took place over the phone was also a limitation, as verbal communication misses out the opportunity for non-verbal cues evident in face-to-face interviews that could have led to richer data. Opportunities to visit the teams on site and attend workshops, meetings and training days could have also contributed to better quality interviews, but this was not possible due to lack of resources.

3.3 Findings and Discussion

3.3.1 Introducing the categories

Through analysis of the answers received from the interview respondents, a total of seven categories containing 38 higher-level codes were identified (Fig. 3.2). Two of the categories related to business engagement, as follows:

1. Drivers of business engagement
2. Barriers to business engagement

The remaining five categories relate to potential business benefits that companies participating in BB might encounter, as follows:

3. Reputation
4. Employee Engagement
5. Competitive Advantage
6. Risk Management
7. Leadership

Each of these categories, along with their underlying codes, is presented and discussed below.

Refined Codes (grouped)	Categories
Professional development of employees Employee health & wellbeing Employee morale Empowering individuals Improved internal communication	Business Benefit: Employee Engagement
Improved relationships with regulators Access to permits & permissions Improved regulatory compliance Meeting shareholders' expectations Preparing for future legislation Improved internal processes	Business Benefit: Risk Management
Achieving best practice Being recognised as a leader	Business Benefit: Leadership
Product/service differentiation Winning contracts Improving customer satisfaction	Businesses Benefit: Competitive Advantage
Public relations benefits Achieving CSR objectives Better reputation in the community Better community relationships Aligning with consumer preference	Business benefit: Reputation
Difficult Expensive Took a long time Hard to secure senior management support	Barriers to business engagement
It's endorsed by a recognised environmental group (The Wildlife Trusts) It guarantees that the company is doing 'proper' conservation It's a formal scheme with an award at the end It's target-driven The process is similar to other management systems businesses use Passionate individual Keeping up with competitors Meeting CSR objectives Legislative compliance	Drivers for business engagement

Fig. 3.2: The final list of seven categories and 38 higher-level codes that emerged through the analysis

3.3.2 Drivers of business engagement

The assessors perceived a number of potential reasons as to why businesses were motivated to engage with the BB scheme. Through the data analysis process, the following nine codes were grouped under the 'Drivers' category:

1. It is endorsed by a recognised environmental group (The Wildlife Trusts)
2. It is a formal scheme with an award at the end
3. The process is similar to other management systems businesses use
4. It ensures legislative compliance

5. It is target-driven
6. It guarantees that the company is doing 'proper' conservation
7. There is a passionate individual on staff
8. It meets CSR objectives
9. There is a need to keep up with competitors

Some of the assessors – particularly the ecologists – were occasionally unsure as to exactly why a business had been driven to engage. As Charlie pointed out: “It’s not a conversation I tend to have”. Nonetheless, their insights and speculations were interesting and relevant to the question of why businesses engage with the scheme, and since this chapter is primarily concerned with developing a list of potential business drivers and benefits to be tested with the companies themselves, the level of certainty that the assessor expressed in their opinion was not incorporated into the coding of drivers.

3.3.2.1 Driver: It is endorsed by a recognised environmental group

One area where there was a degree of certainty was in the assessors’ responses regarding the value of association with the Wildlife Trusts to the businesses undertaking the BB. Four out of the six assessors cited the BB’s association with a well-known environmental group as being a driver or motivation. Aspects of this agree with the literature – O’Gorman (2020) referred to the value businesses place on being recognised for their efforts because, while generating meaning at the corporate level, the sites where the action takes place also share in the glory, generating a sense of pride that supports ownership and long-term investment in the project. However, no reference is made in the academic literature to the value of working with a high profile group, though we do see international examples of businesses partnering with major NGOs.

Expanding on this topic, interviewees pointed to the fact that, unlike traditional systems for corporate environmental management, the Wildlife Trusts' endorsement is of interest to the general public and makes the certification more credible. As one of the largest wildlife charities in the UK, this is unsurprising – the Wildlife Trusts has a high profile and, as acknowledged in the literature review, environmental charities and Non Governmental Organisations (NGOs) are not often seen to engage with the private sector through NGO-led branded schemes to improve business practice, so the BB offers a relatively unique proposition for a company seeking to take action for biodiversity in a public-facing way that will add reputational value.

Chris: "And then there's an element as well that the verification is coming from us as the Wildlife Trusts. So ISO 14001, you know, you can get anyone to assess that and verify it. It doesn't really mean a great deal to a lot of people. It's only really of interest if you're in the industry and you know what it means and you value it for that reason, but actually it's probably not of great interest to Joe Public. Whereas actually, the fact that that verification is coming from us, a well-known charity, one of the biggest wildlife charities in the UK, I think that's a big factor."

Alex: "I think that by involving the Wildlife Trust in it, because people know it, it shows them in a better light and it's almost like we're endorsing what they're doing. So it is to do with biodiversity but it's also about them being recognised for conserving biodiversity. They don't want to just do it quietly, they want to shout about it a bit, so by having the WT involved it's like a stamp."

Both of the above comments connect to business benefits around reputation and public relations that are explored in Chapter 3.3.3.1, as does Charlie's comment below, which acknowledges the value of having a recognisable logo that the company can use.

Charlie: "The WT are fairly well known so having that actual logo that they're able to use on certain things, I think that's probably quite a big driver ... I suppose they want something that's recognisable to other people."

Another interesting point was made by Jamie, who wondered whether the fact that the Wildlife Trusts were involved gave participating companies a degree of confidence in the

scheme, in that it implied that the company would not be “taken advantage of” by a more commercially-driven alternative.

Jamie: “I think if you had two schemes sitting there, one which was a commercial scheme, for want of a better word, and the other was the Wildlife Trusts scheme, they'd go for the Wildlife Trusts because they don't want to be taken advantage of by somebody making up an award for commercial benefit. And there are people and individuals out there who do that very thing. So the fact that it's the Wildlife Trusts is collateral for these companies, it's valuable.”

3.3.2.2 Driver: It is a formal scheme with an award at the end

Two assessors felt that the BB being a formal scheme with an award at the end was an important driver for business engagement. Again, the literature agrees with this belief, with O’Gorman writing that certificates or awards with special requirements can act as an incentive for companies to continue their biodiversity conservation efforts (O’Gorman, 2020). Alex thought that businesses preferred working towards awards than taking discrete actions, and that they “want the rubber stamp”.

Alex: “They like working towards awards I think, rather than saying that they're doing things. They want the rubber stamp.”

Jamie agreed that companies he has worked with through the BB scheme liked awards and thought that the motivation to achieve them was tied to a personal or professional desire on the part of an individual within the company to be recognised for the effort they are making to enhance and manage biodiversity. Awards, he said, can be good for external marketing, internal recognition of individuals and their own career progression as a result, and internal communications with senior management.

Jamie: “Often, I think the driver is an individual within the company who has a desire, be it personal or career-wise, to get some sort of award for biodiversity at their organisation. Either because they're interested in doing a great job or want some sort of acknowledgement for it. Companies themselves like badges, they like awards, it shows the Directors, and it's good for marketing.”

3.3.2.3 Driver: The process is similar to other management systems businesses use

The fact that BB is closely aligned to the management systems that companies already use, like the International Standards Organisation's (ISO) 14001 accreditation that is popular in the private sector to support the management of environmental aspects such as water, air, waste and energy, was given as another potential reason why businesses engage with BB by three of the assessors.

Mike: "Most companies have audited certificates through ISO already, so they know the process and BB is based on that system."

That BB is structured in a similar way to ISO14001 makes it easy for the businesses to engage because they quickly recognise the process, it is familiar to them and is "speaking [businesses'] language". O'Gorman notes that many companies seek and maintain ISO14001, and makes the points that existing frameworks can be the best for reporting conservation outcomes: "Working with these industry standards, conservation partners may find a common language with the site and may be able to advance conservation implementation more easily if it can be done to meet the needs of an existing certification or management system" (O'Gorman, 2020). Business in the Community Ireland's Biodiversity Framework for Business also aligns to ISO 14001 (Hamilton et al., 2019).

Alex: "A lot of the businesses we work with on the BB are used to following schemes, so a lot will do ISO certification for their environmental management - waste, electricity, things like that - so they understand the process and it's something that they easily grasp. It's something they can work towards it and put processes in place, it's speaking their language."

Chris: "Organisations that want to manage their impacts on the natural environment, the BB gives them a framework that is familiar to them because it's loosely aligned to ISO 14001 and is achievable and is designed to enable really meaningful contributions to be made to the natural environment locally."

3.3.2.4 Driver: It ensures legislative compliance

Chris added to this idea, suggesting that the external verification aspect of BB – which is similar to other environmental management systems – is something that companies value because they are “very, very driven by compliance”. He acknowledged that biodiversity regulation may not be a priority for a company when compared to, for example, the storage of nuclear fuel, but insists that in a corporate culture of compliance, external assurance is something that companies want, particularly those in the nuclear industry.

Chris: “Assurance is a key one, particularly the nuclear industry. They are very, very driven by compliance. They’ve got a culture of compliance in the organisations, so they really value the external verification. Biodiversity regulation probably doesn’t feature as high up the list as regulation of how you store nuclear fuel, but it’s still a regulation that the company has to abide by and they’re very strict to make sure they’re abiding by regulation and they really value the external verification that they’re doing there.”

Stephen agreed with this idea and took it a step further to explain his hope that businesses are driven to engage with the BB in order to ensure legislative compliance. While other assessors mentioned legislative compliance as a benefit of the BB that businesses encountered further on in the process (it will be discussed in Chapter 3.3.3.4 in the context of risk management), Stephen “like[d] to think” that the annual scrutiny that the BB provides is something that businesses already understand the value of because it is in common with traditional environmental management standards.

Stephen: “I’d like to think that part of it is that actually, they’ve got ecologists going over their site or a sample of their sites every year, and spotting stuff and improving their systems and enabling them to improve their system and keep compliant. Without that, there could be things that they’re missing, as good as their system is, that the experienced eye of the ecologist who sees things now in terms of systems, that actually that once a year activity is protecting biodiversity and protecting the business from possible prosecutions. It’s keeping them compliant. And helping to protect biodiversity.”

The promise of ensuring legislative compliance agrees with the findings of a range of academic studies and publications. Boiral *et al.* (2017) found that businesses were driven to engage with biodiversity management in order to comply with biodiversity requirements, Smith *et al.* (2019) identified compliance with environmental regulations as a driver, the World Economic Forum (2010; 2020) acknowledged the potential regulatory risk posed by non-compliance with new laws and regulations, and O’Gorman (2020) outlined the value of mitigating biodiversity impacts to ensure access to permissions and licences (Boiral & Heras-Saizarbitoria, 2017b; O’Gorman, 2020; Thomas Smith *et al.*, 2019; World Economic Forum, 2010, 2020).

3.3.2.5 Driver: It is target-driven

This last point from Stephen also connects to the idea that businesses are motivated to undertake the BB because it is target-driven, with clear objectives and specific, measurable Key Performance Indicators (KPIs) for biodiversity. While not mentioned in the academic literature, O’Gorman stresses the importance of clear, cost-effective, accessible, comprehensive and comparable metrics: “If the private sector wants to be able to tell its story in a credible manner,” she says, “it needs a credible way to do it” (O’Gorman, 2020). Assessors claimed that these targets are based on site-level ecological data and developed through management plans that not only promote good practice but require businesses to avoid negatively impacting on biodiversity as well.

Chris: “What [BB is] doing is acquiring sites to set objective targets and KPIs that are very very biodiversity specific. About getting good information about what is on the site and what is the potential for the biodiversity on the site, and then setting objectives and targets which are appropriate to the local natural environment and based on the information they have. So there are measured biodiversity benefits and there are measured positives for biodiversity.”

Jamie: “To get the BB, they have to have a decent management plan in place and being proactively put in place based on their planning and they’re actually carrying out actions and they’re avoiding problems, not just positively doing things but avoiding problems.”

It was also noted that businesses respond well to well-defined objectives, for instance, increasing the population of a species to a particular point: “It’s a target, they like to have targets,” said Alex.

Alex: “Particularly corporates are very kind of task-driven. So if they can say, ‘We have shown that we’ve increased the population of a bird or insect or plant, that’s a nice goal that they’ve achieved. That’s what they seem to understand. So they can get really excited about a number of species going from X to X plus whatever. It’s a target, they have to have targets.’”

Because the targets are evidence-based and arrived at through a “very clear process”, it is possible to consider local, national and international conservation objectives in order to inform the management plan. This, according to Charlie, ensures efforts are focused on “what’s really important. Rather than them just going out with a limited budget and doing what they think.”

Charlie: “I would say it has massive impacts on biodiversity because what it asks organisations to do is go through a very clear process and go through your site, do data searches and get all the information, then look at what’s important at a local, national and international level, and from that get really clear objectives and targets so that the work they end up doing on the site is really focused towards what’s really important. Rather than them just going out with a limited budget and doing what they think, it’s really focused and so can give massive benefits for biodiversity. The monitoring side of it as well is checking that it’s working as well and making changes where it isn’t.”

In responding to a question on the biodiversity impact of BB, Mike echoed Charlie and elaborates by explaining that this aspect of BB is especially noticeable with companies that have not previously worked with ecological consultants or nature groups, and so are not aware of what is important on their site.

Mike: “I think a lot of it is recognition of what’s important. It does vary depending how the involvement of consultants or other nature conservation organisations, where a company has gone down the line of involving nature conservation organisations or consultants from an early stage, then the recognition of the importance of the site and the habitats and the management of the species and what to do and what not to do is pretty much ingrained because it’s been

there from the beginning, whilst it would have been a steep learning process for management and staff on the ground if it hadn't. When the company has really not engaged to that degree, then through the BB the importance of the site, habitats and species will come to the fore."

This strategic approach has benefits in providing a "sensible discipline" for companies who might otherwise be taking "a scattergun approach", as Stephen outlines in the example below where a company had a huge amount of biodiversity-related activity happening but was lacking the kind of focus that would maximise biodiversity benefit:

Stephen: "I do remember shadowing an assessor, we were at a large site where there were a huge amount of things going on, almost like a scattergun approach, little initiatives, nothing really strategic, nothing really pulling it all together, lots of people doing lots of things but in an uncoordinated way. After two days of working with them and trying to identify a set of perhaps identify a set of priorities and identify appropriate habitats for particular species – they were trying to attract every species almost, rather than focusing on what were species that were identified as part of the survey and what could potentially be there – and they started to get a glimpse that BB would provide them with a sensible discipline."

While BB's target-driven approach was cited by all assessors as a potential driver for business engagement, Chris did note that biodiversity does not easily conform to the kinds of targets that businesses might be used to for other environmental aspects like energy, water and waste.

Chris: "It doesn't necessarily conform to the kind of neat, linear measurement metrics, which those other things do. You can say we're going to be at zero waste by 2020 and you can check how you're doing against your target year on year by measuring your tonnage of waste, you can cut carbon emissions by X% by 2020 and you can track that. Biodiversity changes shape, place, all sorts of things, it's different from one place to the next, it migrates, it breeds, it doesn't breed, it becomes locally extinct, all these issues... which, you know, don't necessarily lend themselves to those targets."

Later on, he added to this comment by implying that part of the challenge of defining the right targets for biodiversity also depends on asking the right question. He said that while he could not say that "through BB we've created X hectares of wildflower meadow or

protected X hectares of native woodland”, he could say that there are almost 9,000 hectares of land that are certified as being managed for biodiversity under management systems that have site-specific objectives, targets and KPIs.

Chris: “This goes right back to the great beginning of the conversation I think, which is that biodiversity just does not conform to neat, linear reporting. It is very different, so those objectives and targets are contextual on each site. I can't sit here and say to you that, through BB we've created X hectares of wildflower meadow or protected X hectares of native woodland. What I can say is that there are just under 9000 hectares of land which are certified as being managed for biodiversity, and those 9000 hectares all have management systems applied to them, all have biodiversity objectives targets and KPIs which are contextual to each site and specific to each site.”

O’Gorman echoes this sentiment by acknowledging the challenges inherent in developing biodiversity metrics, which she observes are rarely satisfactory to the conservation community: “The search for the holy grail of biodiversity metrics will continue, but as we wait, we need to use what we already have in terms of Biodiversity Management Plans and existing conservation plans and priorities” (O’Gorman, 2020).

3.3.2.6 Driver: It guarantees that the company is doing 'proper' conservation

The next driver that assessors suggested to explain business engagement in the BB was the idea that it guarantees that a company is doing 'proper' conservation, an idea that encompasses the rigour of the standard and its biodiversity impact. It is perhaps notable that this perspective was not explicitly mentioned by either of the assessors who engage more comprehensively with the businesses themselves. Again, perhaps there is so little literature on biodiversity certification schemes, the only supporting literature for this potential driver was in O’Gorman (2020), where she states how important it is for businesses to be able to know that a certification scheme delivers what it purports to do. She stresses that third-party recognitions should adhere to a set of stated design

principles and hold up to external verification, and that the association with the producer of them may be an indicator their rigour (O’Gorman, 2020).

In response to a question on the biodiversity impacts of BB, Jamie suggested that because of the ways the management plans were structured in terms of identifying priority and/or protected habitats and species, companies are forced to do “proper conservation”.

Jamie: “I suppose also, the management plans, because of the way the requirements are written, you do hone in on what is important, which is priority habitats, priority species, and other protected species that are a legal requirement. So you are forcing them to do what we would call proper conservation.”

Alex echoes Jamie’s comments, saying that the positive biodiversity impacts of the BB can be “really big” because it ensures that companies are managing their land “properly”.

Alex: “I think it’s about companies managing their land properly so the impacts... if the site’s managed incorrectly then the biodiversity value is going to decrease, whereas if it’s managed correctly, it’s about ensuring that anything of value is retained and enhanced and that they can improve biodiversity, so I think it has a really big positive impact.”

Conservation can also include habitat creation and enhancement alongside habitat and species protection. The fact that the BB provides for the creation and enhancement of habitats and ensures that the species living in them are monitored and recorded adds to the biodiversity benefit of the scheme and further underscores the assessors’ perspectives of it as “proper conservation”.

Mike: “The BB, because it’s continual protection and enhancement, without the BB, they might be doing legal statutory duties but they wouldn’t be doing the enhancement. There’s also the recording, surveillance and monitoring which they probably wouldn’t be doing without BB.”

Alex offers an example of this in action, whereby surveys undertaken as a result of the BB led to the identification of a rare species of bee and the consequent installation of additional nesting habitat.

Alex: "I've been to a site in (nearby county) where the BB had made them do invertebrate surveys and they found out they had some quite rare bees, so they put in some sand banks that these bees can use, so it made them create more habitat from a species that they may not have otherwise done."

3.3.2.7 Driver: There is a passionate individual on staff

Another motivation that was mentioned by three assessors was the importance of a passionate individual within the company to drive the initial engagement. Assessors used language and examples that suggested that they were confident that this was a factor. Alex said he thought it was "really key" and Jamie said that it was "often" the case, while Stephen agreed that the first steps towards undertaking the BB were less down to the business and more down to a proactive individual.

Alex: "The other thing that I think is really key is that you need to have key members of staff at the company that want to achieve this."

Jamie: "Often, I think the driver is an individual within the company who has a desire, be it personal or career-wise, to get some sort of award for biodiversity at their organisation."

Stephen: "It is less the business and more a proactive individual within that organisation who takes the first steps ... so sometimes I think it's individuals' interests, pursuing their own passion."

However, they noted that this could also be a weakness: if that person moves on and the business case for corporate conservation is not fully embraced by senior management or embedded in management systems, the impetus can "disappear" or "fizzle out".

Jamie: "Sometimes - and this is a key one - because it's often individually led within companies, when that person moves on, maybe the impetus disappears."

Alex: "If you don't have a key member of staff that's keen to do it and you haven't got the support from management, it can sort of fizzle out, because there's quite a lot of work involved and people may be reluctant to take it on unless it's part of their job really."

Chris: "People change roles, budgets get cut, all sorts of things happen in an organisation. A lot of organisations go away from introductory workshops very enthused, very kind of, 'This is for us we're going to go for it'. But that member of staff moves on, departments change, restructuring, all that sort of stuff."

As Stephen pointed out though, BB is designed to "systematise the commitment" in order to ensure that the biodiversity management cycle can continue in perpetuity irrespective of staff changes that might take place.

Stephen: "Part of what BB tries to do is systematise the commitment and try to create to the system within the organisation so that the system will continue irrespective of the personalities and individuals."

Given the confidence of the interviewees in their opinions on the importance of passion and personal interest in a successful initiative, I was surprised to find that it did not feature anywhere in the literature. Nor did other intrinsic values, such as pride. This finding from the assessors may be an anomaly in their experience, or it could be an overlooked business driver that requires more research in order to be better understood.

3.3.2.8 Driver: It meets CSR objectives

Corporate Social Responsibility (CSR) was also suggested by some assessors as being one of the most common drivers of initial business engagement. While none of the academic literature mentioned this driver, O’Gorman outlined the importance of CSR, sustainability and corporate citizenship as driving companies to go “the extra mile” and discussed the ways in which it manifests in businesses’ engagement with site-level biodiversity management (O’Gorman, 2020). CSR standards such as the Global Reporting Initiative and, in Ireland, the Business Working Responsibly Mark include criteria on biodiversity and ecosystem services, and biodiversity is considered to be an environmental aspect within corporate responsibility and sustainability thinking. Chris said that CSR is “usually the

driver to make contact or look into this” and, given that Chris is the first point of contact for companies enquiring about the BB, it seemed likely that CSR was in fact a driver for at least some companies.

Chris: “Usually the driver to make contact or look into this is the CSR one. It’s about what are our key environmental aspects and how can we manage them. But then they probably become aware as they go through the process that these other benefits might be there for them.”

Alex: “I think they want to fulfil their corporate social responsibility and be seen as being a greener, more environmental company.”

3.3.2.9 Driver: There is a need to keep up with competitors

The last idea proposed by three of the assessors was the desire for companies to keep up with their competitors. Some suggested that once a company achieved the BB, others in the same industry would follow suit because of, as Chris put it, a “competitive element”, citing airports and aggregates as two industries that have shown such patterns. Alex commented on how companies seemed to like to share information about the BB award with others in their industry. This is also discussed in terms of business benefits in the Competitive Advantage category.

Chris: “One of the reasons [for engaging] is leadership. In BB, we see a lot of organisations are keen to be the first to get the standard, and once an organisation has got it, we’ll see a lot of interest from their near rivals. It happened in aggregates, it happened with airports. They’re benchmarking themselves against each other most of the time. So there’s that kind of competitive element.”

Mike: “I know there is an element of competition between some of the industries. The aggregates [industry] is probably the most obvious one. Aggregates Company X and Aggregates Company Y have the BB and they may be keeping an eye on what each other is doing and I can see there being a bit of competition within that industry.”

Alex: “It’s also quite a nice thing that they seem to like to meet other companies and tell them that they’ve got this award and why hasn’t the other company, so it’s almost like a kudos that they’ve achieved this standard.”

There was some agreement in the academic literature: Boiral *et al.* (2017) referred to a business's desire to exemplify best practices (Boiral & Heras-Saizarbitoria, 2017b). O'Gorman was more directly relevant, underlining the importance of competition in driving action (O'Gorman, 2020).

3.3.3 *Business benefits*

Five categories of benefits were identified through the data analysis process, each of which has a number of refined or higher-level codes nested within it (these codes are presented and discussed under each category, below). Below is a list of the categories with the number of codes under each one:

- Reputation
 - Five higher-level codes
- Leadership
 - Two higher-level codes
- Competitive Advantage
 - Three higher-level codes
- Risk Management
 - Six higher-level codes
- Employee Engagement
 - Five higher-level codes

3.3.3.1 Benefits: Reputation

Reputation came up repeatedly in conversations with the assessors as a potential benefit that businesses get from undertaking the BB. The reputational benefit of biodiversity is widely reported in the academic and grey literature (Boiral & Heras-Saizarbitoria, 2017b;

Hanson et al., 2012; O’Gorman, 2020; Thomas Smith et al., 2019; World Economic Forum, 2010, 2020). For interviewees, the idea of reputational benefit manifested in various guises, and these were refined into the following codes (many of which connect to one another):

1. Public relations benefits
2. Achieving CSR objectives
3. Better reputation in the community
4. Better community relationships
5. Better trust outside the company
6. Aligning with consumer preference

The first was public relations (or PR) benefit, which was mentioned directly or indirectly by all of the assessors, and is also referred to in the literature in relation to managing shifts in public perception (World Economic Forum, 2010). Charlie captured this succinctly, saying that some companies use the BB as a way to improve their “bad reputation” on environmental issues, while Alex commented directly on how a company uses the BB to boost its reputation through its website or in marketing material.

Charlie: “I think, the main thing, is just the PR of it. If you look at the companies, certainly the ones I’ve audited, people like the airports – Airport X, Airport Y, the extraction industries, power companies, they’ve all got quite a bad reputation haven’t they for the environment so this is a way that they can do something positive and have a positive PR story for the environment so I think that’s probably the main reason.”

Alex: “I suppose it’s all about the recognition, so they can put that on their websites and in their marketing material.”

Alex: “It’s something they’re able to publicise and use in their marketing, and make them look like a good company.”

Stephen suggested that companies might use the PR opportunity as a way to hide or distract from other environmentally damaging practices.

Stephen: "Then, of course, is it greenwash? I think there probably is a little bit of that. Organisations wanting to manifest their environmental commitment look for something that helps to demonstrate that, but perhaps also helps them to improve it."

Another way that assessors thought reputational benefit could manifest for a company was through the achievement of Corporate Social Responsibility (CSR) targets. CSR is a collective term for voluntary initiatives that businesses undertake in order to make themselves more responsible or sustainable, typically in terms defined by CSR and sustainability reporting protocols like the Global Reporting Initiative, Business Working Responsibly Mark and the UN Global Compact. CSR covers a range of activities including governance, supply chains, employee relations, human rights and community engagement, as well as the environment, of which biodiversity and ecosystem services can be an aspect. Companies often set targets in relation to CSR and report on their progress. CSR came up as a potential driver for business engagement and, as outlined in Chapter 3.3.2.8, O’Gorman referred to CSR and corporate citizenship being strongly connected to businesses’ biodiversity efforts as a driver or motivation. However the achievement of CSR targets and objectives that the BB might facilitate can also be classed as a benefit, hence its inclusion here.

Alex: "It helps them achieve their CSR."

Mike: "... they use the information [from the BB] in their corporate sustainability report which then goes out to all staff and shareholders and through the web."

Chris: "And then there's the CSR side of things: they expect to improve their biodiversity management towards an improved natural environment. So there is, and I don't think we should downplay it, and I am guilty of doing that, there is a CSR driver and it's a very valuable CSR driver."

Community engagement came up repeatedly in conversations with the assessors through a variety of contexts, which were whittled down to two codes: relationships with the local community in the areas in which the company operates, which can imply active engagement and participation; and better reputation with the local community, which can imply a more passive type of engagement that connects to the public relations benefits. This aspect of reputational benefit was echoed in the literature by Smith *et al.* (2019), Boiral *et al.* (2017) and O’Gorman (2020). Four of the six assessors referenced communities in their interviews, and in some cases the passive ‘reputation’ and the active ‘relationship’ aspects were mingled together. In the extract from Chris below, they refer to how companies with sites that are suitable for public accessed can be used to “shout about what they’re doing for biodiversity” from interpretation panels (reputation), and then goes on to talk about companies engaging in biodiversity-related community events (relationships). Charlie makes a similar statement, explaining that “...one benefit of that is that it improves the company's reputation in the local area, but also by getting the partners involved is a big benefit for biodiversity because they're getting lots of activities and help.”

Charlie: “Also a big part of the BB is working with partners and getting local conservation organisations involved in the site. One benefit of that is that it improves the company's reputation in the local area, but also by getting the partners involved is a big benefit for biodiversity because they're getting lots of activities and help. It's more than telling them and showing them what the company is doing, a lot of the time it's more hands on.”

Chris: “Then there is community engagement element. So if you manage great places for wildlife they can become really valuable community assets. Some of our sites are high risk from a health and safety point of view so you can't have people trampling all over them, but the sites that are open to the public or can be accessed by the public offer opportunities the companies to shout about what it is they're doing for biodiversity from interpretation panels right into community events and pond dipping and community days and all this sort of thing. Now this all goes back probably to the land access and planning and if people understand what you're doing on site and that you are doing good stuff on site, so A) you're in touch with them so you can anticipate and address concerns very very early in the planning process, and B) you've got a

much better relationship with them so you're potentially not going to get some of the issues that you might get through the planning process."

Chris went on to explain the potential benefit of these approaches to a company, citing an example of a non BB-accredited company that engages in similar kinds of community work. The company found that its planning application "went straight through with absolutely no trouble whatsoever". This is referred to again under Risk Management in Chapter 3.3.3.4, below.

Chris: "I was just talking to a company, they're not in BB, but they were saying they've got their planning application for a site where they were doing this is kind of community engagement and it went straight through with absolutely no trouble whatsoever. Because we're so densely populated in the UK, people live cheek by jowl with development, and getting planning applications through is a torturous process because there is usually a lot of community concern. But if you have a good relationship with the community based around the way you manage the land, perhaps those concerns aren't quite as big a barrier as they might have been."

Mike was confident that public access to sites managed for biodiversity and associated liaison groups were important factors for companies in building community relationships by creating a space in which community concerns and questions can be aired and answered by the company.

Mike: "[Public access] definitely does [have impacts on community relationships]. A lot of the companies have a local liaison group or committee, public meetings, and will listen to the concerns of the residents, parish councils or community groups, conservation organisations, and in many cases take on board fully what their concerns are or answer those questions to alleviate concerns. Sometimes things get exaggerated or there are misconceptions, so companies can either physically make a statement that this will or won't happen and then over time the communities will see that they were actually telling the truth, or they will actually put money where their mouths are and deliver outputs that the community want to see."

However, one assessor expressed a concern that the potential active engagement benefits of the BB through community relationships are not necessarily something that companies welcome. In his experience, Jamie has seen companies welcome communities "doing

things for free like monitoring and surveying” and that they “only engage with the community to manage problems”. These comments could suggest a perceived lack of altruism or openness in terms of the direction that a project might take. Nonetheless, having monitoring and surveying work done and the opportunity to manage problems are still likely to be considered benefits by a company.

Jamie: “Being quite cold about it, they welcome community partnerships where people come in and do things for free like monitoring and surveying, but it is a distraction time-wise. They tend to only engage with the community to manage problems, for instance quarries have community meetings, etc., to iron out problems, assure people that they're not bad guys and all that sort of business, it's more managing risk and problems.”

The final aspect of the reputation category came up in the interview with Chris around the benefit of aligning with consumer preference. It connects with the references to the BB helping companies to win contracts and differentiate products, which is discussed in more depth under the Competitive Advantage category in Chapter 3.3.3.3, and is supported in the literature by Hanson *et al.* (2012) and World Economic Forum (2010). While he did not make a case that the BB supports participating companies to align with consumer preference, he did speak about how wider trends around environmental awareness are driving consumer preference. He went on to offer examples from retail and business park sectors that have undertaken the BB and explain how important it is to “stand out from the crowd” and increase dwell times in shops. Though it is not stated directly in the extracts below, Chris is speculating on the potential for the BB to benefit companies in these ways.

Chris: “I think that certainly the Wildlife Trusts are becoming very conscious and tapping into the very strong emotional connection people have to the natural environment, even if they don't realise it. As I mentioned working here helped me to appreciate the value of the natural world on my life. That is going to feed through to consumer preferences and you'll see an increase in sales of organic and other certified goods.”

Chris: "If you think about someone like a business park, they're really looking to create places that stand out from the crowd. I think they're hoping for if not expecting that their clients are going to see that as a benefit over the guy down the road, and hopefully pay a premium for that benefit."

Chris: "And actually retailers in terms of people's dwell time and their average spend, there is some evidence to show that if you're spending your leisure time in a place which has a diverse natural environment that you're going to spend longer there and you're going to spend more money there. So there's that element there."

3.3.3.2 Benefits: Leadership

Three assessors referenced issues related to leadership, with topics including companies being seen as leaders within their industry, and a competitive element in benchmarking against peers to achieve best practice. Two codes emerged from these data during the analysis:

1. Achieving best practice
2. Being recognised as a leader

While the comments around these two topics were only made by half of the interviewees, three separate extracts from Chris – who has the most exposure to businesses throughout the BB process – coupled with the fact that similar issues came up in the literature review suggested that leadership should be included as a separate category to be put to the businesses themselves. Boiral *et al.* (2017) referred to companies exemplifying best practice (Boiral & Heras-Saizarbitoria, 2017b), while O’Gorman (2020) illustrates the shared value created by companies that lead on meaningful corporate citizenship. Furthermore, it could be argued that all of the literature around biodiversity management by businesses could be classed as endorsing this business benefit, as it is such a novel aspect of companies’ approach to environmental stewardship that those choosing to engage early should be considered to be leaders.

Chris explained that businesses participating in the BB expect to be seen as leaders in their industry and “held up in their industry as the standard to arrive at”. O’Gorman (2020) also stressed the importance of competition in driving best practice and engagement. Chris went on to explain how he has seen “a lot” of companies that want to be the first to get the standard and that once they have got it, others in their industry become interested too, indicating the companies’ desire to achieve best practice. He cited examples in the aggregates and airport industries and spoke of a “competitive element”.

Chris: “[The BB] talks a little bit about industry leadership and the like and I think that is something they expect to happen. They expect to be held up in their industry as the standard to arrive at.”

Chris: “In BB, we see a lot of organisations are keen to be the first to get the standard, and once an organisation has got it, we’ll see a lot of interest from their near rivals. It happened in aggregates, it happened with airports. They’re benchmarking themselves against each other most of the time. So there’s that kind of competitive element.”

This competitive element to achieve the standard set by others suggests that the leaders in an industry determine best practice, and that others subsequently have a desire to achieve it. Alex also commented on this, saying that leading companies like to meet other companies and let them know they have the award, almost as a badge of honour.

Alex: “It’s also quite a nice thing that they seem to like to meet other companies and tell them that they’ve got this award and why hasn’t the other company, so it’s almost like a kudos that they’ve achieved this standard.”

Mike also acknowledged the competition between industries to achieve best practice and called out the aggregates sector as “the most obvious one”.

Mike: “I know there is an element of competition between some of the industries. The aggregates [sector] is probably the most obvious one. Aggregates Company X and Aggregates Company Y have the BB and they may be keeping an eye on what each other is doing and I can see there being a bit of competition within that industry.”

Chris summed this up, explaining the critical questions that he believes have driven some organisations to undertake the BB: “Where do we go next? What are others in our industry doing?”

Chris: “Where do we go next, what are others in our industry doing? That's probably what at the end of the day is motivating the organisations to go into the standard.”

For the frontrunners, being seen as leaders in their industry and, for the followers, achieving best practice are therefore potential business benefits that businesses might hope to achieve by undertaking the BB.

3.3.3.3 Benefits: Competitive advantage

This category connects closely to Leadership above in Chapter 1.3.8 in the sense that the competitive advantage that a company might enjoy as a result of achieving the BB would potentially be one of the outcomes of a company being a leader, or benchmarking itself against a leader. The preliminary codes were refined down to three codes through the analysis process, as follows:

1. Product/service differentiation
2. Winning contracts
3. Improving customer satisfaction

As Chris explained, and as is discussed in more detail in Risk Management in Chapter 3.3.3.4 below, increasingly competitive business environments and limited access to scarce resources – especially in the case of extractive aggregates companies – are driving companies to seek product and service differentiation and improved customer satisfaction in order to advantage themselves and win contracts. The benefit of brand differentiation was supported in the literature by Hanson *et al.* (2012) and, indirectly, by O’Gorman

(2020) (Hanson et al., 2012; O’Gorman, 2020). In the course of the assessor interviews, these issues emerged repeatedly, particularly from Chris and Stephen, who have the most significant overall interaction with companies undertaking the BB. As Chris explained, product or service differentiation is important to companies because they want to be seen by clients as having a benefit “over the guy down the road, and hopefully [the client will] pay a premium for that benefit”.

Chris: “I think they expect - and I'm talking quite generally here – I think different companies have different expectations - I think that they think they're going to differentiate their products. If you think about someone like a business park, they're really looking to create places that stand out from the crowd. I think they're hoping for if not expecting that their clients are going to see that as a benefit over the guy down the road, and hopefully pay a premium for that benefit.”

He went on to explain how competitive business environments drive businesses to seek to differentiate themselves against the competition: “Any edge you can get over the competition is going to be absolutely crucial.” He gave the example of aggregates, and how having “a good track record of managing the natural environment” can stand companies in good stead.

Chris: “...in a competitive environment like this, any edge you can get over the competition is going to be absolutely crucial. If as an aggregates company, for example, you can show that you have got a good track record of managing the natural environment around your land resources and restoring those places back to nature at the end of your time on them, that's going to stand you in very good stead.”

Chris and Mike both cited examples of companies who have won contracts “on the back of their biodiversity credentials”. Mike said that the best examples of this are in the aggregates sector, and Chris also gave an aggregates example. It is possible that the aggregates sector is uniquely likely among the BB company sectors to see material business benefits in the area of competitive advantage, since their interactions with local authorities and public bodies are at either end of the value chain: they need planning

permission for aggregate extraction, and the contracts to supply the processed aggregate are often for road building schemes being lead by local authorities or other public bodies. If the BB does help companies win contracts, the company would likely class this as an important business benefit. The idea of improved relationships with regulators is a related business benefit, which is discussed below in Chapter 3.3.3.4.

Chris: "One of our clients, Aggregate Company X, has won contracts on the back of their biodiversity credentials in (location). So it's obviously quite valuable in product differentiation."

Mike: "The best example of that business impact is within the aggregate companies, being able to secure successful contracts for their products."

Mike: "Certainly it has been said to me during the audit that the BB has helped those companies to secure contracts or to provide material for major road building schemes. The fact that they can, that the aggregate is coming from sites that have BB has helped them win the contract."

Another dimension to the Competitive Advantage category was the idea of improved customer or client satisfaction being a potential business benefit. This is of course connected to the idea of winning contracts, since it stands to reason that a more satisfied customer whose expectations are met or exceeded by a company is potentially more likely to award a contract. While this did come up in the literature review through ideas around changes in customer preference (Hanson et al., 2012; World Economic Forum, 2010), only Stephen alluded to its importance in the assessors' interviews, and even then it was quite an indirect reference. As illustrated in the below extract, Stephen notes that the companies that have been the "best organisations" in relation to the BB have been those that have been motivated to take action by their own customers where, "If you don't get it, you're off our books!" is the underlying message. This suggests that in Stephen's experience at least, customer satisfaction has been a driver. It can therefore be deduced that achieving it could be considered a business benefit by companies undertaking the BB.

Stephen: "Because I like to work with clients who I think are going to achieve the project, I sort of do effectively them and select them – especially in the early days and still now – I don't want to be associated with a project that fails. So I'll be looking to see their commitments and if they're providing the necessary resources and good individuals to work with. What became pretty clear is that the best organisations have been those that have been driven by customers, big customers. Where if you don't get it, you're off our books."

3.3.3.4 Benefits: Risk management

The risk management category encompasses a broad range of topics and ideas from the perspective of a business's exposure, and crosscuts with many of the issues already discussed in this chapter. For the purposes of this section, risk management was interpreted primarily in the context of planning permissions and legal compliance. The six codes that emerged from these data included:

1. Improved regulatory compliance
2. Improved relationships with regulators
3. Access to permits & permissions
4. Meeting shareholders' expectations
5. Preparing for future legislation
6. Improved internal processes

Risk management was strongly emphasised in both the academic and grey literature, with specific reference to all of the codes that arose from the data. These included access to resources (Hanson et al., 2012; World Economic Forum, 2010, 2020), which connects to access to permits and permissions; regulatory compliance (Boiral & Heras-Saizarbitoria, 2017b; Thomas Smith et al., 2019), which connects to the code of the same name; fines, fees and lawsuits in increasingly tight regulatory environments (Hanson et al., 2012; World Economic Forum, 2010, 2020), which connects to preparing for future legislation; access to

planning permissions, permits and licences (O’Gorman, 2020), which connects to the code of the same name; better relationships with government stakeholders (Boiral & Heras-Saizarbitoria, 2017b; O’Gorman, 2020), which connects to improved relationships with regulators; meeting shareholder expectations (O’Gorman, 2020), which connects to the code of the same name; and improved operational efficiencies (Hanson et al., 2012; Thomas Smith et al., 2019), which connects to improved internal processes.

All of the assessors alluded to better risk management being a business benefit that could potentially arise from having undertaken the BB. Chris encapsulated the issue, stating that “a lot of companies ... are waking up to the fact that there’s a natural capital risk in their supply chain”, and that this is one of the reasons he believes businesses are interested in the BB. As outlined in the literature review, natural capital risk can manifest in multiple guises throughout an organisation, and given the upward trend in public environmental awareness, consequent legislative trends, and the biophysical impacts of climate change and biodiversity loss, natural capital risk is becoming increasingly material to companies.

Chris: “Then there’s a risk management element to it as well - a lot of companies on a strategic level are waking up to the fact that there’s a natural capital risk in their supply chain.

Regulatory compliance was a risk management topic referred to during conversations with four of the six assessors. Assurance, according to Chris, is a key issue – especially in the nuclear industry. He explained how the external verification that the BB delivers was especially valuable in a corporate culture of compliance. Stephen attributed this aspect of the BB’s strength to “the experienced eye of the ecologist who sees things in terms of systems”.

Chris: “Assurance is a key one, particularly the nuclear industry. They are very, very driven by compliance. They’ve got a culture of compliance in the organisations, so they really value the external verification.”

Stephen: "I'd like to think that part of it is that actually, they've got ecologists going over their site or a sample of their sites every year, and spotting stuff and improving their systems and enabling them to improve their system and keep compliant. Without that, there could be things that they're missing, as good as their system is, that the experienced eye of the ecologist who sees things now in terms of systems, that actually that once a year activity is protecting biodiversity and protecting the business from possible prosecutions. It's keeping them compliant, and helping to protect biodiversity."

Charlie explained how she did not think that businesses she had interacted with realised the extent to which the scheme helped them ensure legislative requirements are met. She gave the example of her experience at Airport Y, where she had identified a significant case of non-compliance: "It was quite a big issue for them, they had to contact the local authority and discuss it and develop new proposals for it to go ahead. It was a big thing." Charlie then went on to explain how as a result of doing the BB, Airport Y now have "a really good system" to monitor planning conditions. "I think that's a really big benefit ... It's very valuable to the company." Jamie echoed Charlie's comments, saying that companies he has worked with begin to realise the value of the BB once they have seen the extent to which planning conditions and legal compliance are tested: "We do pick up legal compliance issues that they've missed. That's a huge thing to business because it minimises risk."

Charlie: "...at Airport Y at my audit, we found that they'd had a big planning application and the work had gone ahead and I was going through the conditions of planning to see if they'd done what they'd said they were going to do, but they hadn't and I had to pull it up. It was quite a big issue for them, they had to contact the local authority and discuss it and develop new proposals for it to go ahead. It was a big thing. They didn't want to go to the local authority and admit what they had done. We made the decision that we couldn't give them the BB if there were these planning conditions unmet, but in the end they did sort it out and they got the BB."

Charlie: "One big one that I think businesses don't realise or they don't think of, because they come into it for the PR, but it's to do with legislation - we help them ensure that they meet the requirements around the legislation. Airport Y have now got in place a really good system for how they monitor their planning conditions and check that everything is done. We set up the

system to help them meet their legal requirements. So I think that's a really big benefit that I don't think they always realise before they start. It's very valuable to the company."

Jamie: "Sometimes it's a legal issue... once they've got the BB, they realise that we do test things like planning conditions and legal compliance, and they begin to appreciate... Because we're honing in on a particular area we are spotting the things that perhaps others haven't. We do pick up legal compliance issues that they've missed. That's a huge thing to business because it minimises risk."

Another risk-related benefit that emerged indirectly from the data was the idea that doing the BB might lead to companies having better relationships with regulators. This idea connects to other codes under the risk management category, specifically around having a smoother planning permission application process, but was seen to be slightly different and worth dealing with separately as it describes a nuance best expressed by Charlie. As shown in the below extract, she explains how a BB audit at Airport Y (also cited above) revealed a non-compliance issue. For the purposes of this code, the important issue is how the Local Authority reacted: "Even though they hadn't done the exact planning requirements, they put forward the management plans for the land that they'd done for the BB and said, 'We haven't done that, but we've done all these other things, are you happy to accept that instead of doing those conditions?' and the Local Authority accepted it." This example is surprising, in that the Local Authority essentially accepted the company's voluntary activities as a substitute for a planning requirement, suggesting that they had a level of satisfaction in the work that the company was undertaking, and – potentially – even a level of trust. This indicates that the BB may have led to an improved relationship between the Local Authority and the company, as it is reasonable to expect that there would have been a discourse or conversation around the company's voluntary biodiversity management plans that is perhaps less likely to have occurred had they not done the BB.

Charlie: "We made the decision that we couldn't give them the BB if there were these planning conditions unmet, but in the end they did sort it out and they got the BB. What was the local authority's reaction? I don't know, but in actual fact the process of going forward to get the BB meant that they had really good management plans in place for the whole sites and they were doing loads of enhancement work, so even though they hadn't done the exact planning requirements, they put forward the management plans for the land that they'd done for the BB and said, 'We haven't done that, but we've done all these other things, are you happy to accept that instead of doing those conditions?' and the local authority accepted it."

Four of the assessors agreed that the BB has potentially supported companies in gaining permits and permissions from Local Authorities because, as Mike put it, "the fact that they've got the BB at one site and can demonstrate that for X number of years that they have been protecting and enhancing wildlife, that when they come to apply for a similar thing at another site they have that record, that history, of performance that will stand in their favour". Chris was confident on this point, saying that the Wildlife Trusts have seen biodiversity credentials being "really, really strongly expressed in planning applications. That is helping planning applications, absolutely no doubt about that."

Chris: "The other one is land use - getting back to this idea that access to land is highly competitive and we've seen scenarios in which biodiversity credentials are being really, really strongly expressed in planning applications. That is helping planning applications, absolutely no doubt about that."

Jamie: "I'm sometimes aware that companies going in for BB are putting sites in for BB because of a sideways issue - they think it will help because, for example, they're putting an application in for a quarry or an extension of a runway or something, and obviously having good BB credentials which they wave around in their planning applications, etc., to show that all their concerns about biodiversity are going to be followed up."

Mike: "I suppose if they've already got the BB that will probably make it easier for them to get planning permission for extensions or even, yes, if it's a new site, the fact that they've got the BB at one site and can demonstrate that for X number of years that they have been protecting and enhancing wildlife, that when they come to apply for a similar thing at another site they have that record, that history, of performance that will stand in their favour."

Jamie, Charlie and Chris all said that they had seen examples of companies enjoying this benefit in the course of their work. Chris recalled one instance in detail that connects strongly to community engagement, which was discussed earlier in Chapter 3.3.3.1. In this example, he explained how being able to “anticipate and address [community] concerns very, very early in the planning process” and having “a much better relationship with [the community]” can potentially help to mitigate issues that might have otherwise arisen in the planning process. With people living “cheek by jowl” with development in the UK, getting planning permissions through can be a “torturous process”. He gave an example of a company that is not in the BB, but which undertakes similar types of community engagement, and said that he was told that a recent planning application “went straight through with absolutely no trouble whatsoever”. He seemed quite confident that better access to permits and permissions could at least partially be attributed to a company mitigating local people’s concerns by having a “good relationship with the community based around the way you manage the land”.

Charlie: “Maybe they're also expecting things like when they apply for planning permission for things in the future that if they've got the BB, it's a slightly smoother process with the Local Authorities. For example Company X had to get permission for their new site, so maybe they expect that.”

Jamie: “There are occasionally instances when you see the company using it to show their credentials to their planning applications, et cetera.”

Chris: “Then there is community engagement element ... Now this all goes back probably to the land access and planning and if people understand what you're doing on site and that you are doing good stuff on site, so A) you're in touch with them so you can anticipate and address concerns very, very early in the planning process, and B) you've got a much better relationship with them so you're potentially not going to get some of the issues that you might get through the planning process. I was just talking to a company, they're not in BB, but they were saying they've got their planning application for a site where they were doing this is kind of community engagement and it went straight through with absolutely no trouble whatsoever. Because we're so densely populated in the UK, people live cheek by jowl with development, and getting planning applications through is a torturous process because there is usually a lot of community

concern. But if you have a good relationship with the community based around the way you manage the land, perhaps those concerns aren't quite as big a barrier as they might have been."

Another way in which assessors felt companies benefitted from the BB was through improved internal processes. Chris mentioned that the BB made for better internal communications between staff and, as already discussed above, most of the assessors felt that it had improved environmental management processes, especially around surveillance and monitoring, to ensure compliance with regulatory requirements. As Charlie pointed out, the BB asks organisations to follow set procedures to articulate biodiversity goals. This, she suggested, is a better process than "them just going out with a limited budget and doing what they think".

Chris: "What the standard does is it encourages communication and actually requires really good internal communication processes about what you're doing."

Charlie: "I would say it has massive impacts on biodiversity because what it asks organisations to do is go through a very clear process and go through your site, do data searches and get all the information, then look at what's important at a local, national and international level, and from that get really clear objectives and targets so that the work they end up doing on the site is really focussed towards what's really important. Rather than them just going out with a limited budget and doing what they think, it's really focused and so can give massive benefits for biodiversity. The monitoring side of it as well is checking that it's working as well and making changes where it isn't."

Although it was only raised briefly by one assessor, the potential benefit of the BB being of interest to shareholders who ask their companies about responsible business was considered worth including as another aspect of risk management because it featured prominently in the literature review as a potential business benefit of sustainability, especially in terms of access to green finance for companies. The point was speculated on by Alex in response to a question on who the key audiences for the BB might be. He

replied: “I think that it's shareholders, communities, customers, employees... Shareholders are saying, what are you doing against your responsibilities? It's everyone really.”

The final higher-level code included in the Risk Management category was the benefit of being prepared for future legislation. Again, only one assessor referred to this issue during, but given the findings of the literature review and the fact that this opinion came from the individual with the most experience of the BB and participating companies, it was considered an important topic to include in the final list of higher-codes that would ultimately be put to participating businesses in the online survey. Chris explained that policy trends around economic valuation of habitats, biodiversity offsetting and compensation schemes are “probably in the background and very ... influential factors in the way that business is thinking”.

Chris: “Looking at the legislative side of things and things like biodiversity offsetting and things like the pricing of wild places and habitats and offsetting compensation schemes as well. There are those very strategic things that I don't think necessarily feed through directly into the motivation for embarking on BB, but they're probably in the background and very sort of influential factors in the way that business is thinking.”

3.3.3.5 Benefits: Employee engagement

The final category that was identified during the analysis was employee engagement. The BB encourages companies to work with their staff on biodiversity by recruiting them as volunteers, for example. Five out of the six assessors talked about the various ways in which the BB engages staff with biodiversity, and the benefits that that can bring to the company. The codes that emerged from the conversations were as follows:

1. Employee morale
2. Empowering individuals
3. Professional development of employees
4. Improved internal communication

5. Employee health & wellbeing

The literature strongly emphasises the business benefits of employee engagement through biodiversity initiatives, connecting the social and the ecological dimensions by helping staff to connect with their surroundings to improve health and wellbeing (Thomas Smith et al., 2019). O’Gorman (2020) suggested that “because local appropriateness is a prerequisite to a successful conservation project”, biodiversity projects are particularly valuable in generating a sense of ownership among staff at site-level, empowering individuals and boosting morale. She also suggested that by engaging employees in all aspects of the conservation project, the company can create a team that embraces all levels of skills, depths of interest and physical abilities in participation (O’Gorman, 2020).

The majority of assessors echoed these statements and were emphatic in their belief that employee engagement was a benefit of undertaking the BB, giving examples of employees who became involved in helping to create habitats and monitor biodiversity and, as Mike put it, “been delighted to be given the opportunity”. He went on to describe an example of a company that had invited its staff to take photos of wildlife for use by the organisation on staff noticeboards, websites and in publications. He also gave an example of staff making bird and bat boxes for use on site, in local schools and communities. Staff made up bird box kits, schools were invited to the site to assemble and number them, and staff erected the boxes and monitored them. Records were kept on the birds that nested and how many young they had, so when the children came back to visit the site, they knew which box was theirs and were able to see the results. It is likely that this kind of employee engagement also benefits the development of community relationships, as described in Chapter 3.3.3.1.

Mike: "There have been examples where staff have been asked or given the opportunity to record flora and fauna. And the staff I've spoken to who've been asked to do that have been delighted to be given the opportunity. Other staff have been given the opportunity to go out and take photographs of the wildlife which they can then use both for internal use such as on their staff noticeboards or public areas, internal or external publications, on the website, and in other ways. And there's also staff who may have a workshop which could be repairing things or in a garage repairing vehicles who have been able to make bird or bat boxes for to put up on the site or in local schools or communities. They make the kits, schools come in and the kids put the kits together to make the bird or bat boxes, and then if they're put up on the site, there are cases where the boxes are numbered, so each child has made a box and they've gone up on the site and when the children come back to the site they can see their boxes up on the site and also someone from the company will report on which birds nested in which box and how many young they had."

Such examples of employee engagement boost staff morale, according to the assessors.

Charlie felt that the BB's requirements to engage with and educate staff "definitely has an impact on staff morale". Mike echoed this sentiment, referring to staff's "self pride in getting the certificate". Chris also agreed, noting that staff can become "much more involved in the company itself" and "finding a much greater motivation at work".

Charlie: "There are requirements within the BB to engage with staff and educate them and I think that definitely has an impact on staff morale. A lot will get staff out on volunteer days as well to do practical work."

Mike: "The motivations for doing it may be personal. If it is senior management, they may want the company to have that recognition, but also for their staff to have some self pride in getting the certificate."

Chris: "It encourages the use of volunteers and often volunteers are coming from within the workforce so what you hear is that because organisations have gone through the standard, it gives them a really good opportunity to engage employees with what they are doing. And what they're finding is that employees are really, really interested in all this sort stuff. Like I said before most people have a very strong emotional connection to the natural environment and the opportunity to do something at a very large-scale for a lot of people is very, very attractive. So I think a lot of companies are finding that employees are really getting into this sort of stuff and really engaging with it and in some cases staff are becoming much more involved in the

company itself and the company initiatives, finding a much greater motivation at work in a lot of ways because, 'Well, I work for a company that is doing this and they're involving me in this and isn't that great'."

The motivation that Chris mentioned connects to the next code, which is around the empowerment of individuals. Because the BB is often led by individuals who are passionate about nature and biodiversity (as outlined in Chapter 3.3.2.7), assessors felt that this opportunity for leadership had empowered them. According to Jamie, this was “a side that isn’t talked about a lot” despite having “a huge impact, a positive impact” that is “of enormous benefit to the individuals involved in the process”. Stephen also referred, albeit indirectly, to this sense of individual empowerment, citing examples of reports he had seen where the BB assessors had reported seeing forklift operators or quarry managers taking responsibility for biodiversity on-site by altering their work regimes so as not to disturb habitats or species that had been identified through the BB.

Jamie: “I really think it does empower individuals. It's a side that isn't talked about a lot. If it didn't empower individuals, I think those organisations that have got the BB and continue with it, they would not as individuals continue with it unless they were forced to by the organisation, if they didn't want to.

Jamie: “On some sites it (employee engagement) has a huge impact, a positive impact. It's very much a way of staff showing what good they're doing, or of managers being able to show what staff are achieving, almost out of the confines of their own job. So it's of enormous benefit to individuals involved in the process. I think personally and to some extent in terms of their careers, it's slightly unsung. I think the gratification it gives the individual involved that someone's coming and taking notes...”

Stephen: “Anecdotally, I've a number of examples that I recollect over the years where assessors have reported directly to me and within their reports that they were delighted to see that forklift operators or quarry managers or whoever it might be were becoming actively engaged and showing manifest signs of looking after the biodiversity and altering maybe different work regimes around not disturbing local biodiversity that had been identified. So lots of examples, actually.”

Stephen went on to claim that, in some cases, the BB had even benefitted participating businesses by contributing to the employee's professional development and supporting their progression within the company. He referred to cases where an individual had "use[d] the BB as a means to expose themselves to the business and demonstrate how effective they [were] at managing and developing a system" and instances where the BB had been "a bit of a stepping-stone or a spotlight" in helping those individuals to progress their careers within the organisation. Mike also made this point, and gave a specific example of a mechanic in a workshop who "wasn't interested in moving up the [career] ladder" when he was invited to make bird boxes. According to Mike, he "enjoyed it so much that the management saw a change in his attitude to work and encouraged him to go on some training courses, and as a result he's now a quarry manager".

Stephen: "And one or two examples where – remember I talked about the passionate individual – actually that's positive in lots of ways, but one of the positive bits to that is that passionate individual can use the BB as a means to expose themselves to the business and demonstrate to the business how effective they are at managing and developing a system. There were one or two instances where people have progressed within the organisation, so BB has been a bit of a stepping-stone or a bit of a spotlight. So it develops the skills but it also gives them a chance to show off if you like to the business."

Mike: "There's one example in particular – there was one guy who was a mechanic in a workshop who was given the opportunity to make the bird boxes and enjoyed it so much that the management saw the change in his attitude to work, and encouraged him to go on some training courses, and as a result of that he's now a quarry manager. He wasn't interested in moving up the ladder so to speak, but the fact that he was given the opportunity of doing something different, which was as simple as making bird boxes and engaging with the children who came into the workshop, just gave him that kind of boost of confidence. So when management saw how well he was doing that and gave him the opportunity to go on to training, he took it and became a quarry manager, so that's probably the best example I've come across."

Another business benefit that assessors referred to was the benefit of improved internal communications processes. Chris mentioned that the standard encourages such practices,

while Mike shared an example of how improved signage, information on noticeboards, biodiversity bulletins on a company's intranet and training talks had led to increased staff awareness and engagement with biodiversity.

Chris: "The standard does is it encourages communication and actually requires really good internal communication processes about what you're doing."

Mike: "I've seen examples where the wildlife on the sites before BB would have been largely ignored and not appreciated by the staff. But through the BB process then they'll see signage appearing on noticeboards or on site, there will be internal communications on their intranet – biodiversity bulletins would be one example. There's training that they receive which is often on an annual basis and the trainer will probably have toolbox talks, so in the past there might have been an environmental toolbox talk talking about environmental pollution, or air quality for example, but now suddenly there will be a BB element to it, increasing awareness amongst staff of what's on the site and encouraging them to go out and look at it and encouraging them to take records or send in photographs. So there's much more engagement with the staff so they can see and appreciate the wildlife much more."

The final aspect of employee engagement was employee health and wellbeing. It was only briefly mentioned by one assessor, but was seen as important for discussion here due to its appearance in the literature review. In the context of a wide-ranging answer on his perceptions of the business benefits of the BB, Chris mentioned the cost to companies of poor mental health and sedentary lifestyles of employees, saying that "anything you can do to help businesses cut these costs is going to be of significant value". It is possible that, since the BB encourages staff to volunteer to monitor biodiversity, among other things, that it might lead to staff spending more time in nature, thereby potentially benefitting their physical and mental health. Likewise, the improvement in morale and professional development outlined above might also contribute to improved wellbeing.

Chris: "Drilling down into it is the cost to businesses of poor mental health, the cost of sedentary lifestyles, they're absolutely astronomical. And anything that you can do to help businesses cut those costs is going to be of significant value."

3.3.4 Barriers to business engagement

In contrast to the drivers above, the assessors expressed more certainty in their appraisals of the barriers to business engagement by using stronger language. The four main codes identified as barriers to business engagement and cited by the assessors were:

1. It is difficult
2. It is expensive (lack of finance, expensive, value)
3. It took a long time (slow process)
4. It was hard to secure senior management support (senior)

It should be noted that the conversation around barriers did lead to some crossover between barriers to engagement with the BB specifically and with biodiversity more generally, though these are in fact quite different issues since the barriers to BB were typically around its challenges as a system of management (e.g. the fact that it is a slow process that costs money and requires internal staff resources and time), while the barriers associated with biodiversity typically related to the practicalities of habitat management or data collection. Respondents had experience of both of these sets of barriers and reported them interchangeably. The extracts represented by the codes listed below typically came up in response to the question on barriers to business engagement with the BB and also in response to the question on biodiversity impacts and so the findings below include extracts given in answer to both questions.

3.3.4.1 Barrier: It is difficult

The BB being difficult was an idea raised by all of the assessors as a barrier to engagement. While the literature does not extend to the BB specifically, many studies reported biodiversity being an inherently complex topic for business and O’Gorman (2020) discussed the challenge of metrics, indicators and management plan development at

length (O’Gorman, 2020). Assessors were at pains to describe just how challenging, complicated and substantial the BB process was, and how businesses are usually not expecting it.

Jamie: “They don’t quite expect a Wildlife Trusts ecologist to be as thorough as they are. They probably expect someone to turn up in their sandals and have a chat, have a good look and sign it off. They’re not used to the thoroughness sometimes.”

Charlie: “One thing that they’re not expecting is that they don’t expect how rigorous it is. They have to put quite a lot of commitment in, in order to get the BB. Sometimes they’re not expecting that.”

Stephen: “I don’t think they get the power of BB to start with. I don’t think they realise how rigorous it will be. When they discover that, sometimes they drift away.”

The complexity of the process can “put off” organisations that were not prepared for it according to Chris, while Alex noted that the scale of the undertaking “can be disproportionate to the amount of land they have”. It was also suggested by Mike that the level of work involved has proven too much for the individuals tasked with implementing the scheme.

Chris: “It’s a big undertaking. It really is a big undertaking. Those who lack the commitment to go through all that tend to dropout - there are a lot of organisations who are put off by how challenging the standard is.”

Alex: “Sometimes [companies choose not to do BB because of] the effort required is disproportionate to the amount of land they have.”

Mike: “There have been instances where the amount of additional work required would have been overwhelming for the person who had responsibility for biodiversity on the site and, uhm, that could just be that it falls on their shoulders and they feel that it’s too much additional work to achieve.”

For some companies, that realisation did not come until they reached the audit phase.

Mike recalled an example where the level of non-conformance to the BB was so

substantial that companies had to carefully consider whether or not to continue. Charlie had a similar experience: when a rare plant species was found on a site, the company pulled out of the scheme.

Mike: "They have been audits where there has been quite a list of major and minor non conformances and, y'know, they've had to sit down and have an internal meeting and decide whether or not they're going to continue."

Charlie: "...they had some rare plant species on the site, and basically they were just letting the area scrub up and not doing anything about it to maintain these rare species, so I pulled them up on it. I think they thought it was more effort than they were expecting, so they pulled out, but apparently they might be thinking about coming back in again."

Stephen also recognised that the rigour of the standard can be "intimidating" to some companies, but also acknowledged that this was also something that a company might value, saying: "If you want the benefits, rigour is something you welcome." He also made the point that the rigour is unlikely to be diluted by the Wildlife Trusts, partly because "it's their reputation at stake". He notes that the outcome of this is that there are probably a limited number of organisations that will actually complete the BB process.

Stephen: "I think sometimes it can be the rigour. But it depends on how you view rigour. If you want something and you want the benefits, rigour is great and something you welcome. But on the other hand if you're looking for a soft opportunity to demonstrate you've fulfilled your policy commitment then rigour is intimidating and it's a difficult exam and you don't want a difficult exam. So I'm pretty sure, well I know perfectly well that the Wildlife Trust won't want to dilute the rigour, not least because of all the organisations that have gone through it, but also because it's their reputation at stake. So I think the tricky thing we have is what will possibly be a limited number of organisations that can see it through."

3.3.4.2 Barrier: It is expensive

Another reason given by four of the six assessors to explain the barriers to business engagement is the expense of it. This issue was not supported in the literature, rather the potential of cost mitigation and financial risk avoidance, as well as new economic

opportunities, were emphasised – albeit at a broader business level – and this barrier is specifically in relation to the BB (Boiral & Heras-Saizarbitoria, 2017b; Hanson et al., 2012; O’Gorman, 2020; Thomas Smith et al., 2019; World Economic Forum, 2010). Jamie, Charlie, Chris and Mike, however, all acknowledged that the cost of the BB is something that companies can struggle with. Jamie suggested that, in his experience of companies undertaking the BB, financial reasons are the main reason why companies drop out of the process, which disagrees with the statements in Chapter 3.3.4.1 regarding the difficulty of the BB being a common reason companies drop out. As Jamie has been working on BB for 10+ years and has audited 12 companies and “many more” sites, it is not clear why his experience is different.

Jamie: “The odd occasion people have dropped out, it’s been financial.”

Charlie: “Uhm, the main problems are just financial I think.”

Mike: “And there have been cases where pure finances have come into it, and they’ve not had that go ahead from above to spend the necessary amount of money.”

Chris expanded on this, explaining that he thought it was unlikely that the assessments are too expensive in and of themselves, rather it is “everything they have to do to get to assessment”.

Chris: “Others go away thinking it’s too expensive – probably not the assessments, but everything they have to do to get to assessment. It’s just going to be too expensive and they haven’t got the time, they haven’t got the money or they haven’t got the resources.”

Interestingly, he draws a connection between the costs involved in implementing the BB and the lack of economic incentive for doing so, giving the example that there is a clear cost per tonne of waste, so avoiding it demonstrates a clear business saving. “I don’t think that link is particularly clear [with biodiversity] all the time,” he says.

Chris: “The other reason I think it’s been on that pile is that the financial benefit to the company is just a little bit too disconnected from the actions involved. Waste, you pay £X for every tonne

of waste you cart of the premises, if you cut that there's a clear saving - it's the same with carbon and all the rest of it. I don't think that link is particularly clear all the time."

3.3.4.3 Barrier: It took a long time

The fact that the BB can take a long time was another barrier noted by three of the assessors. Again, this issue was not noted in the literature, aside from general comments about the challenges of engaging with biodiversity for businesses, but this barrier is specifically related to the BB. According to Chris, the average time between attending an introductory session and getting a certificate is 103 weeks – this claim was based on an analysis of BB accreditation processes that I did not have access to. This point was not expanded on in any great detail by the assessors, but may connect to the level of effort required to engage with the BB.

Chris: "103 weeks is the average time between attending an introductory session and getting a certificate. It's a long time."

Stephen: "The other thing that makes it problematic is that it takes quite a while from the standing start for organisations to see it through and be able to put the system in place that's going to meet the requirements for BB."

Charlie: "Commitment in terms of... Time and effort, I think. It's not just a tick box exercise."

3.3.4.4 Barrier: It was hard to secure senior management support

The final barrier cited by two of the assessors was the fact that participating companies can find it hard to secure senior management support. This issue was also cited in the literature as the challenge of engaging senior level support and answering the 'So what?' question (Convention on Biological Diversity, 2018a). It is also potentially connected to the other barriers since, without senior management support, sufficient budget and staff time will not be allocated to the project, both of which are necessary given the difficulty and complexity of implementing the BB.

Alex: "The other thing that I think is really key is that you need to have key members of staff at the company that want to achieve this. It has to be management-driven that they can put resources into the process. If you don't have a key member of staff that's keen to do it and you haven't got the support from management, it can sort of fizzle out, because there's quite a lot of work involved and people may be reluctant to take it on unless it's part of their job really."

Mike: "There are also situations where they personally are very committed, they know they would be able to make the changes and get the BB, and put the resources in, but they don't have the support of higher management."

Though not commenting directly on the need for senior management support, Chris notes that the change of staff and departmental restructuring that can happen in companies is a barrier and, it can reasonably be assumed, that senior management support would be critical to ensure the implementation of any voluntary scheme in such contexts.

Chris: "People change roles, budgets get cut, all sorts of things happen in an organisation. A lot of organisations go away from introductory workshops very enthused, very kind of, 'This is for us we're going to go for it'. But that member of staff moves on, Departments change, restructuring, all that sort of stuff."

3.3.5 Interpreting the findings against the research questions

In interpreting the findings, I sought to understand what insights the findings from the interviews could give on my research questions. This phase of the research sought to identify a longlist of potential business drivers, benefits and barriers, in order to test them with companies through the survey and follow up interviews. In that sense, this section was not designed to answer the research questions but rather to better understand the range of potential answers. Below is a reminder of the research questions:

1. What do business stakeholders think are the business benefits of voluntary on-site biodiversity management?
2. What do business stakeholders think drives businesses to engage with voluntary on-site biodiversity management?

3. What barriers do business stakeholders think exist for businesses in engaging with voluntary on-site biodiversity management?

I found that the interviewees presented differing levels of consensus on key topics.

Assessors displayed the highest agreement when talking at the category-level of business benefits that they perceived the BB-accredited companies to have enjoyed. In response to Research Question 1 on business benefits, all six referred to the Risk Management, Employee Engagement and Reputation categories and elaborated on key aspects with examples from the businesses they have worked with. These are clear business benefits from the perspective of the sample. Half spoke of issues or examples around the category of leadership, while only two elaborated on ideas around competitive advantage, though it should be noted that the two interviewees – Stephen and Chris – who spoke on this topic had had the most extensive engagement with companies and their roles were not focussed on ecology (Chris is the Corporate Relations Manager, Stephen is the independent quality assurance assessor). That interviewees would agree on broader, category-level topics is indicative of the generalised nature of their experiences with regards to these topics, but – perhaps unsurprisingly, given the cross-sectoral nature of the sample and the differing levels of engagement with BB companies within the sample – the narrower, refined codes had lower levels of agreement.

Areas with lower levels of agreement tended to be confined to the subsets of higher-level codes, but were included because they either agreed with the literature or were the strong opinion of Chris, the only interviewee who dealt with all of the BB-accredited companies before, during and after the accreditation process. These included the benefits of achieving best practice, improving employee health and wellbeing, meeting shareholder expectations, and preparing for future legislation. The low consensus in these areas can

potentially be attributed to the fact that these issues only relate indirectly to the BB and are beyond the scope of the majority of the assessors' interaction with a company.

Irrespective of levels of consensus, these findings are valuable in that they represent potential drivers that can be tested against the experiences of employees working at companies that have been certified with the BB.

In the Drivers section, which connects to Research Question 2, I found that there was mixed levels of consensus across the nine codes. One potential reason for this could be summed up with the quote "It's not a conversation that I tend to have". Nonetheless, there were some examples, namely the fact that the BB is endorsed by a recognised environmental group, though this could be attributed to a potential bias given that all interviewees worked for that group – likewise with the belief guarantees that companies are doing "proper conservation", which half of interviewees referred to. There was also a majority consensus around the fact that the BB is target-driven, which assessors believed appealed to businesses, and lower (half) consensus around keeping up with competitors and the importance of having a passionate individual on staff.

In exploring responses to Research Question 3 on barriers, I found that all six interviewees agreed that the difficulty and complexity of the BB was a significant barrier to business engagement with the scheme, though some noted that the level of rigour was necessary in order to ensure biodiversity outcomes and protect the Wildlife Trusts' reputation. There was less consensus regarding the other challenges, but again, given that the purpose of this phase of the research was to identify potential barriers, they have all been discussed here in order to facilitate their inclusion in the second phase of research, where I test these findings with the experience of BB-certified businesses' employees.

Through my analysis of the interviews, I noticed that the higher-level codes that emerged that could be considered against two key parameters for the purposes of explanation: internal/external perceptions of a business, and a business's internal/external objectives. The Venn diagram in Fig. 2.9 illustrates how the higher level codes were interpreted against these two overarching conceptual parameters. It does not illustrate any weighting to reflect the levels of consensus among the interviewees.

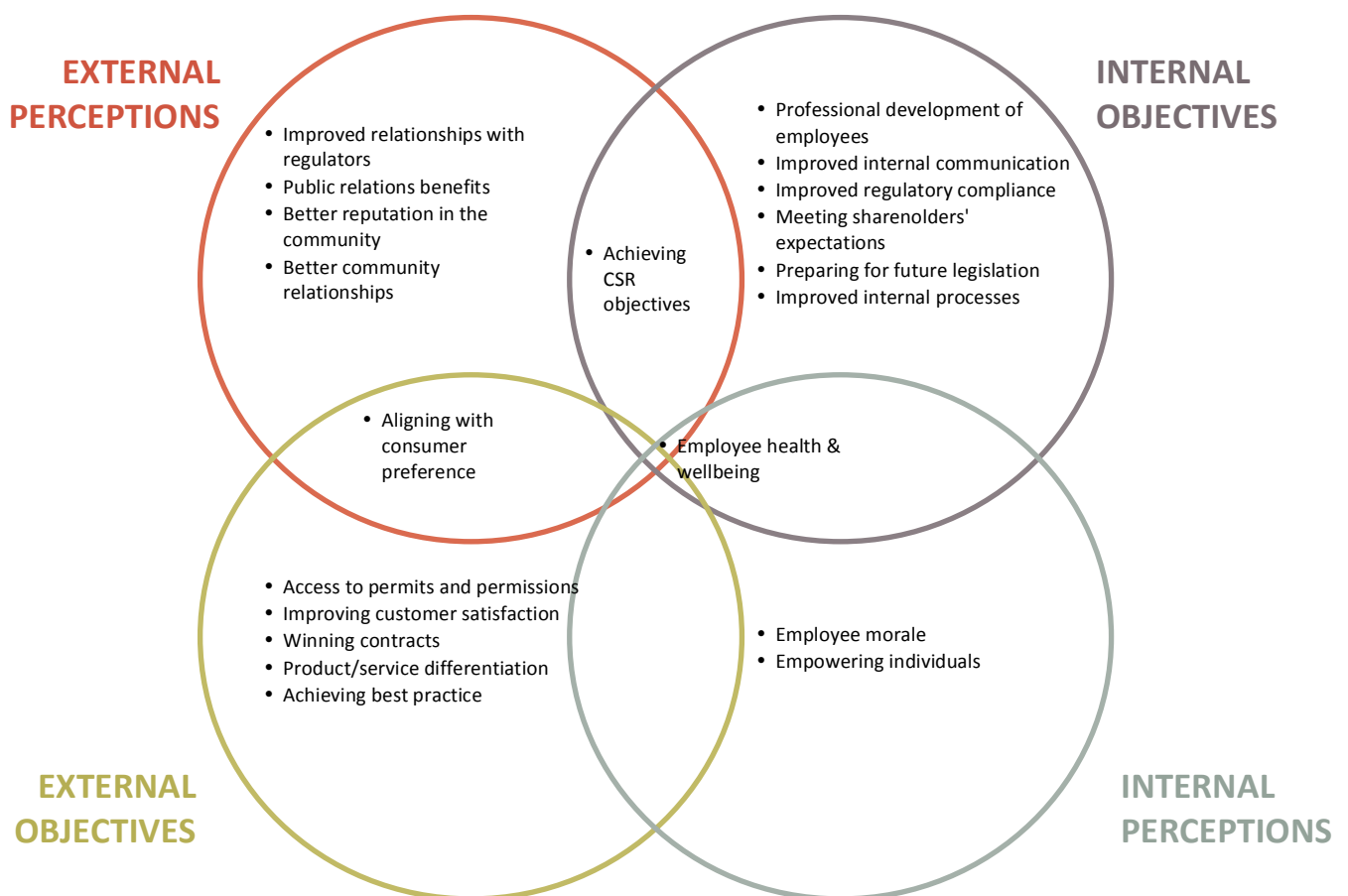


Fig. 3.2: The researcher's interpretation of the data in relation to two key conceptual parameters that emerged during the analysis

3.4 Conclusion

Assessors identified a range of potential drivers, barriers and business benefits to voluntary corporate conservation, many of which that are consistent with the literature. The drivers and benefits can be plotted in the context of two key axes: internal/external

perceptions, and internal/external objectives. To explore these findings in more detail in the next stage of this research project, I incorporated them into an online survey aimed at BB-accredited companies (Chapter 4). Through this, the assessors' perspectives were tested against the perspectives of individuals at the companies they work with, who have been involved in the implementation of the BB scheme.

4 Quantitative assessment of employee perspectives on the drivers, benefits and barriers to voluntary on-site biodiversity management

4.1 Introduction

This second phase of research aimed to investigate and test the potential business drivers, benefits and motivations identified by the Biodiversity Benchmark (BB) assessors through an online survey aimed at employees of companies that had been certified under the BB. I designed the survey based on the findings of Chapter 3 and built a website to host it. The link was circulated to staff at member companies and 18 completed surveys were recorded. Here, I present the methods and results of this process, and discuss them in the context of the literature.

4.2 Methods

I developed the survey by taking the codes and categories from the Phase 1 semi structured interviews and reformatting them into testable questions and statements. The

questions and statements were translated into an online survey using psychometric techniques familiar to social science. The survey was published on a website dedicated to the project and circulated to a defined population of individuals who worked for companies that had undertaken the BB. Eighteen responses were collected and the data were extracted and formatted using Excel. In this section, I explain each step of this process in detail.

4.2.1 *Developing the survey*

The codes and categories that I had identified through analysis of the semi-structured interviews with the BB assessors were translated by me into a set of questions and statements and inputted into Survey Monkey. The survey began with a mandatory declaration of consent that stipulated that the respondent was happy for their answers to be used for the purposes of the research (Fig. 4.1).

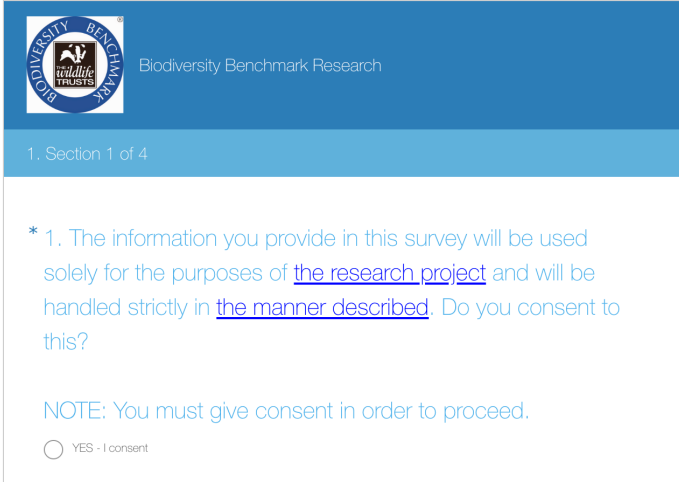
The image is a screenshot of a web-based survey interface. At the top, there is a blue header bar. On the left side of the header is a circular logo with the text 'Biodiversity Benchmark' around the perimeter and 'Wildlife Trusts' in the center. To the right of the logo, the text 'Biodiversity Benchmark Research' is displayed. Below the header bar, a light blue horizontal bar contains the text '1. Section 1 of 4'. The main content area has a white background. It begins with an asterisk followed by the text: '1. The information you provide in this survey will be used solely for the purposes of [the research project](#) and will be handled strictly in [the manner described](#). Do you consent to this?'. Below this text, a note in blue says 'NOTE: You must give consent in order to proceed.'. At the bottom of the form, there is a radio button followed by the text 'YES - I consent'.

Fig. 4.1: Declaration of consent in the online survey

The declaration of consent was followed by six questions on job title and function, company sector and number of sites, which were included to provide context to the respondent's answers and enable analysis against these variables. I sought answers in

either a closed yes/no format or an open question that invited the respondent to input text (Fig. 4.2).

The image shows a screenshot of an online survey form. It contains six questions, each marked with an asterisk. Questions 2 and 3 are dropdown menus. Question 4 is a radio button question with three options: 'One site', 'Multiple sites', and 'Other (please specify)'. Below the 'Other' option is a text input field. Questions 5 and 6 are text input fields. The SurveyMonkey logo is visible in the bottom right corner.

* 2. What is your company's sector?

* 3. Which of the following best describes your main job function?

* 4. Do you work on one site or across multiple sites?

☐ One site

☐ Multiple sites

☐ Other (please specify)

* 5. How many sites does your company have in total?

* 6. How many of your company's sites have achieved the Biodiversity Benchmark?

powered by SurveyMonkey

Fig. 4.2: Background questions in the online survey

Then came a series of four questions on the drivers and motivators of business engagement. For these questions, respondents were asked to check all the statements that they agreed with (Fig. 4.3).

* 8. What led to your organisation becoming interested in voluntarily improving biodiversity on-site? (Check all that apply)

- ☐ A passionate individual advocate within the organisation
- ☐ Our competitors had done it
- ☐ To meet Corporate Social Responsibility objectives
- ☐ To comply with legislation
- ☐ To invest in natural capital and ecosystem services
- ☐ Other (please specify)

* 9. What appealed to you about the Biodiversity Benchmark as a system for biodiversity management on-site? (Check all that apply)

- ☐ It's target-driven
- ☐ The process is similar to other management systems we use
- ☐ It's endorsed by a recognised environmental group (The Wildlife Trusts)
- ☐ It's a formal scheme with an award at the end
- ☐ It guarantees that we're doing 'proper' conservation
- ☐ Other (please specify)

powered by  SurveyMonkey

Fig. 4.3: Some of the questions on drivers and motivators in the online survey

The questions on drivers of engagement were followed by the main section of the survey, which presented questions on the business benefits: firstly, a set of overview statements was developed that related to the five categories, then each category was addressed in more detail with statements relating to the individual codes. In addition, seven potential business benefits that had emerged through the literature review but had not arisen in the interviews were amalgamated with the codes and categories as additional statements.

For each statement, respondents were invited to select their level of agreement using a Likert scale. Likert scales are rating systems commonly used in social science questionnaires to gauge respondents' perceptions, opinions or attitudes (Stockemer, n.d.). The scale I used was made up of five categories of response to reflect a wide range of opinions: strongly agree, agree, neither agree nor disagree, disagree and strongly disagree. A five-point scale was selected because it offers a greater variety of views to be represented than a more limited three-point range and does not deter respondents from selecting extreme categories, as has been reported in studies with larger scales (Willits,

Theodori, & Luloff, 2016). It also allows for a neutral response, unlike scales that have even numbers of categories. A ‘not applicable’ (NA) category was also included to allow respondents to skip the question if they felt they did not have sufficient knowledge to answer, and an optional open comment box was included at the end of each set of statements so that respondents could qualify their opinion, should they feel the need to (Fig. 4.4).

The screenshot shows a survey interface for 'Biodiversity Benchmark Research'. It is section 2 of 4. The question asks respondents to respond to five statements using a 7-point Likert scale: Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree, and N/A. The statements are:

- We engaged employees by improving biodiversity on-site
- Improving biodiversity on-site has helped us manage risk
- Improving biodiversity on-site has helped us be seen as leaders in our industry
- Improving biodiversity on-site has boosted our company's competitive advantage
- Improving biodiversity on-site has benefitted the organization's reputation

Each statement has a row of seven radio buttons corresponding to the scale options. The survey is powered by SurveyMonkey.

Fig. 4.4: Business benefits question in the online survey

At the end of the survey, respondents were asked whether they would be happy to be contacted again to a) hear about the results, b) to take part in further interviews, c) both, d) neither. They were then invited to input their email address, if they wished to be contacted. The full list of included questions and statements is presented below and, for the purposes of this chapter, has been split up into sections (this was not the case in the

survey proper). The questions/statements marked with an asterisk (*) emerged through the literature review, rather than in the assessors' interviews:

BACKGROUND QUESTIONS (Checkboxes and Open Comment)

1. What is your company's sector?
2. Which of the following best describes your main job function?
3. Do you work on one site or across multiple sites?
4. How many sites does your company have in total?
5. How many of your company's sites have achieved the Biodiversity Benchmark?
6. Please describe your role in Biodiversity Benchmark, within your organisation

DRIVERS OF ENGAGEMENT (Checkboxes)

7. What led to your organisation becoming interested in voluntarily improving biodiversity on-site? (Check all that apply)
 - a. A passionate individual advocate within the organisation
 - b. Our competitors had done it
 - c. To meet Corporate Social Responsibility objectives
 - d. To comply with legislation
 - e. To invest in natural capital and ecosystem services
8. What appealed to you about the Biodiversity Benchmark as a system for biodiversity management on-site? (Check all that apply)
 - a. The process is similar to other management systems we use
 - b. It is target-driven
 - c. It is endorsed by a recognised environmental group (The Wildlife Trusts)
 - d. It guarantees that we're doing 'proper' conservation
 - e. It is a formal scheme with an award at the end

9. Did you consider other biodiversity management options before choosing Benchmark? (Yes/No)
10. Has doing the Biodiversity Benchmark led to your organisation taking further action for biodiversity?
- a. Yes - in our local community
 - b. Yes - with our employees
 - c. Yes - in our supply chains
 - d. No
 - e. Yes - Other (please specify)

OVERVIEW OF BUSINESS BENEFITS (Likert scale)

11. We engaged employees by improving biodiversity on-site
12. Improving biodiversity on-site has helped us manage risk
13. Improving biodiversity on-site has helped us be seen as leaders in our industry
14. Improving biodiversity on-site has boosted our company's competitive advantage
15. Improving biodiversity on-site has benefitted the organisation's reputation

EMPLOYEE ENGAGEMENT BUSINESS BENEFITS (Likert scale)

16. Improving biodiversity on-site has boosted staff morale
17. Improving biodiversity on-site has benefitted employees' professional development
18. Improving biodiversity on-site has benefitted internal communication
19. Improving biodiversity on-site has empowered individuals within the organisation
20. Improving biodiversity on-site has benefitted employee health and wellbeing
21. Improving biodiversity on-site has helped us attract and retain employees*

- 22. Improving biodiversity on-site has helped improve trust within the company (i.e. stronger employee motivation and commitment)*
- 23. Improving biodiversity on-site has increased employee productivity*

RISK MANAGEMENT BUSINESS BENEFITS (Likert scale)

- 24. Improving biodiversity on-site has improved relations with regulators
- 25. Improving biodiversity on-site has helped us gain permits and planning permission
- 26. Improving biodiversity on-site has benefitted our regulatory compliance
- 27. Improving biodiversity on-site has helped us meet shareholders' expectations
- 28. Improving biodiversity on-site has helped us prepare for future changes in legislation
- 29. Improving biodiversity on-site has helped us to manage intangible assets*
- 30. Improving biodiversity on-site has helped us improve internal processes

LEADERSHIP BUSINESS BENEFITS (Likert scale)

- 31. Improving biodiversity on-site has helped us keep up with best practice in the industry
- 32. Improving biodiversity on-site has led to the company being recognised as a leader (e.g. winning awards, giving talks/presentations)

COMPETITIVE ADVANTAGE BUSINESS BENEFITS (Likert scale)

- 33. Improving biodiversity on-site has differentiated our product/service against competitors in the marketplace
- 34. Improving biodiversity on-site has helped us win contracts and/or clients
- 35. Improving biodiversity on-site has improved customer satisfaction
- 36. Improving biodiversity on-site has generated profits and growth*

37. Improving biodiversity on-site has helped improve trust outside the company (i.e. with business partners, suppliers, consumers and others)*

REPUTATION BUSINESS BENEFITS (Likert scale)

38. Improving biodiversity on-site has benefitted our public relations
39. Improving biodiversity on-site has helped us to fulfil our Corporate Social Responsibility objectives
40. Improving biodiversity on-site has improved our reputation in the community
41. Improving biodiversity on-site has improved our relationship with the community and local groups
42. Improving biodiversity on-site has reduced or eliminated pressure from NGOs*
43. Improving biodiversity on-site has helped us to align with consumer preference

BARRIERS TO ENGAGEMENT (Likert scale)

44. It was difficult
45. It was expensive
46. It took a long time
47. It was hard to secure senior management support

CLOSING QUESTIONS

48. Would you be happy to be contacted again in relation to this study?
49. If you are happy to be contacted, please enter your email address

4.2.2 Publishing the survey

In order to share the survey with respondents, I built a website using Weebly (Fig. 4.5).



Fig. 4.5: Homepage of the website created to host the survey and information about the project

The website featured basic information about the project, a contact form and a statement about how data would be stored (Fig. 4.6). Note that, at the time that the survey was open, it was anticipated that the project would be completed by September 2018. This date was later revised.



Fig. 4.6: Data privacy section of the project website

4.2.3 Inviting respondents

Representatives from companies participating in the BB were invited to complete the survey in a direct email from the Wildlife Trusts' Corporate Relations Manager on July 17th 2017. The email featured a link to the website and informed recipients that the survey would take around ten minutes. By October 31st 2017, nine respondents had completed the survey. Following an email conversation with the Corporate Relations Manager, the decision was made for the Wildlife Trusts to share the contact details of all of the BB company contacts with me so that I could approach them directly. A list of contacts at the 13 companies that were actively participating in the BB at the time was sent to me and, on January 15th 2018, each of the individuals was contacted – first by phone, and then by email. By March 18th 2018, a total of 18 respondents had self-selected to complete the survey. While this was a relatively low response rate that could potentially limit insights into the wider population of participating companies, I decided to close the survey and progress to analysis. Seven respondents had indicated that they would be happy to take part in further research, so I made the decision to follow up the surveys with a series of semi-structured interviews with those respondents (Chapter 5). By gathering qualitative data from the survey respondents, I expected to be able to cross-reference the survey responses with qualitative data provided by the interviewees and provide deeper insight into their perceptions and opinions.

4.2.4 Extracting and Formatting the Data

Having closed the survey, I extracted the data from Survey Monkey in a .csv file and organised them into an Excel file. The raw dataset showed each respondent's data on the vertical axis and the questions on the horizontal axis. Responses were given in words, for example "agree" and "strongly agree". My next step was to generate a second Excel sheet that would show individuals' responses to each question on separate rows, with key

information such as identification code, sector, job title and role in the BB, number of sites the company has, and the number of sites the company is managing under the BB as standard on each row. I also added an additional column 'QuantResp' to translate the written responses into numbers: Strongly Agree = 2, Agree = 1, Neither Agree nor Disagree = 0, Disagree = -1, Strongly Disagree = -2.

4.2.5 Analysing the Data

For the quantitative response background questions (Q1 – Q6), the data were visualised in pie charts to show the number of respondents per sector and the number of respondents per core job function, and in bar charts to show the number of respondents per the number of BB-accredited sites and the number of BB-accredited sites as a percentage of each company's total number of sites. For the questions on drivers of engagement (Q6 – Q10), responses were collected using checkboxes whereby respondents could select more than one option. The data were visualised using pie charts. For the questions that used a Likert scale (Q11 – Q47, Business Benefits and Barriers to Engagement), I visualised the overall data in violin plots and then by question in stacked bar charts, in order to breakdown the responses into the category of agreement on the X axis and the number of responses per sector on the Y axis. Violin plots were constructed using the R package "ggplot2" (Wickham, 2016). The violin plots show the kernel probability density of the data at different values. The original data points are also shown in the plots, with groups indicated by colour.

4.3 Results

4.3.1 Respondents' Backgrounds

Of the 18 respondents, the majority (seven) worked in the energy sector. The next highest-represented sector was transportation and storage (four). There were two respondents each from mining and quarrying; professional, scientific and technical; and 'other' sectors. There was one respondent from the water and wastewater sector (Fig. 4.7). Eight of the 18 respondents said that their main job function was ecology, while seven said it was environmental management. Of the three who selected 'other', the responses in the open comment box included "Regional Restoration Manager", "Biodiversity" and "Landscape and Biodiversity" (Fig. 4.7). The mode response to the question of how many of the respondents' company's sites had been accredited by the Biodiversity Benchmark was in the range of five to nine sites (nine respondents). There were four respondents for each of the extreme ranges (10+ sites and one site), while one respondent reported having two to five accredited sites (Fig. 4.7). In addition to the number of BB-accredited sites, respondents also reported the number of sites across their company in total. These data were used to calculate the BB-accredited sites as a percentage of total sites. They were visualised using a bar chart at 10% intervals. Nine of 18 respondents work for companies that have between 90% and 100% of their sites accredited by the BB – this was the mode response. At the other end of the scale, two respondents work for companies with less than 10% of their sites accredited by the BB (Fig. 4.7).

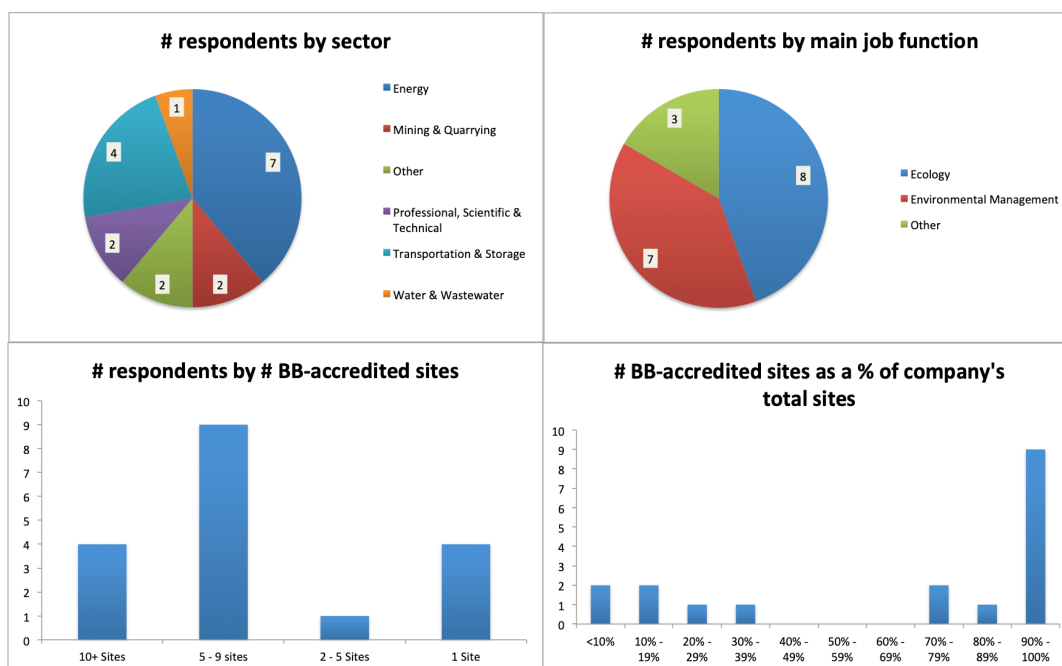


Fig. 4.7: Composite figure showing the number of respondents by sector, number of respondents by main job function, number of respondents by number of BB-accredited sites, and number of BB-accredited sites as a percentage of the company's total sites

4.3.2 Questions on drivers of engagement

Respondents were asked about the drivers/motivations for undertaking voluntary biodiversity management. The question enabled multiple responses to pre-defined drivers and offered an 'other' option with a comment box. The total number of responses was 37. The driver with the highest response count (12) was 'To meet Corporate Social Responsibility objectives'. This was closely followed by 'A passionate individual advocate within the organisation' (10). There were seven responses for 'To comply with legislation', five for 'To invest in natural capital and ecosystem services' and three for 'Our competitors had done it' – the lowest response count (Fig. 4.8). Nine respondents selected the 'other' option and inputted text to give examples of drivers such as the fact that biodiversity matters to the company (four), complying with and obtaining planning (three), and the company's internal biodiversity strategy (one).

Respondents were also asked about their motivations for undertaking the BB scheme specifically. Again, the question enabled multiple responses to pre-defined drivers and offered an 'other' option with a comment box. The total number of responses was 62. The driver with the highest response count (mode, 18) was 'It's endorsed by a recognised environmental group'. Both 'The process is similar to other management systems we use' and 'It's a formal scheme with an award at the end' drivers had a response count of 14. Ten responses were counted for the driver 'It guarantees that we're doing 'proper' conservation', and the lowest count (six) was for 'It's target-driven' (Fig. 4.8). Five respondents selected the 'other' option and inputted text to give examples. Three cited recognition of the work as a driver, one cited the fact that it is externally verified, and one gave the example that it helps to keep them focussed on proactive biodiversity management.

Twelve out of the 18 respondents did not consider alternatives to biodiversity management on-site before undertaking the BB scheme (Fig. 4.8). Of the six that said they did, five gave explanations as to what those other options were in the open comment box. They were generally not specific; one said, "looking to introduce a Biodiversity Management System as part of new Environmental Management System at all sites based on Biodiversity Management Plans", another said that "other options were considered", and a third said that they were unsure as it pre-dated their time at the company. Two said that the decision was taken at corporate level.

Sixteen of the 18 respondents said that the BB led to their organisation taking further action for biodiversity. Respondents could select more than one option. There were 13 responses for taking further action with employees, 11 for taking action in the local community, three for taking action in supply chains, and four for 'other', which required a

comment to explain. Some of the explanations were not relevant to the question, but one pointed out that “...all of the above is part of the BB” (Fig. 4.8).

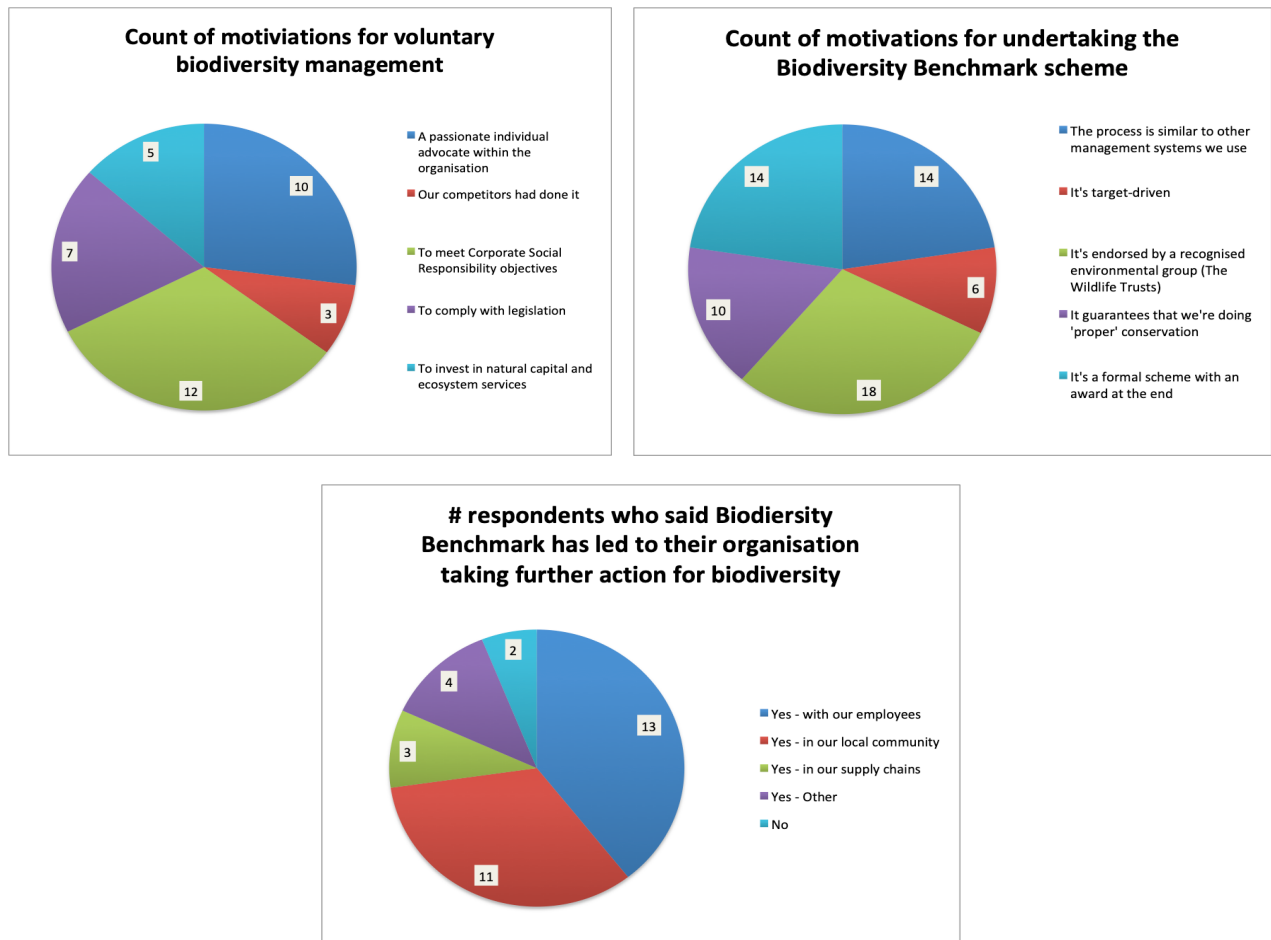


Fig. 4.8: Composite figure showing the count of motivations for voluntary biodiversity management, the count of motivations for undertaking the Biodiversity Benchmark scheme, and the number of respondents who had taken further action for biodiversity

4.3.3 Business Benefits: Overview Questions

The Overview Questions asked respondents to indicate their level of agreement with a series of high-level statements covering the five categories identified in the first phase of the research. All respondents agreed that they had engaged employees by improving biodiversity on-site, and the majority (17) agreed that improving biodiversity on-site had helped them to manage risk (Fig. 4.9). Only one respondent neither agreed nor disagreed

to the latter. Again, the majority (12) of respondents agreed that improving biodiversity on-site had helped them to be seen as leaders in their industry (Fig. 4.9). When it came to whether improving biodiversity on-site had boosted the company's competitive advantage, ten respondents gave a neutral response, whilst six agreed (Fig. 4.9). Finally, all respondents agreed, eight strongly, that improving biodiversity on site had benefitted the organisation's reputation (Fig. 4.9).

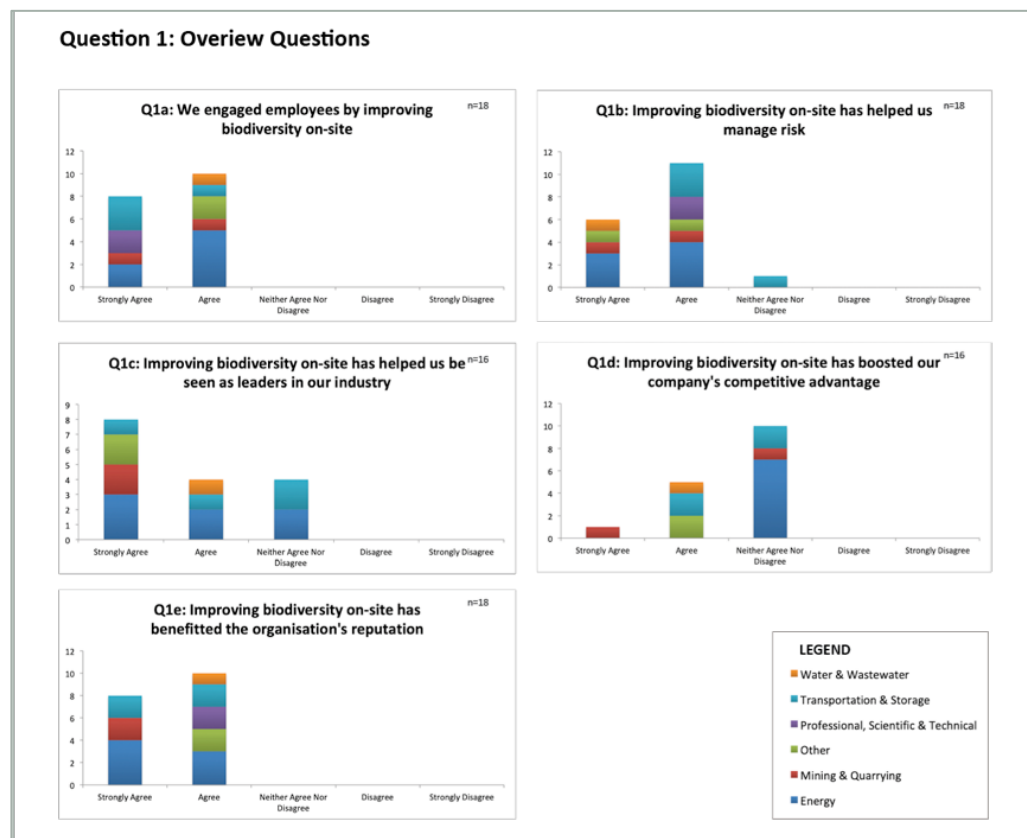


Fig. 4.9: Composite figure shows respondents' levels of agreement with each Overview Question. Colours in the stacked bar graphs represent respondents' sectors, as shown in the legend

4.3.4 Business Benefits: Visual Overview

The visual overview of the results of the business benefits per category and per sector (Fig. 4.10) shows that answers in all categories tended to be neutral to positive. The responses to questions about competitive advantage and employee engagement tended towards neutral, but leadership, reputation and risk management tended towards positive. There was no clear sectoral bias in responses.

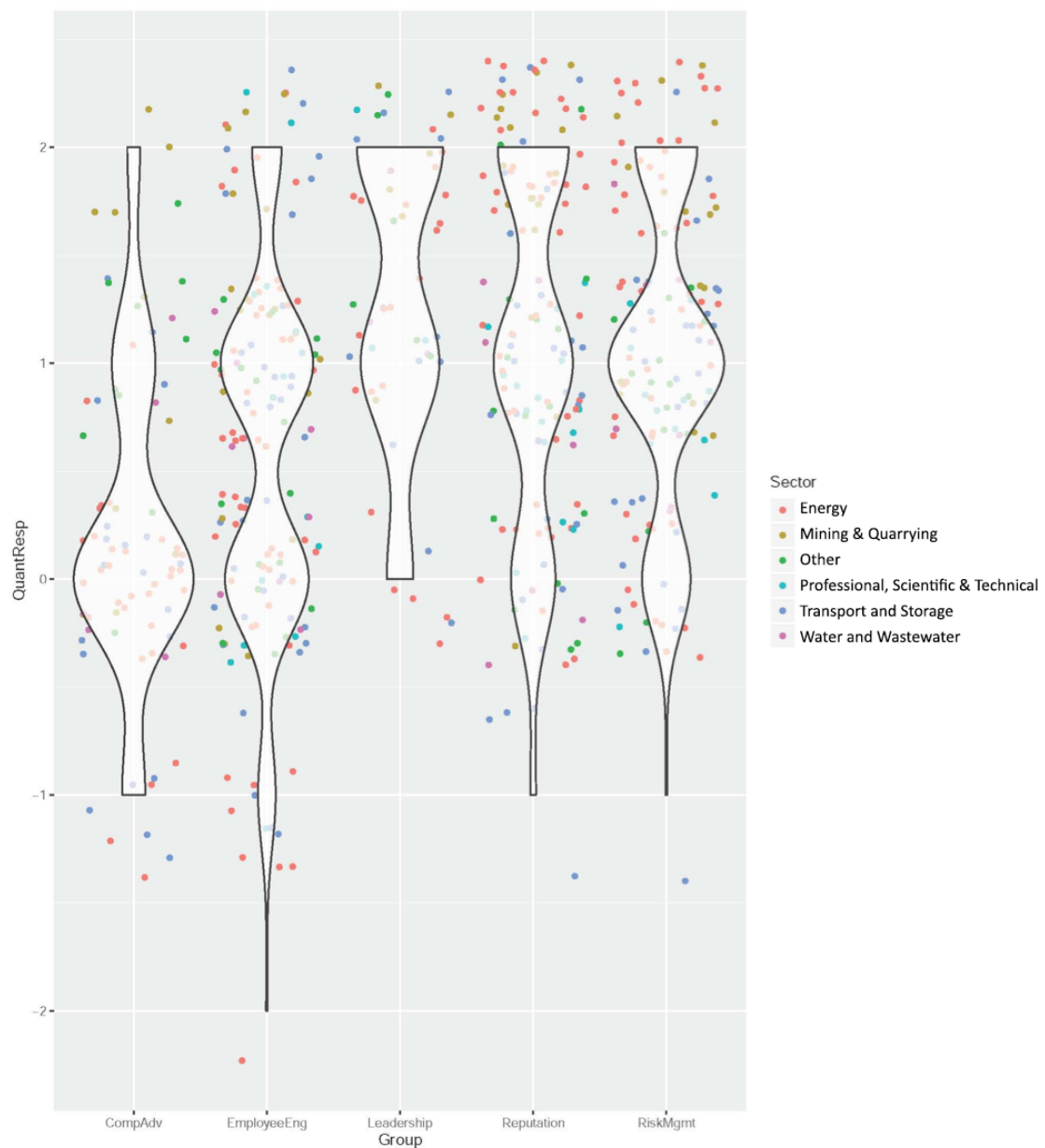


Fig. 4.10: A violin plot gives an overview of responses on the Likert Scale (from -2 strongly disagree, -1 disagree, 0 neither agree nor disagree, 1 agree and 2 strongly agree) in five groups of questions (competitive advantage, employee engagement, leadership, reputation and risk management). Sectors are also given as different colours (Wickham, 2016).

4.3.5 Business Benefits: Employee Engagement Questions

The Employee Engagement questions asked respondents to indicate their level of agreement with a series of more detailed statements covering the codes in the Employee Engagement category. The majority of respondents (12) agreed that improving biodiversity on-site had boosted staff morale, whilst five were neutral (Fig. 4.11). The

majority of respondents (nine) were neutral or agreed (six) that improving biodiversity on site had benefitted employees' professional development, whilst one respondent disagreed (Fig. 4.11). The majority of respondents (10) agreed and strongly agreed (three) that improving biodiversity on site had benefitted communication within the company, whilst one disagreed (Fig. 4.11). Seven respondents were neutral but eight agreed that improving biodiversity on site had empowered individuals within the organisation. This was the only question with which one respondent strongly disagreed (Fig. 4.11). The majority (12) of the respondents agreed that improving biodiversity on site had improved employee health and wellbeing (Fig. 4.11). There was less agreement on whether improving biodiversity on site had: helped the company to attract or retain employees (five agreed, four disagreed and eight were neutral); helped to improve trust within the company (six agreed, two disagreed and nine were neutral); and increased employee productivity (three agreed, three disagreed, 11 were neutral and one declined to answer) (Fig. 4.11).

In the Open Comment box at the end of the series of Employee Engagement questions, two respondents made remarks: the first expressed that, since their organisations is large and spread across multiple, diverse sites, it was difficult for them to accurately answer the questions. This respondent expressed that they "would like to think that the answer is 'agree' to most/all of the above" but did not have any means of demonstrating that hunch. The second respondent reported that they had chosen 'not applicable' for most of the above, again due to the lack of evidence, but suggested that they felt "sure many of the above do apply".

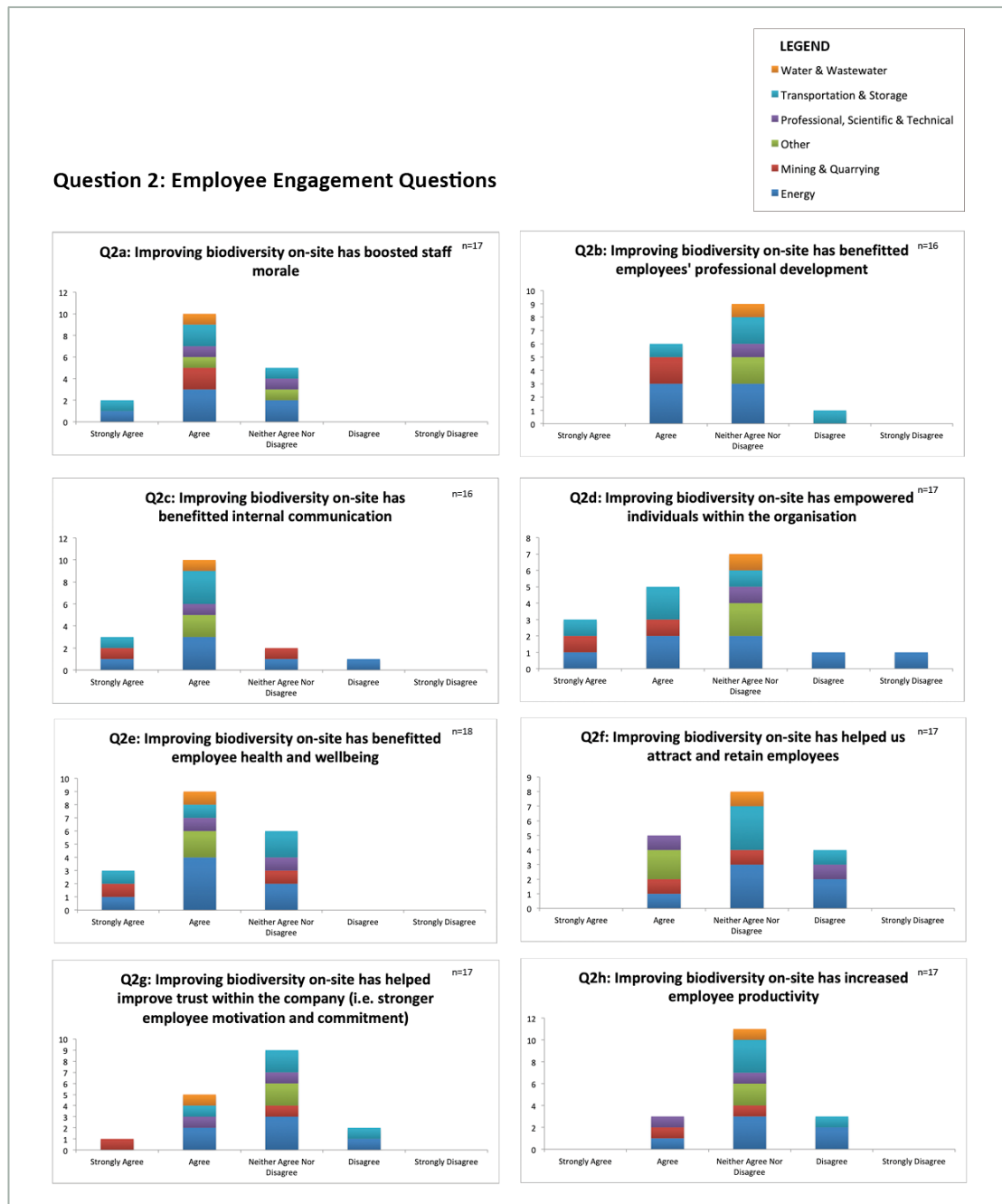


Fig. 4.11: Composite figure shows respondents' levels of agreement with each Employee Engagement question. Colours represent respondents' sectors, as shown in the legend

4.3.6 Business Benefits: Risk Management Questions

The Risk Management questions asked respondents to indicate their level of agreement with a series of detailed statements covering the codes in the Risk Management category.

The majority of respondents agreed to varying extents that improving biodiversity on site had improved relations with regulators; benefitted regulatory compliance, helped meet shareholders' expectations, helped manage intangible assets and helped improve internal processes (Fig. 4.12). Although the majority agreed, there were more neutral responses with regards to gaining permits and planning permission and preparing for future changes in legislation. One respondent disagreed that improving biodiversity on-site helped meet shareholders' expectations. No additional comments were made in the Open Comment box.

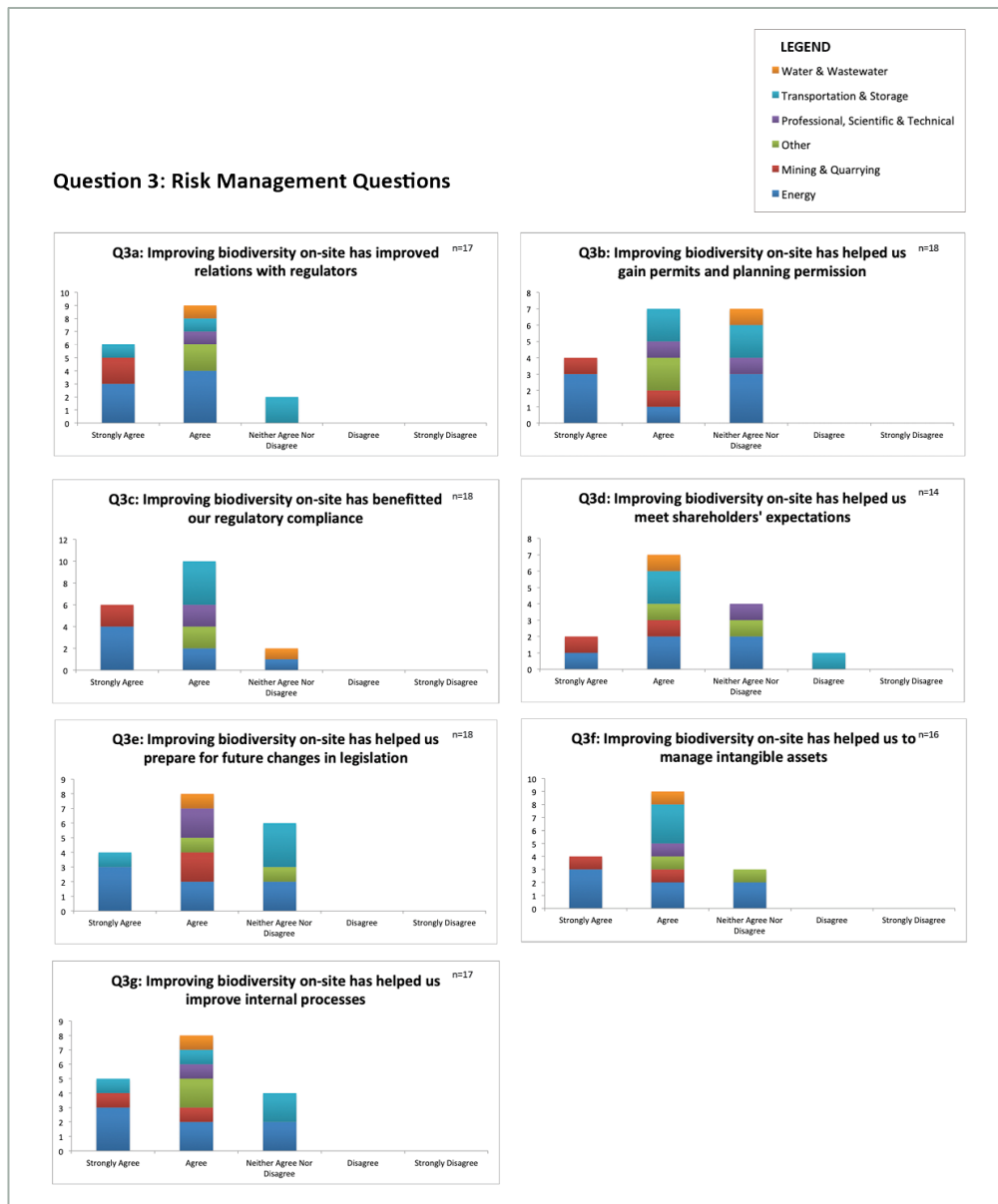


Fig. 4.12: Composite figure shows respondents' levels of agreement with each Risk Management question. Colours in the stacked bar graphs represent respondents' sectors, as shown in the legend

4.3.7 Business Benefits: Leadership Questions

Respondents were asked to indicate their level of agreement with two questions relating to the category of Leadership, as outlined in the first phase of research. Most respondents agreed (eight of them strongly) that improving biodiversity on site had helped the company to keep up with best practice in their industry. Similarly, most respondents agreed (seven strongly) that improving biodiversity on site had led to the company being recognised as a leader (Fig. 4.13). No comments were made in the Open Comment box.

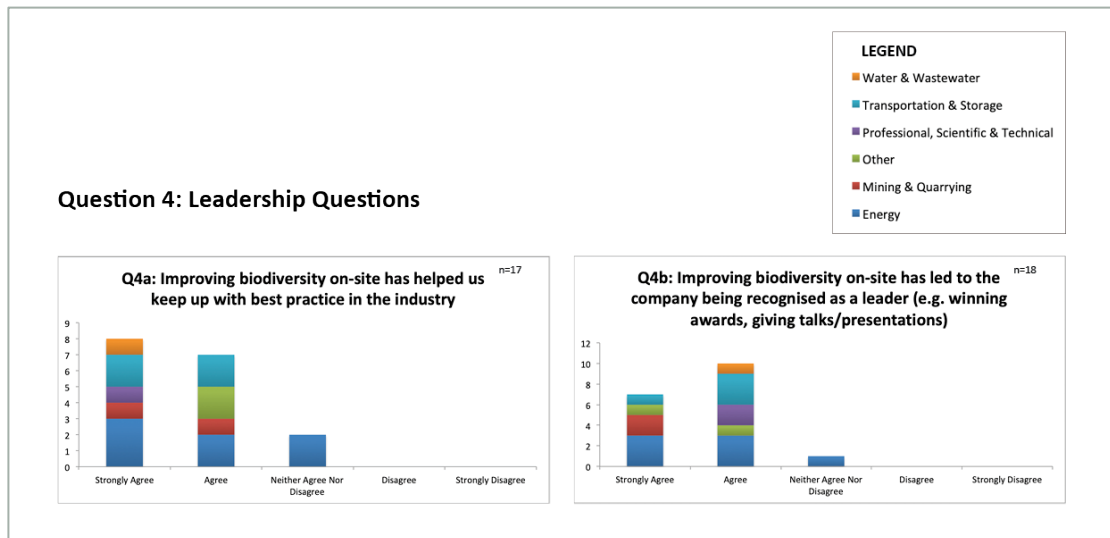


Fig. 4.13: Composite figure shows respondents' levels of agreement with each Leadership question. Colours represent the respondents' sectors, as shown in the legend

4.3.8 Business Benefits: Competitive Advantage Questions

Respondents also indicated their level of agreement with questions in the category of Competitive Advantage. There were many more neutral answers in this part: the majority of respondents (nine out of 16) neither agreed nor disagreed that improving biodiversity on site had differentiated their company's product or service against competitors in the marketplace, while six agreed and one disagreed (Fig. 4.14). The majority of respondents (nine of 15) were neutral that improving biodiversity on site had helped them to win contracts or clients, while two agreed and four disagreed (Fig. 4.14). Similarly, the majority of respondents (nine of 16) were neutral that improving biodiversity had improved customer satisfaction, while six agreed, and one disagreed (Fig. 4.14). Lastly, ten of 17 respondents were neutral that improving biodiversity on site had generated profits and growth, while four agreed (one strongly) and three disagreed (Fig. 4.14). No comments were made in the open comments box.

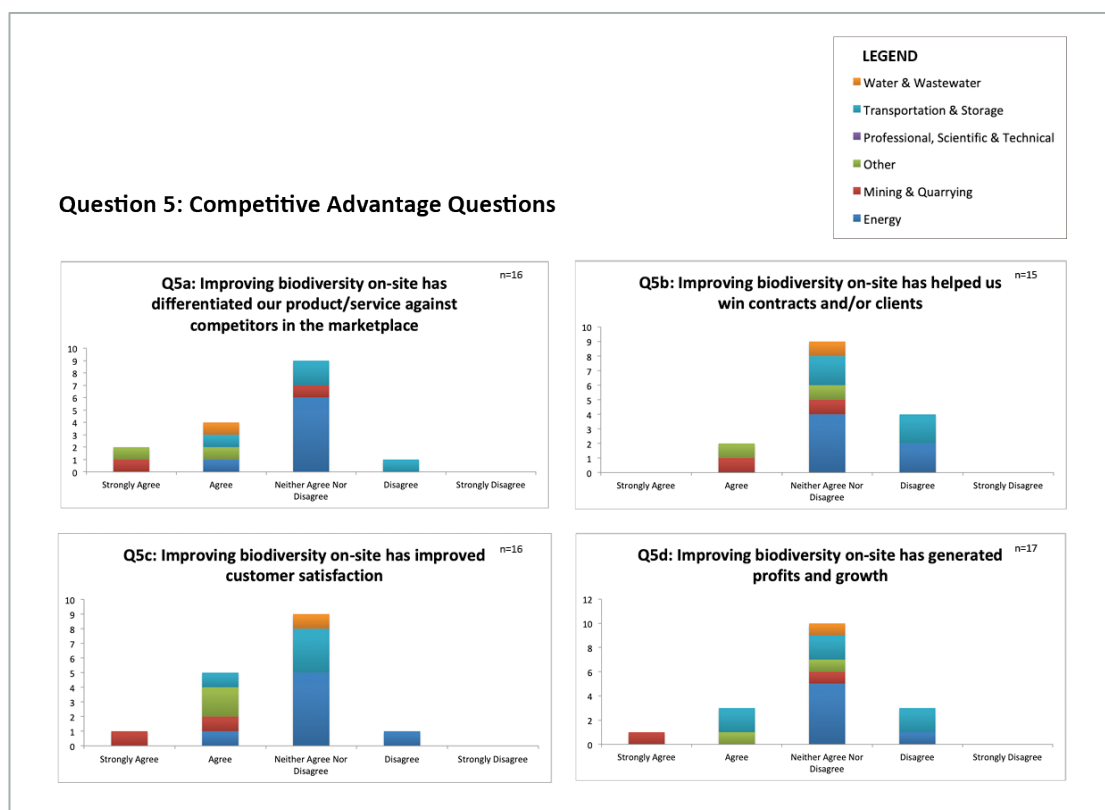


Fig. 4.14: Composite figure shows respondents' levels of agreement with each Competitive Advantage question. Colours represent respondents' sectors, as shown in the legend

4.3.9 Business Benefits: Reputation Questions

Most respondents agreed with the first five reputational questions. First was the idea that improving biodiversity on site had helped to improve trust outside the company. Thirteen respondents agreed (four strongly), and five were neutral. Fifteen respondents agreed (seven strongly) that improving biodiversity on site had benefitted the company's public relations. Seventeen respondents agreed (10 strongly) that improving biodiversity on site had helped the company to fulfil its Corporate Social Responsibility objectives. Fourteen agreed (seven strongly) that improving biodiversity on site had improved the company's reputation in the community. Fifteen agreed (nine strongly) that improving biodiversity on site had helped to improve relationships with the community and local groups (Fig. 4.15).

For the last two questions, the majority of respondents were neutral. With regards to whether improving biodiversity on site had helped to reduce or eliminate pressure from non-governmental organisations (NGOs), half of respondents were neutral, but seven agreed (four strongly) and two disagreed. Finally, the majority of respondents (10 of 18) were neutral on whether improving biodiversity on site had helped the company to align with consumer preferences, but six agreed and two disagreed (Fig. 4.15). No comments were made in the Open Comment box.

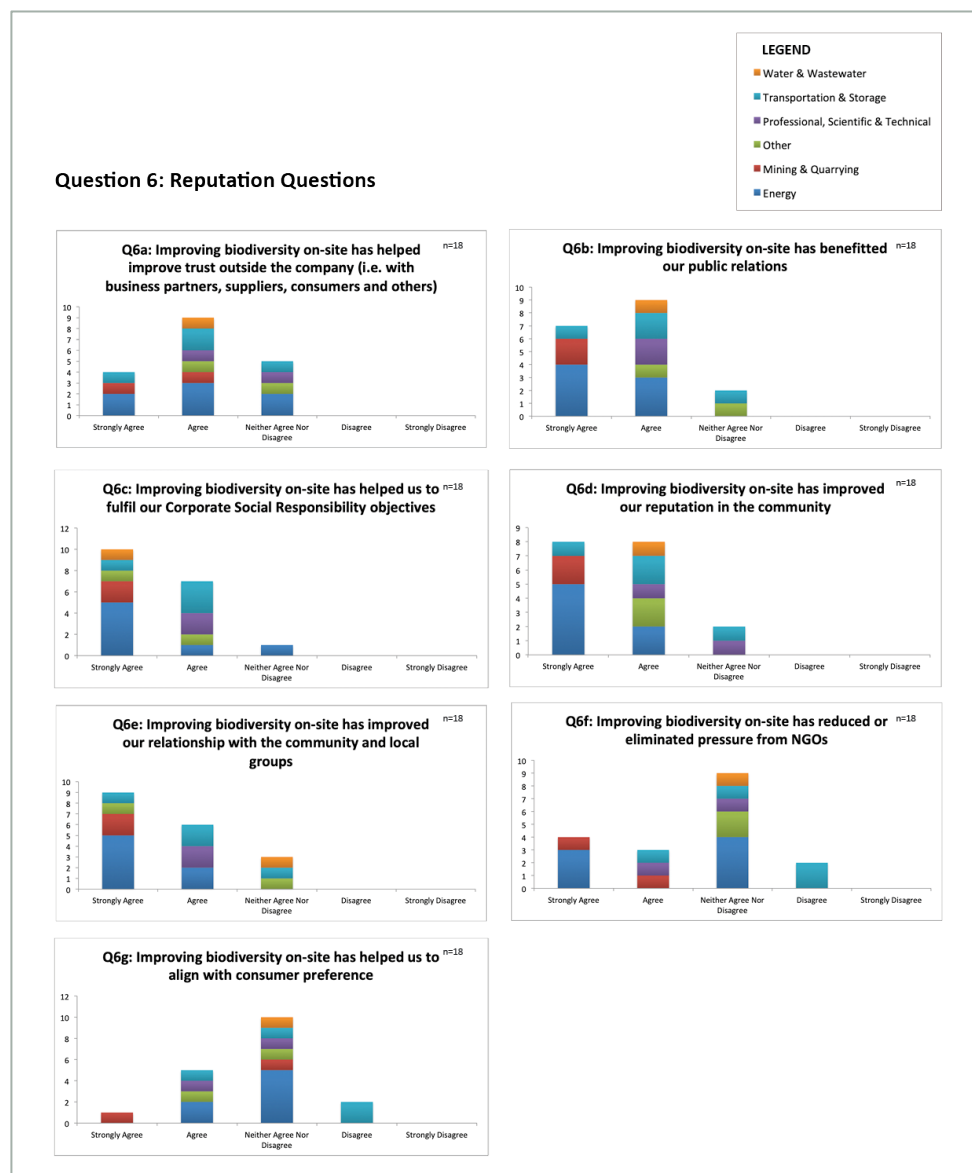


Fig. 4.15: Composite figure shows respondents' levels of agreement with each Reputation question. Colours represent respondents' sectors, as shown in the legend

4.3.10 Barriers to engagement questions

There was notably less agreement among respondents with the series of statements around the barriers or challenges they had experienced when undertaking the BB. Eight of 18 respondents agreed that it was difficult, two were neutral, seven disagreed and one strongly disagreed. Six of 18 respondents neither agreed nor disagreed that the BB was expensive. Five agreed that it was while six disagreed and one strongly disagreed. Six of 18 agreed that it took a long time, while a further six neither agreed nor disagreed and five disagreed. One strongly disagreed. Six of 17 respondents agreed and a further six disagreed that it was hard to secure senior management support, while four neither agreed nor disagreed. One strongly disagreed, and one declined to answer (Fig. 4.16). Four respondents made comments in the Open Comments box. One said that “the real picture is a mix of the above”, while others acknowledged the difficulty in getting staff to understand its importance, difficulty in the sense that in-house biodiversity expertise is needed to manage landholdings, and a fourth explaining how a difficulty in securing initial senior management support was overcome by making reputational and communications benefits visible.

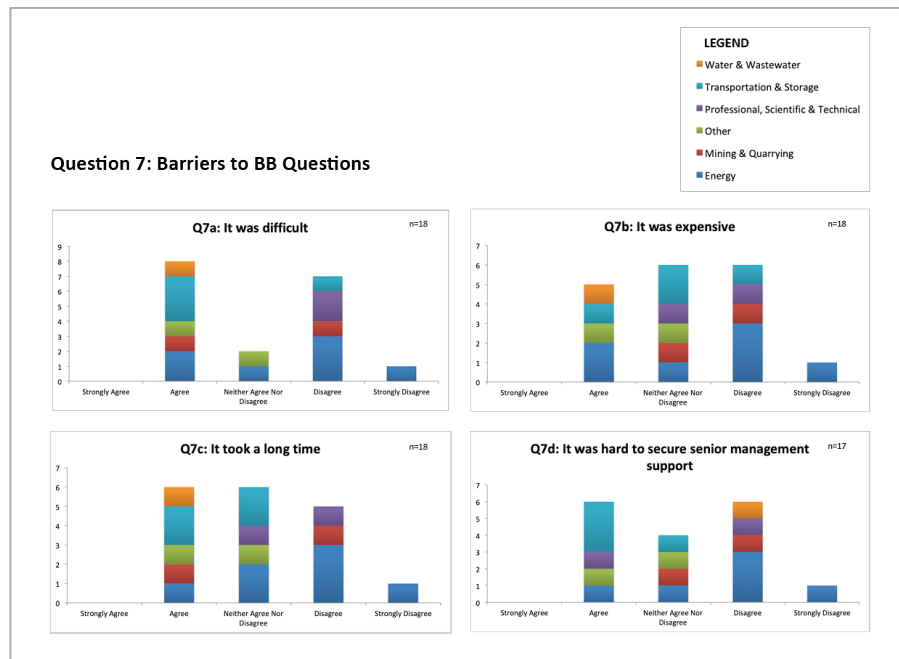


Fig. 4.16: Composite figure shows respondents' levels of agreement with each question exploring the barriers to engagement with the BB. Colours represent respondents' sectors, as shown in the legend

4.4 Discussion

Although the sample size was small, the data offered a cross-sectoral view of employees' self-reported perceptions. The energy sector was best represented in the data, with seven respondents out of 18. The Transportation and Storage (T&S) sector was the next highest represented. Given the small sample size, and lack of replication within sector, it was not possible to analyse responses according to sector. Although Mining and Quarrying appear to be slightly more positive in their responses (Figs. 4.11-4.16), this sector was only represented by two respondents, and no other sectoral differences were apparent.

The data were entirely focussed on the perceptions of employees in environmental roles who had self-selected to participate in the study. Eight respondents self-reported as having an Environmental Management job function, seven self-reported as having an 'Ecology' job function and a further three self-reported as having ecology-related job functions, which included, restoration, landscape and biodiversity. Given that employees

in environmental roles may have more positive attitudes towards pro-environmental behaviour (Rosa & Collado, 2019; Tian, Zhang, & Li, 2020), this may explain the general bias of perceptions of respondents towards the positive end of the Likert scale. Thus, a cross-sectoral group of respondents who worked in environmental and ecological roles, and would likely have a depth of knowledge in that area, responded to the survey. While some worked for companies with many business sites, others worked for companies with just one business site, and some companies had sites that were not accredited under the BB, while others did not. This suggested that respondents' had a range of experiences in implementing the BB and may potentially perceive a range of benefits, drivers and barriers given this. I considered that this could make the idea of consensus or agreement among interviewees more interesting for further investigation in the next phase of the research. Perhaps due to the lack of options for business, or due to the complexity of the topic and the appeal of a pre-designed solution from a recognised organisation, 12 respondents did not consider alternatives to the BB before undertaking certification. Of the six that did, one said that Biodiversity Management Plans had already been developed and the BB was the approach selected to implement them through an environmental management system, while another said that other options were considered when developing the organisation's biodiversity strategy, but did not explain what those options were. Meanwhile, only two respondents reported not undertaking further action for biodiversity outside of the BB's requirements. Of the 16 that did, the most popular type of action was with employees followed by action in the local community, with supply chain action significantly less popular. The focus on employee and community engagement was supported in the literature by O'Gorman (2020) and Smith *et al.* (2019), who referred to the shared socio-ecological value creation that is possible when businesses undertake biodiversity action.

Respondents were asked to select the drivers of voluntary biodiversity management they perceived to be relevant for their organisation. Meeting Corporate Social Responsibility (CSR) objectives was the highest-reported driver and this finding was supported in the literature by O’Gorman (2020), but not in the academic literature. Close behind CSR was the notion of a passionate individual advocate within the organisation. This did not appear in the literature and had only been endorsed by three of the assessors in Chapter 3.3.2.7, so I was surprised to see it feature so strongly in the data and interested to find out if it would be further supported by the interviews with employees in Chapter 5. I also considered that because the sample was self-selecting, that it was possible that the respondents instinctively considered their own role in driving biodiversity management within their organisations as important. The third most highly represented driver was compliance with legislation. This was widely supported by the assessors in Chapter 3 and also in the literature, with Boiral *et al.* (2017), Smith (2019), World Economic Forum (2010; 2020) and O’Gorman (2020) commenting on this driver. The lowest level of response was for the driver referencing competitors who had undertaken voluntary biodiversity management. Considering that three assessors had supported this finding, and that it appeared in the literature (Boiral & Heras-Saizarbitoria, 2017b) and (O’Gorman, 2020), its ranking here suggests that keeping up with peers may not be as relevant a driver as some may think and warrants further exploration.

When asked about what had driven their companies to engage with the BB specifically, the data showed that respondents most valued the fact that a recognised environmental group endorses the BB. The importance of recognition and verification was supported in the literature by O’Gorman (2020), but there has been little empirical research conducted in this field – this area warrants further exploration. Both the similarity of the process to other management systems and the fact that it is a formal scheme with an award at the

end received the second highest response counts for this question, highlighting employees' perceptions of the importance to businesses of having a robust and rigorous system that businesses are already familiar with – a finding that was also supported by O'Gorman (2020). The third highest response count was for the BB guaranteeing 'proper' conservation, which connects to ideas supported by O'Gorman (2020) around the value to business of metrics and certification that is credible. This was also referred to by a respondent who commented in the 'Other' text box: "Externally verified and therefore has more credibility".

At the high level, the business benefits questions presented a mixed picture, with some areas – like employee engagement, risk management and reputational benefit – standing out with high agreement, suggesting a level of consensus among the respondents on these topics. At the more detailed level though, the picture was often more complex. For the employee engagement category of questions, there was agreement among respondents that voluntary biodiversity management had boosted staff morale, improved internal communication and enhanced employee health and wellbeing, and these topics are supported in the literature (O'Gorman, 2020; Thomas Smith et al., 2019). However, agreement on other codes was more mixed: ideas around increased productivity (supported in the literature by Earthwatch Europe, 2002; Siegel, 2009), professional development benefit (which emerged from Chapter 3) and that biodiversity had helped to attract or retain staff (supported in the literature by Siegel, 2009; Earthwatch Europe, 2002) were dominated by 'neither agree nor disagree' responses, with almost equal numbers of respondents agreeing and disagreeing on each. This could be due to the fact that environmental and ecological staff are not privy to information on employee productivity, staff retention or professional development, which would typically be the domain of Human Resources departments within companies, or that the respondents did

not have direct experience of these issues. There was also a mixed response to the notion that voluntary biodiversity management on site had empowered individuals: three respondents strongly agreed with this statement, but one strongly disagreed. This was the only 'strongly disagree' response for the employee engagement section. This finding emerged initially through the assessors' interviews in Chapter 3 and it would be interesting to explore the diversity of opinion here further. The notion that biodiversity management improved trust within the company emerged in the literature (Earthwatch Europe, 2002) but was also met with a mixed response with strong outliers – one respondent strongly agreed while two disagreed. This could be because respondents had not encountered examples directly in their work, or because such things are hard to measure, and this area would also be interesting to explore further.

As noted above, the Risk Management category had high agreement between respondents. But unlike employee engagement, the more nuanced, detailed sub-questions reflected a reasonably consistent picture: there were only two counts of 'disagree' across the seven sub-questions, and no 'strongly disagrees'. There was high agreement among respondents that improving biodiversity on site had improved relations with regulators, benefitted regulatory compliance, helped to gain permits and planning permission, helped companies prepare for future legislation and improved internal processes. All of these issues were widely supported in the literature (Boiral & Heras-Saizarbitoria, 2017b; Hanson et al., 2012; O'Gorman, 2020; Thomas Smith et al., 2019; World Economic Forum, 2010, 2020). There was also high agreement for the benefit of managing intangible assets (supported in the literature by TEEB, 2012). Meeting shareholder expectations was also generally agreed with, though two respondents disagreed – the only disagreement across the whole risk management section.

The leadership question also showed agreement at the high level, but it was less strong than employee engagement and risk management, with four respondents selecting 'neither agree nor disagree'. This could be attributable to the fact that the respondents in question had not been exposed to or were not aware of these kinds of benefits, or did not associate leadership with anything tangible, because when prompted to consider certain aspects of leadership such as keeping up with best practice and winning awards or giving talks in the sub-questions, there was strong agreement with fewer respondents (two and one respectively) selecting 'neither agree nor disagree'. Best practice as a benefit of business engagement with biodiversity was endorsed in the literature by O'Gorman (2020) and Boiral *et al.* (2017), while recognition through awards and speaking opportunities was also supported by O'Gorman (2020).

There was comparatively more uncertainty among respondents with regards to the competitive advantage question – most respondents were neutral on all four questions. That said, there was strong agreement with at least one respondent on all bar one of the questions. It is notable that the strong agreement primarily came from the Mining & Quarrying sector and this link merits further investigation. The idea that biodiversity can help to differentiate products or services was supported in the literature by Hanson *et al.* (2012) and O'Gorman (2020) and saw limited agreement among respondents, as did improving customer satisfaction and helping to win contracts and/or clients, which was also supported in the literature by Hanson *et al.* (2012), World Economic Forum (2010; 2020) and O'Gorman (2020). The final sub-question in this category was around how improving biodiversity on site could help to generate profits and growth, which was widely supported in the literature (Boiral & Heras-Saizarbitoria, 2017b; Thomas Smith *et al.*, 2019; World Economic Forum, 2010, 2020). Again, most respondents selected neither agree nor disagree here, but the Mining and Quarrying employee strongly agreed. Whether the

comparatively low level of agreement in this section is due to these issues not being the case for those companies or because respondents are not aware of them cannot be established based on the data here, again warranting further investigation.

The last set of business benefit questions were around reputation. The general overview question showed that all respondents agreeing or strongly agreeing that improving biodiversity on site brought reputational benefit. The sub-questions that received the strongest agreement were around the benefit of meeting CSR objectives, enhancing trust outside the company, improving relationships with the community and local groups, benefitting public relations and improving the company's reputation in the community. Given that these findings were so widely supported in the literature, it is unsurprising that they were met with such strong endorsement from the respondents (Boiral & Heras-Saizarbitoria, 2017b; Hanson et al., 2012; O'Gorman, 2020; Thomas Smith et al., 2019; World Economic Forum, 2010). The two aspects of reputational benefit where agreement was less clear-cut included reduced pressure from NGOs and aligning with consumer preference. While strategic engagement with NGOs was discussed by O'Gorman (2020), the academic literature did not endorse this finding. However, a number of studies did refer to the importance of aligning to changing client or consumer preferences (Hanson et al., 2012; World Economic Forum, 2010). The disagreement on this finding could be due to the fact that environmental and ecology employees are removed from consumers and customers through the nature of their jobs, or because the companies in question were not end-user facing in their business but rather primary or secondary companies, and therefore not so exposed to changing consumer trends. Still, this does not explain why their value chains and clientele would not be affected by such trends and therefore is an area for further study.

The final set of questions posed to respondents was on barriers to engagement with biodiversity. The four sub-questions under this category asked whether respondents felt the BB was difficult, expensive, took a long time, or that it was hard to secure senior management support for. The data showed a lack of consensus among respondents, with the responses spread across agree, neither agree nor disagree and disagree. This section was the most inconclusive and is further explored in Chapter 5.

4.5 Conclusion

To summarise the results in the context of the research questions, the data showed that employees perceived a range of business benefits of voluntary on-site biodiversity management, with the most consensus on issues around employee engagement (better staff morale, health and wellbeing, and internal communication), risk management (better relationships with regulators, easier gain of permits and permissions, stronger regulatory compliance, better internal processes, preparation for future legislation, enhanced management of intangible assets and meeting shareholder expectations), leadership (being seen as a leader by peers and stakeholders, and keeping up with industry best practice) and reputation (improving both reputation and relationships in the community, enhancing trust, boosting public relations, and achieving CSR objectives).

The data also revealed a range of drivers of voluntary on-site biodiversity management, both generally – such as CSR obligations and compliance with legislation, which are also benefits of having undertaken action, and the efforts and enthusiasm of a passionate individual within the organisation – as well as for the BB specifically as a scheme. Drivers for the latter included the fact that it is recognised by a known environmental group, that it is based on a management system that's familiar to companies, is a formal scheme with an award, and that it guarantees proper conservation. A range of barriers to engagement

were presented in the data, however the consensus on them among respondents was less clear. These are investigated further in the next chapter.

5 Qualitative assessment of employee perspectives on the drivers, benefits and barriers to voluntary on-site biodiversity management

5.1 Introduction

This third phase of research aimed to explore the results of the survey in more depth, using qualitative research methods. To do this, I investigated the opinions and perspectives of individuals working in companies that had undertaken the Biodiversity Benchmark through semi-structured interviews and thematic analysis (Saldaña, 2009).

Survey respondents had indicated their interest in participating in the next phase of the research by checking a box in the online questionnaire. I contacted them via email, set up

calls and conducted semi-structured interviews over the phone. Here, I outline the research methods and findings from those interviews.

5.2 Methods

5.2.1 Defining the sample

I took a snowball sampling approach to sample selection, which generated a non-representative and self-selecting group of interviewees. This was done through the online survey conducted as part of Phase 2 of the research (Chapter 4), whereby respondents had been invited to indicate their willingness to take part in further research. Seven out of a total of 18 respondents had indicated that they were happy to do so and shared their email addresses. I emailed each of them in October 2018 and received positive responses from five (hereafter referred to as 'interviewees'). One email got no response and one prompted an auto-reply, which said that the person was on parental leave. I contacted the colleagues mentioned in the auto-reply, but did not hear from them. This sample enabled the analysis of opinions and perceptions from a cross-sectoral group. The five interviewees worked at four companies across a range of industrial sectors, including Energy (a major company that produces and supplies electricity), Aviation (a major UK airport), Tourism (a popular forest-based holiday company) and Aggregates & Quarrying (a major extractives company with multiple sites across the UK). These companies also had a diverse number of Biodiversity Benchmark-accredited sites, the lowest being one site and the highest being 15 sites. The interviewees themselves were also diverse in terms of their experience with the Biodiversity Benchmark, their years at the company and their level of seniority, but all were in an environment-related role (Table 5.5.1).

Table 5.5.1: Profile information on the company employee group of five interviewees

Pseudonym	Sector	Company info	Job title	Years at company	Number of BB-accredited sites	Sites in England	Sites in Scotland
Damien	Aggregates & Quarrying	Major quarrying company	Regional Restoration Manager	36	15	15	0
Rory	Tourism	Popular forest-based holiday company	Landscape Asset Manager	24	5	5	0
Deirdre	Energy (same as Tom)	Major electricity producer and supplier	Environmental Compliance Coordinator	33	7	5	2
Rebecca	Transport/Aviation	Major UK airport	Biodiversity Consultant	7	1	1	0
Tom	Energy (same as Deirdre)	Major energy producer and electricity supplier	Biodiversity Officer	4.5	7	5	2

An information sheet was shared with all the interviewees prior to the interview. It included information about the project, what participation involved, a statement to confirm there were no conflicts of interest with regards to funding, contact information for my lead supervisor and me, and a detailed explanation of how data would be collected, stored and anonymised. The information sheet stated that interviewees' job titles and job functions would be presented in the research, along with their companies' industrial sector and primary activities, and noted that interviewees would be asked in the interview whether or not they were happy for their own name and the name of the company to be used in the research's written outputs (including this thesis).

Interviews were conducted in November 2018. Due to concerns about anonymity from some of the interviewees and their descriptions of the internal sign-off processes that would be required in order to publish the names of their companies, I reconsidered

including this information in the study. I concluded that presenting the names of the organisations were not significant to the interpretation of the results given that it was possible to include the sectors and primary activities. Likewise, I concluded that it was not necessary to include the names of the interviewees, as their job titles and core functions were the relevant issues for the purposes of interpreting the data. As an extension of these conclusions, I decided not to present site locations either in order to reduce the risk of making the companies identifiable, instead showing the number of sites each company holds in England and Scotland. The spatial distribution of all Biodiversity Benchmark-accredited sites (not just those included in this study) is discussed in the literature review.

5.2.2 Semi-structured interviews

Semi-structured interviews are a qualitative research method that allows for consistency in the data gathered because they present the same issues and questions to each interviewee. They also enable interviewees to offer additional issues or topics that may not have been previously considered by the researcher (Denscombe, 2014).

The issues and questions presented to the interviewees were replicated from the Phase 2 questionnaire, which itself was developed from the findings of the Phase 1 semi-structured interviews with the Biodiversity Benchmark assessors, as well as additional insights from the literature review (Appendix 2, Chapter 7.2). These ten high-level questions were posed directly, while the sub-questions in the questionnaire were used as prompts to encourage interviewees to respond to or expand on specific topics. For instance, I asked interviewees if improving biodiversity on-site had helped them engage employees. They would then answer the question, and if their answer had not included it, I would prompt them to comment on whether or not it had helped to boost staff morale,

benefit employee health and wellbeing, etc., in order to expand the answer and generate richer data.

Interviews were conducted either on the phone or via Skype, and recorded on a voice recording application. The files were stored on a Google Drive that only I had access to for the duration of the data collection period, and then transferred to a USB stick and stored in a locked drawer that only I had access to. This was communicated to interviewees in the Information Sheet that was circulated prior to the interviews and repeated at the start of each interview.

5.2.3 Interview transcription

Interviews were then transcribed in their entirety from the audio files into Microsoft Word documents. As in Chapter 3, this was done verbatim, including all the 'uhms' and repetitions, as it is important to have a full and complete raw first draft (Silverman, 2013). The text was subsequently refined and clarified in the data analysis process.

5.2.4 Analysing the data

I analysed the data using the same process as the semi-structured interview analysis in Phase 1 of the research. I analysed the data thematically using an inductive grounded theory approach (process shown in Fig. 3.1). As previously discussed in Chapter 3, codes are the smallest units of qualitative analysis. Essentially, they are tags or labels in the form of keywords or phrases that are applied to the raw data. They typically refer to events, actions and/or opinions that are either novel, in agreement with the literature, or stressed by the interviewee. I used a combination of code types, including:

- Descriptive coding, where I summarised words in a short phrase,
- In Vivo coding, where I used participants' own language in quote marks,

- Process Coding, where I used the gerund (“-ing”) tense to describe observable or conceptual action in the data.

For the second stage of analysis (‘refining’), I used a combination of Focused, Axial and Theoretical coding processes. These allowed me to “compare, reorganise or ‘focus’ the codes into categories, prioritise them to develop ‘axis’ categories around which others revolve, and synthesise them to formulate a central or core category that becomes the foundation for explication of a grounded theory” (Saldaña, 2009).

I coded the data manually in Excel rather than by using computer-assisted qualitative data analysis software. I chose this approach again for Phase 3 because the volume of data was not so large that it was necessary to use software in order to manage it or extract the relevant themes for the purposes of analysis. Also, having used this approach in previous research projects and also in Phase 1 of the research, I was familiar with the practice (Denscombe, 2014; Saldaña, 2009).

To prepare for the analysis, I read the raw interviews multiple times to familiarise myself with the data. My next step was to pre-code the data by highlighting individual extracts, paragraphs and passages of text from the five interviews that I considered to be especially significant or illustrative key sentences in the context of the research question (Denscombe, 2014; Saldaña, 2009).

After the pre-coding stage of analysis was complete, I extracted the 182 highlighted sentences, paragraphs and passages and put them into an Excel table in order to review them again and attribute preliminary codes. I gave some of the pre-coded extracts multiple preliminary codes (Denscombe, 2014; Saldaña, 2009). In total, there were 234

preliminary codes. In a new Excel tab, I presented the preliminary codes under the question they were in response to. This gave me ten groups of preliminary codes. My next step was to refine the preliminary codes and translate them into higher-level 'refined' codes that were succinct but still encompassed the meaning of the preliminary codes. This involved separating the preliminary codes into thematic groups that could then be captured in one or more 'refined' code. Throughout this process, I reviewed the raw data repeatedly in order to ensure that the refined codes agreed with the interview transcripts (Denscombe, 2014; Saldaña, 2009).

Having refined the codes, I began to categorise them thematically. Some categories emerged naturally as a result of the questions they were already grouped under, for instance the categories under the 'Benefits' theme such as Risk Management, Employee Engagement, Reputation, Competitive Advantage and Leadership. Others were more complex, however, with similar-themed codes spread between different question groups. This was especially the case for Question 1, which related to drivers of engagement with biodiversity generally, and Question 2, which related to benefits of the Biodiversity Benchmark specifically. In the literature review (Chapter 1.2.7), drivers of engagement were shown to relate to the motivations a company or individual has for engaging in an action in the first place, while benefits relate to the positive outcomes of having engaged in that particular process. These two issues were presented to interviewees as distinct questions during the interviews, but some of their answers connected the two. One reason for this is that the company's adoption of the Biodiversity Benchmark pre-dated the start of employment for some of the interviewees, so they were not aware of the initial drivers, and instead focussed on the benefits of the scheme. Another reason is that the two concepts are intrinsically linked in people's minds, so a driver connected to a benefit. For example, in responding to Question 1 on Drivers, one interviewee said that a

driver of business engagement was the fact that it was already an environmental commitment, similar to air quality or waste, and then went on to say that being able to manage biodiversity using a similar Environmental Management System was a benefit, which was more relevant to Question 2. The same was also true for Question 3 on the general challenges of biodiversity and Question 10 on the specific challenges of the Biodiversity Benchmark. These crossovers could also be attributed to my explanations of the differences between these two questions not being sufficiently well understood by the interviewees.

I responded to this by maintaining the thematic analysis approach: I combined the codes for Questions 1 and 2, and rearranged them under three categories within the 'Motivations' theme: a) Passion, interest and pride, b) Ensuring we are doing the right thing, c) Recognition for doing the right thing. For Questions 3 and 10, I rearranged the codes under a single category, Challenges. The outcome of the thematic analysis process was 10 codes across three categories under 'Motivations', 30 codes across five categories under 'Benefits' and six codes in one category under 'Challenges'.

5.2.5 Limitations of the approach

There are a number of limitations to the approach taken in this study. Perhaps the most significant is the low number of interviewees. I had hoped to have a stronger response to requests for semi-structured interviews among the survey respondents. Five interviews are not enough to make any wider inferences beyond the sample and saturation point was not achieved in terms of the data, in that each interviewee presented new information. I felt that there was more data out there but due to lack of interest from the survey respondents, was unavailable to me. Were I to do this study again, I would go to greater lengths to convert survey respondents into interviewees (perhaps by travelling to the UK

to attend Biodiversity Benchmark workshops and interviewing them in person, if I had the budget).

Additionally, only one member of staff was consulted from three of the companies (the energy company had two members of staff, Deirdre and Tom), so whether or not their perceptions are shared across the wider organisation is unclear. The extent to which their perceptions are biased in respect of their job role or their duration in that job, and consequently the nature and extent of their experience of the BB, is also unclear. I am conscious that none of the interviewees worked outside of an Environmental Health and Safety or ecology function and that I did not get to speak to anyone working at site level or at senior management level, and that some of my questions (e.g. leadership, risk management, reputation) may have been better answered by individuals who were higher up in the organisation and more aware of those types of issues. If I were doing this study again, this is something I would seek to address, but I acknowledge that it would be challenging to gather that much data for a cross-sectoral and multi-company study in the context of a Master's thesis. I would also seek to gather data on the barriers and challenges to business engagement with biodiversity from companies that had dropped out of the BB process, or decided not to proceed with it having attended an introductory workshop with the Wildlife Trusts. This is a limitation of the study with regards to the challenges (or barriers) issue.

Since interviewees were self-selecting, it is possible and likely that they instinctively see biodiversity conservation as important, which may have influenced their perceptions. This presents a potential selection bias. In the case of the energy company where two interviewees (Tom and Deirdre) worked, it's also possible that a degree of groupthink may have affected their opinions on biodiversity issues since they would have shared

experiences. Had I had the opportunity, I would have preferred to interview the same number of employees from each company. However, due to the low number of interviewees available, I chose to proceed with two interviewees from one company in order to gather as much data as possible. Furthermore, the number of sectors represented here (only four) makes it unreliable to comment on the extent to which the findings are truly cross sectoral, beyond the scope of the sample. A more robust study exploring cross-sectoral issues would likely require significantly more data from a wider range of companies, which was unfortunately not available to me in this instance. It's also worth considering that this is a study of individuals' perceptions and the views of the interviewees represented here have not been corroborated by empirical or third party data, so the level of certainty that we can assume in the findings is compromised by potential bias in that regard.

I addressed the limitations around selection bias, small sample size and limited sectoral representation by considering the findings of this study as preliminary insights only in the context of the sample and not inferential as to wider trends across BB-accredited companies or companies undertaking other kinds of voluntary biodiversity initiatives. I understood this limitation at the start of the study, given the lack of published research in the area, and determined to explore the topic in order to generate preliminary insights that might suggest potential future areas of study and was conscious to avoid generalised statements about wider trends that my data did not support.

5.3 Findings and Discussion

This section explores the findings from the semi-structured interviews and discusses them with reference to the literature.

MOTIVATIONS			BENEFITS					CHALLENGES
Passion, interest and pride	Ensuring that we're doing the right thing	Recognition for doing the right thing	Employee Engagement	Risk Management	Competitive Advantage	Reputation	Leadership	Challenges
Genuine interest in and passion for biodiversity	Biodiversity is an existing environmental commitment	Verification by a trusted third party is valuable	Biodiversity benefits health & wellbeing of staff	Aligning with internal processes	Links between customer preference and biodiversity are unclear	Managing biodiversity improves reputation outside the company	Biodiversity management helps us be recognised as leaders	Practical challenges
"We're proud of it"	Embedding biodiversity in familiar systems	"It's the only biodiversity award"	Staff are proud of biodiversity work	Noticing problems quickly	Biodiversity supports differentiation	Being recognised by the Wildlife Trusts improves reputation outside the company	Achieving and sharing best practice is valuable	Management challenges
	Targets are important in terms of both culture and informing continual improvement	CEO is committed to certification	It's raised awareness of biodiversity	Staff knowledge of biodiversity reduces risk of non-compliance	Competitive advantage benefit is not clear	Biodiversity "ticks CSR boxes"	Biodiversity management has brought positive recognition from external groups	Cost challenges
	Keeping up with competitors and stakeholder expectations		Staff are champions for biodiversity	Good biodiversity management benefits relationships with regulators		Long-term commitment to biodiversity builds community relationships	Taking action beyond certification (academia, community, NGOs, farmers, council)	"We're not a charity"
	Importance of an auditable methodology		Engaging employees is difficult	A good track record on biodiversity helps secure permissions		Biodiversity supports communication with local communities		
	Being a responsible company		The impact of employee engagement initiatives is hard to measure	Managing biodiversity supports legislative compliance		Community collaboration on biodiversity projects builds relationships		
				Managing biodiversity helps us anticipate future changes in legislation and best practice		Biodiversity management helps change community perceptions of business		
				Shareholder prioritisation of biodiversity is not high		Biodiversity supports good NGO engagement		
						Biodiversity hasn't reduced NGO pressure		

Table 5.2: Themes, categories and codes that emerged from the data

5.3.1 Introducing the categories

Through analysis of the answers received from the interview respondents, a total of three themes, with a total of nine categories containing 45 higher-level codes were identified (Table 5.2). Three of the categories related to Theme 1: Motivations, as follows:

1. Passion, Interest and Pride
2. Ensuring that we're doing the right thing
3. Recognition for doing the right thing

Five categories related to potential business benefits, as follows:

4. Employee Engagement
5. Risk Management
6. Competitive Advantage
7. Reputation
8. Leadership

One category, Challenges, reflected codes under the challenges theme. Each of these categories, along with their underlying codes, is presented and discussed below.

5.3.2 Drivers of business engagement

5.3.2.1 Motivations: Passion, interest and pride

The first thematic category to emerge under motivations was connected to intrinsic values, such as passion, interest and pride. The two codes emerged in the data were:

1. Genuine interest in and passion for biodiversity
2. "We're proud of it"

These topics emerged in all five of the interviews. All interviewees referred to a genuine interest or passion for biodiversity at the level of the company, the CEO, the team or the individual employee, or all three, as motivations for engaging with biodiversity. Damien referred to the “longstanding recognition” by the quarrying and aggregates industry of its potential to contribute to biodiversity through restoration activities and management of landholdings, suggesting that this was a driver of action: “It’s something we genuinely want to do, because we recognise that we’re one of the few organisations that can have a real impact on biodiversity”. This sector is among the most frequently researched in the literature terms of business and biodiversity interactions, with studies suggesting that extractives companies are increasingly aware of their impacts and responsibilities for restoration (Boiral & Heras-Saizarbitoria, 2017b, 2017a; Salgueiro, Prach, Branquinho, & Mira, 2020).

Rory also made this point, acknowledging the company’s “real drive” to demonstrate that it is possible to have a business in a biodiverse habitat “and that the two can complement each other”. This, he said, was evident at the top of the organisation, stating that the CEO was “very, very passionate” about biodiversity and takes a personal interest in the biodiversity work across the company’s tourism sites. Rory was the only interviewee to reference CEO-level passion or interest in biodiversity. It is not clear from the data whether this is because the CEOs of other companies are not interested in or passionate about biodiversity, or because Rory’s has more opportunity through his role to engage with senior management teams than the other interviewees. The personal interest or passion of employees is not noted in the literature as a driver of biodiversity action by businesses, and would be an interesting area for further study.

Damien went on to speak about his personal commitment to biodiversity, stating that it is one of the things that's "kept me within the industry for 36 years" because he has seen first hand the impact that biodiversity management on quarry sites can have at the local level.

Damien: "For me, I'm really committed to the biodiversity side of things and it's probably one of the things that kept me within the industry for 36 years. You deal with, you know, as I said I cover from Inverness down to Sheffield, you deal with such different sites, different people, different wildlife and you can see, you know the difference that the site can make locally."

He also believed that others within the organisation "have a genuine commitment to biodiversity" and went on to say that "the passion and commitment of the individual site managers" is what has ensured that the company has retained its accreditation without major non-compliances over the years.

Deirdre also noted a "genuine" interest in biodiversity within the energy company, and was keen to stress her own passion, saying that she had a "special interest in wildlife and flowers". She also thought that there were others on the staff that had benefitted from the company's focus on biodiversity: "They are really interested. They get very engaged and excited about things ... they know the wildlife laws better than the oil storage rules they have to comply with". Tom echoed his colleague Deirdre's point, saying that the company benefitted from having "informed, passionate staff", while Rebecca also noted the benefits of having "passionate people" on the airport's environmental team who are familiar with ecology and biodiversity, claiming that "they saw (the Biodiversity Benchmark) as something that was quite achievable".

The passion and interest reported by interviewees also connected to a sense of pride. This was noted at the company-level by three interviewees in relation to the biodiversity work

that is undertaken. (Staff-level pride also discussed in this chapter's business benefits Employee Engagement category, Chapter 5.3.3.1). Rebecca said that the Biodiversity Benchmark benefits the company as it is "something that the airport can take pride in ... It's about being able to show that they can go above and beyond on certain aspects of the environment. Because it's voluntary, they can opt in. That's something they can be quite proud of doing". Rory said that he was "100% sure" that the company's main driver for engagement with the Biodiversity Benchmark was its pride in its overall approach to managing biodiversity on its tourism sites, while Tom speculated on his energy company's sense of pride in having achieved the Biodiversity Benchmark. O'Gorman (2020) referred to pride indirectly when writing about the sense of ownership that employees can develop over a project that is local to their site, which biodiversity conservation projects necessarily are, and that companies implementing such initiatives would do well to ensure that employees are involved in every aspect of the initiative as far as possible to maximise the benefits (O'Gorman, 2020).

5.3.2.2 Motivations: Ensuring we are doing the right thing

Making sure that the company was doing the right thing for biodiversity emerged as a thematic category that, in different ways, all interviewees referred to as a motivation for undertaking the Biodiversity Benchmark. This category comprised six codes, some of which were interconnected. While this specific category did not emerge directly in the literature, many of the codes did (with the exception of the importance of the methodology being auditable), though they were largely unrepresented in the scientific literature. These are discussed here in the context of the codes, as follows:

1. Biodiversity is an existing environmental commitment
2. Embedding biodiversity in familiar systems

3. Targets are important in terms of both culture and informing continual improvement
4. Keeping up with competitors and stakeholder expectations
5. Importance of an auditable methodology
6. Being a responsible company

For some companies, biodiversity was already an environmental commitment, though it was not necessarily treated as a formal aspect in existing Environmental Management Systems. This emerged indirectly in the literature in the context of the sixth code around being a responsible company. O’Gorman (2020) stressed the importance of CSR, sustainability and corporate citizenship in providing a way forward for companies to engage with biodiversity, and outlined how responsible business practices around biodiversity can impact on a number of CSR outcomes, including employee engagement and community relationships.

This echoes the experience of Damien, Deirdre and Tom, for whom it was part of their company’s Corporate Social Responsibility (CSR) agenda: Damien noted that biodiversity was “part of the CSR agenda through our parent company” and that they have to complete a questionnaire each year as part of their sustainability reporting, which includes elements covering biodiversity. Deirdre said that CSR was a driver of the company’s engagement with biodiversity, and noted that there “was always an integrated management plan” at the energy company that stipulated requirements around surveying winter birds, summer breeding birds and butterflies on power generation sites. Tom endorsed this, agreeing that his company was already undertaking biodiversity conservation work and added that, “being a sustainable business was very important to the company. And biodiversity is an important part of that.” Damien also referred to the

Biodiversity Action Plans that had been produced for all his company's quarry sites, while Rebecca noted that biodiversity was already being managed as an overarching environmental commitment that the airport had undertaken voluntarily. Rory noted that the enhancement of the ecological value at his company's tourism sites is something that has been demonstrated "over many years across all of our sites" and that they "invest heavily in ecology", as well as managing for existing legislative compliance due to species on site that are protected under law.

Two of the five interviewees said that the Biodiversity Benchmark helped them to integrate biodiversity actions and embed them in a system that was familiar to environmental managers. Following on from her comments above, Rebecca talked about the work that the airport had already done around ecosystem enhancement, and went on to say that the Biodiversity Benchmark made it easy to bring those actions together "in a useful way". She added that the system is easy for the Environmental Health and Safety team use because the Biodiversity Benchmark is structured as the same way as the ISO14001 Environmental Management System that the team currently uses to manage the airport's environmental aspects.

Rebecca: "The accreditation they have for the environment is the ISO 14001, which uses the same framework that Biodiversity Benchmark Award is based on and that's really useful for the company to achieve and monitor outcomes of these targets and keep track of progress."

Deirdre's energy company also uses ISO14001. She agreed that the Biodiversity Benchmark "aligns very well" with it and said it was easy to work with because the process was familiar, noting the evaluation of compliances and risks.

Deirdre: "That the fact that it aligns very well with ISO 14001 and that the management system type of things that we're audited against anyway. It was easy for us to work with it because it was the process with very much like what we had done and the one I'm involved with, ISO 14001, so it was dead easy because you're already working that way."

Like ISO14001, the Biodiversity Benchmark seeks to embed targets and enable continual improvement, which interviewees noted as valuable attributes of the system. Damien said that targets were “important to stretch the sites and the organisation”, while Rory said that “it’s like anything in our business ... we’re used to working towards targets, and we’re targeted in lots of other areas, so I think having the biodiversity action target does work really well for us.” He explained how targets can drive continual improvement, because they require surveys and reports, and negative trends will prompt questions around management and engagement with ecologists to answer those questions.

Rory: “It’s a good measure, I mean it’s not, we don’t use it to beat somebody over the head with, it’s about looking at improvement and you know it challenges us in terms of you know, are our management approaches right, so with the annual reporting that we do and the annual surveys that we can do it helps to flag that you know, if, if you know, we’re seeing declines in populations, it’s then going, okay, Why are we seeing the declines? Is it something we do in management? Do we need to do more management? That’s where the, you know the link with ecologists and our consultants really supports us from that aspect.”

Rory also outlined the value of targets as a “backstop” that supports conservation objectives when they come into conflict with other objectives: “Whenever we do get challenged in things, I can wave the suite of biodiversity action targets and go well, we’ve committed to doing this”.

The importance of utilising familiar systems to embed biodiversity management was noted by O’Gorman (2020), who wrote that familiar reporting frameworks can be the best for reporting conservation outcomes because they enable the crucial translation aspect that supports the development of “a common language”. For this reason, biodiversity initiatives can be more successful if they are designed to match an existing management

system (O’Gorman, 2020). Business in the Community Ireland’s Biodiversity Framework for Business also aligns to ISO 14001 (Hamilton et al., 2019).

Systems like ISO 14001 embed continual improvement, and both Tom and Deirdre agreed that undertaking the Biodiversity Benchmark had supported continual improvement of biodiversity management on the sites their company operated. Targets are an important enabler of continual improvement, and this was endorsed by O’Gorman, who said that metrics are critical in enabling companies to report on value created and progress made (O’Gorman, 2020). According to Tom, it “certainly drives us forward and keeps us continually looking to areas we can improve.” Later in the interview, he expanded on this topic, explaining how the Biodiversity Benchmark’s structure made those implementing it think about what they were doing and whether it is the right thing, and adapt management accordingly.

Tom: “I think it’s it is a good system and a good structure that does make you continually think about what you do and is what you’re doing the right thing to do and you know you’re monitoring what you’re doing, seeing if it has the benefits you expect and if it doesn’t have the benefits you expect, you know, you then adapt your management to reflect that makes you continually question you know slight issues, problems and address them.”

The fact that the Biodiversity Benchmark has a standardised methodology that is auditable was also cited as a benefit of the scheme by two interviewees. While this was not called out directly in the literature, O’Gorman (2020) did refer to the importance of benchmarking in driving corporate performance (O’Gorman, 2020). Damien compared the progress of two quarries within the Biodiversity Benchmark to the rest of the company’s sites to illustrate the impact of internal and external audits, because “you have to do the work to keep the accreditation ... it won’t be a case of the Biodiversity Management Plan sort of gathering dust on a shelf. It will have to be adhered to and actioned”.

Damien: "I did say the legacy (aggregates) company had produced Biodiversity Action Plans for all its sites, all its quarries. Setting aside the activities in (BB-accredited sites in) Northumberland and North Yorkshire, there hasn't been a lot of progress or adherence to those action plans at many of the other sites. Now I think the achievements made in Northumberland and North Yorkshire are as a direct result of being within the Benchmark system because it does then include or require internal and external audits. So, basically you have to do the work to keep the accreditation. And what we're trying to do is now were moving away from Biodiversity Action Plans to Biodiversity Management Plans, which seems to be the general drift in biodiversity now, and that Biodiversity Management Plan will be aligned with our Environmental Management System, so that when our internal auditors audit a site for environmental management, biodiversity will be within there and that will be audited too. So, it won't be a case of the BMP sort of gathering dust on a shelf. It will have to be adhered to and actioned."

Having been involved with audits as a grounds manager and site manager, and now as Landscape Asset Manager, Rory also stressed the benefits of the Biodiversity Benchmark being auditable: "It's constantly challenging us in our processes and approaches, that we constantly strive to improve and make sure it's better, so that's the big appeal, and because it does complement what we're looking to do." He went on to add that the managers who look after the Environmental Management System "actually love it when it comes to auditing the grounds" because of the detailed information that is "ingrained in our approach", and noted a "great synergy" with the Biodiversity Benchmark.

Rory: "The managers that look after the EMS system and lead managers for the EMS system on each village, they actually love it when it comes to auditing the grounds and outside and things, they love it, because we roll out the Forest Management Plan and the detail of what we do in terms of the annual reporting and things and they say it's the easiest bit we get when it comes to the EMS audit because the level of detail and the information that we have in terms of you know our ten year forest management plan, the ecological, the annual ecological reports, the annual work plan that the grounds teams work to and they say, you know, the detail and information is all there, because it's just ingrained in our approach and because obviously we hold Benchmark and you know, there's great synergy there and it works very, very well."

Both Damien and Rory referred to alternative voluntary systems for biodiversity management that their organisations had considered in the past but not progressed with,

and referenced the methodological issues behind those decisions. Damien noted that most companies are working towards “Net Positive Gain” (sometimes referred to as Net Positive Impact or No Net Loss), but said that “we’ve held off on doing data-led analysis of our activities because there isn’t a recognised methodology yet” that is endorsed and verified by an impartial third party. Developing internal methodologies, he believed, could be skewed or biased.

Damien: “Which is one of the, you know, we, we erm, now most companies are working towards positive gain or positive benefit in biodiversity and we’ve held off on doing data-led analysis of our activities because there isn’t a recognised methodology as yet. So, we could develop an internal methodology, but it would be far better to have an external methodology. If you see what I mean, that sort of an independent... someone that could come along independently and tell you that this is this is Net Positive Gain, or this is No Net Loss, Because, of course, you know, you may be able to skew your methodology for example so you want that impartiality. That’s my belief, my personal belief.”

Rory explained why his company withdrew from Forest Stewardship Council (FSC) Certification, saying that it “seemed to be trying to fit a square peg in a round hole” in that it is geared towards organisations that manage their woodlands for commercial purposes, rather than managing for habitat quality. “We manage more for biodiversity than we do for forestry,” he said.

Rory: “Just to give an example, we used to hold FSC accreditation, as a business and we actually withdrew (from) FSC. It’s not about how we were managing our forests, but it just seemed to be trying to fit a square peg in a round hole, because the challenges that they were constantly picking up in things in audit, it just seemed to me to suit more a commercial woodland and it, we were struggling to fit into their requirements ... it just didn’t seem to fit and marry with our approach, whereas I think Benchmark does that, because it does look at how we manage our forest, how we’re managing our habitat and we’re, we’re not a commercial woodland any longer, we’re an amenity woodland and we manage more for biodiversity than we do for forestry.”

Rebecca reported that keeping up with competitors was a motivation for engaging with Biodiversity Benchmark, saying that other airports had achieved the award. Damien

referred to this too, but as a more general trend within the industry that is connected to the need to ensure it is doing the right thing in order to meet external stakeholder expectations: “In the current climate there is a great expectation on the minerals industry both at national government level and regional county level to ... enhance and improve local biodiversity (through its activities).” This point was supported in the academic literature to some extent, with Boiral *et al.* (2017) discussing businesses’ desire to exemplify best practices (Boiral & Heras-Saizarbitoria, 2017b). O’Gorman was more directly relevant, underlining the importance of competition in driving action (O’Gorman, 2020).

5.3.2.3 Motivations: Recognition for doing the right thing

The final category in the ‘motivations’ theme emerged around the value of recognition for doing the right thing. This category comprised three codes, which are discussed here:

1. Verification by a trusted third party is valuable
2. "It is the only biodiversity award"
3. CEO is committed to certification

All interviewees said that an award to recognise their efforts from the Wildlife Trusts was very important. This was only recognised in the literature by O’Gorman (2020), who stressed that “in the private sector, external verification through adoption of voluntary sustainability standards is a massive industry across all aspects of environmental management, corporate responsibility and accountability” and noted the importance of verifying claims that corporations are making to satisfy customers and/or shareholders (O’Gorman, 2020). Asked whether the fact that it is an informal scheme with an award that’s recognised added value for the business, Rory replied “hugely, hugely”, and went on

to explain how the certificate is displayed on all the company's sites as well as at Head Office. He added that if they lost the Benchmark, "the CEO would come knocking on my door".

Rory: [Does the fact that it's a formal scheme with an award that's recognised by the Wildlife Trust, by an environmental group, does that add value to it as well?] "Oh hugely, hugely for us as a business. We absolutely encourage all the villages to display certificates. The certificate is also displayed in the Head Office trophy cabinet with all the others. We, we very much regard, you know Benchmark is a very important... Put it this way, the CEO would come knocking on my door if I told him we'd lost Benchmark for any reason I would be I'd say in trouble, but there would be serious questions asked if we didn't retain Benchmark because we absolutely see that the forest and the ecology, the biodiversity of our sites is, is key."

Damien also said that any external recognition of the work that his company does on biodiversity was welcome. Both Deirdre and Tom echoed this, saying that the Benchmark gave them the opportunity to get formal accreditation and recognition.

Tom: "I suspect that's why, and you know, certainly that's probably largely why I think now it's valuable... its external accreditation of what we do. It's also external sort of testing of the way we manage our land and sort of it gives you, yeah, I think it's that, it's around that accreditation, you know, it's like, I think it would be very similar to why companies think, you know, ISO accreditation."

Deirdre also said that the fact that the award was endorsed by a recognised group appealed to them. Rebecca also noted this, saying that "the fact that it is a charity and it is quite public facing" was important. She also went on to stress the uniqueness of the Biodiversity Benchmark as "the only Biodiversity Award until recently", adding that "not all businesses have it so it kind of stands out a bit and I think that's helpful for the airport".

5.3.3 *Business benefits*

5.3.3.1 Benefits: Employee Engagement

All interviewees strongly referenced employee engagement as an important business benefit, and this is strongly endorsed in the literature. Smith *et al.* (2019) referred to the value generated by integrating social and ecological outcomes, while O’Gorman (2020) stressed the value of biodiversity initiatives on-site in engaging employees from across the business in a project and generating a sense of pride and ownership – partly because the nature of a conservation activity is necessarily site specific, and in that sense, could be a bottom up initiative that embraces a range of levels of ability and interest. A number of beneficial aspects to employee engagement were also noted by the interviewees, including a positive impact on employee awareness of biodiversity, employee health and wellbeing, staff pride, and the role of individuals as champions for biodiversity. Some challenges were also commented on, including the difficulties of engaging employees with biodiversity for some interviewees, and also the challenge of measuring impact. The six codes emerging under this category were:

1. Biodiversity benefits health & wellbeing of staff
2. Staff are proud of biodiversity work
3. It has raised awareness of biodiversity
4. Staff are champions for biodiversity
5. Engaging employees is difficult
6. The impact of employee engagement initiatives is hard to measure

All five interviewees thought that the biodiversity initiatives undertaken through the BB had benefitted employee health and wellbeing, and this finding is supported in the

literature by O’Gorman (2020). Rebecca said that this was “definitely one of the objectives” of the project at the airport in the first place: “It really is all about getting the staff out into biodiversity areas to do volunteering days”. She went on to say that it has helped by making employees “more aware of the area surrounding their workplace and given them direct access to those areas” through the creation of walking routes for guided walks or lunchtime walks. “It has definitely been positive, really positive overall for the in-house staff that have access to these routes,” she said. Interestingly, the airport has funded the creation of a ‘People and Wildlife Officer’ post at the (County) Wildlife Trust specifically for the airport, which has had a positive effect on employee engagement with the biodiversity initiatives the airport is taking.

Damien said that “...the major effect (of this work) is on that individual’s wellbeing”. He gave some examples of the kinds of employee engagement activities at his aggregates company, saying that “many have a genuine interest to help with the recording of wildlife on the site” and are “very, very engaged”. Some, he said, go on to become recorders – one person is a British Trust for Ornithology (BTO) recorder while another two have “taken it on themselves to be trained up so they can take part in the butterfly monitoring scheme”, and others are “getting trained up to become bird ringers”. Another person has “taken it on himself to propagate black poplar to be planted out at a site”

Damien: “The level of interest can vary from the passing interest to people who are really passionate and get involved in activities out with the company with respect to biodiversity.”

While Rory did not point to specific examples of employee engagement, he did comment on the fact that his tourism company is set in woodlands created a “very unique and special” environment for staff: “Whether you’re working in a bar or anything, when you drive in in the morning and park your car up, you’re in the forest.” He added that staff feedback has shown that “a lot of people do have a positive appreciation for that”.

Deirdre suggested that biodiversity is a “feelgood” factor for staff at her energy company and that it has a mental health benefit in “clearing people’s minds”.

Deirdre: “It genuinely sparks quite a good interest in more people and in getting people out, there’s more than one benefit for getting people out and walking at lunchtime. There’s the occupational health thing, it’s good and it clears people’s minds for getting them away from their desks and things like that.”

Tim also agreed with Deirdre, remarking that “...bringing nature to people must benefit their daily lives, their working lives”. He also remarked on his own experience of engaging with biodiversity through work: “I feel lucky to go to some incredible parts of the country and have incredible wildlife on the doorstep of our power stations and the guys and girls that work on the power stations everyday have that on their doorstep so you know that must benefit their daily working lives.”

Another aspect of employee engagement was around staff pride and morale, which connects to Chapter 5.3.2.1 and also to Damien’s comments earlier in this section, where he highlighted the extent to which individuals have embraced biodiversity monitoring and recording. Like so many of these more nuanced findings, the only support in the literature was found in O’Gorman (2020). These efforts have led to some staff being recognised with biodiversity awards.

Damien: “One of these staff members was recognised for his individual contribution to biodiversity at the Mineral Products Association Natural England Biodiversity Awards. Similarly, another guy within my patch got a similar individual achievement award and this is the guy who does erm, he’s based in the national – Yorkshire Dales National Park, he’s a BTO recorder but also, he’s passionate about wildlife on the site. He’s also one of the individuals trained up as a butterfly monitor and he’s also involved in some experimentation we did on site, to guide the restoration scheme.”

Rebecca alluded to the role of “champion staff” who “keep coming back and getting involved”, even if they had switched teams or job roles. She attributes this to the fact that “they can make a difference in their natural landscape and also for the project overall that they’re contributing to.” Deirdre said that she was “quite proud of (her) little plaque” and that she and her colleagues “would be all devastated now if we lost it”. Her colleague Tom thought that “...the company and stations are proud of their Benchmark accreditation”

Awareness-raising was another aspect of employee engagement that interviewees considered to be a business benefit. Rebecca felt that this was the case at the airport, but not just in raising awareness of biodiversity: “For the environment health and safety team that the project sits under, I imagine it’s helped people understand a bit more about what that team does and perhaps engendered a bit more positive feeling to, you know, those commitments around the environment and staff wellbeing and things (that the team leads on).” Deirdre suggested that staff interest and engagement with biodiversity can build desire for more knowledge, with staff approaching her to tell her what they’ve seen or asking her for help in identifying a species.

Deirdre: “We’ve got more than one pair of eyes and ears looking after the kinda wildlife on site. Like the security guards, they send me pictures.... We’ve got a bunch of scaffolders that are interested, so even if we’ve got an injured bird and they say their wildlife person’s only in one day a week, we’ve got another team of guys that will be able to handle the bird and get (it) help or rehomed.”

She also claimed that staff are now more aware of biodiversity and the need to check for potential wildlife disturbance before engaging in works: “It’s kinda broadened people’s perspective on how they think they can’t just go and do something, they have to check before they do it.... It’s not just a grass field, that they have to check that, that you’re not going to disturb anything. They will know to ask what we’ve got.” This, she explains, has led to wildlife’s needs being integrated into business action.

Deirdre: "That kind of understanding is very good for the likes of disturbing any nest. They know they can't do it. We've got ladders who make up little boxes so that we have in a few instances control moved a nest once the chicks are actually feeding... in the sense in that a gradual (way, we) move the nest like 30cm every day over a week to a place of safety. It works because of the instincts for the mum and dad just to keep the birds."

Increased staff awareness can also benefit protected species, said Rebecca, and she suggested that this could have regulatory compliance benefits for the company.

Rebecca: "One is because people on site are more aware of biodiversity aware of protected species, that has helped to avoid us getting into difficult waters with respect to wildlife legislation and infringement."

Rebecca also explained how internal social media channels generate staff dialogue around wildlife, raising awareness further.

Rebecca: "We have like an internal staff Twitter which is called Yammer, our company social media. We've put up posters about volunteering, or bits of wildlife we see around and we do get quite a nice response from people liking or commenting on the post. Then (other) people are also posting things on there - questions about wildlife, and 'What is this?', posting pictures of things, so yeah, I suppose that shows a bit of dialogue between the staff in regards to wildlife and the environment."

Rory said that his company's 'Nature Notebook' – a short synopsis of the species that have been seen over the month, which is posted on all the notice boards around their tourism sites – has generated "a lot of comments" from staff.

While Damien agreed that awareness of biodiversity good among staff, he acknowledged that the biggest impact was with those working at site-level.

Damien: "I think when you get above the site level, there's still a certain lack of knowledge on what we do in respect of biodiversity. So you know, you go into regional offices and, and, the national office and people there don't have the day to day contact so through internal reporting, internal articles in our website etc, people learn about it, and then they become more engaged. And you know, some people then follow it up with well, for example, taking out membership of Wildlife Trust or whatever. So I think it does have a positive impact on the company, as a whole."

Two interviewees referred to the challenge of engaging employees. While acknowledging that they need to do more, Rory said it was “a constant challenge” and that the organisation is striving to do more to engage staff, though he did not explain how. Tom also stressed that, despite doing “a lot” work to facilitate it, engaging employees was “a perennial challenge ... especially in this modern working world where everyone’s so stressed and so preoccupied.” The main way that his team encourages employee engagement is through events that are advertised to staff and the general public, but they also use technology to generate interest: “We have peregrines nesting on some of our stations and one of the stations has a webcam that staff have access to and generates a lot of interest through the breeding season.” Tom also speculated that one reason it is difficult to engage colleagues is the sheer size of the sites at his energy company, and suggested that it might be easier to engage staff if a business’s footprint were smaller.

Tom: “Benchmark events we’ve been to, other landholders that have smaller landholdings or you know perhaps are situated on the business park where they might have a pond outside and they might do some improvement work with compost, you know, it’s perhaps a bit small scale, perhaps a bit easier to get everybody to go out of their you know come out of the office block and wanna walk around the grounds you know for even half an hour at lunchtime. I suppose perhaps one of the challenges we might face is that some of our landholdings are enormous, you know 600 hectares of land around the station, and in your half an hour lunch break it’s hard to get out and explore too much of it.”

Two interviewees – Tom and Rebecca – reported that it was difficult to judge the impact of employee engagement. Rebecca suggested that research is pointing towards a correlation between access to green space and employee productivity, but said that it is difficult to know for sure because there are so many staff departments and she has not received any specific feedback and did not mention that any surveys had been conducted to assess impact.

5.3.3.2 Benefits: Risk management

All five interviewees acknowledged that the BB supported risk management within their organisation and identified a range of ways in which this happened, many of which were interconnected. Risk management was also widely given in the scientific and grey literature as a driver and/or benefit of business engagement with biodiversity, and the various aspects are discussed under the eight codes that emerged under this category:

1. Aligning with internal processes
2. Noticing problems quickly
3. Staff knowledge of biodiversity reduces risk of non-compliance
4. Good biodiversity management benefits relationships with regulators
5. A good track record on biodiversity helps secure permissions
6. Managing biodiversity supports legislative compliance
7. Managing biodiversity helps us anticipate future changes in legislation and best practice
8. Shareholder prioritisation of biodiversity is not high

A common thread among three interviewees was around relationships with regulators and accesses to licences and permissions, and this benefit was supported in the literature (Boiral & Heras-Saizarbitoria, 2017b; Hanson et al., 2012; O’Gorman, 2020; Thomas Smith et al., 2019). Tom’s comment illustrates this well: “I strongly believe if you’ve got a track record of doing things correctly, you do build up that trust with the regulators,” he said, in reference to Natural England and planning authorities.

Tom: “Biodiversity conservation is very embedded in our business and that has helped definitely to establish good relations with regulators and you know that’s obviously a positive thing for

the business you know because yeah our reputation is important to us and you sort of you've got a working relationship with regulators is based on trust."

Rory agreed, saying that he has "met ecologists from planning departments and tree officers and things, and having those robust systems does definitely work" in terms of getting felling licences.

Rory: "And, as I say Benchmark is a, is a well respected accreditation, so and you know, knowing personally that the audit is quite tough to get through, I think people recognise that your systems are good if you've acquired your Benchmark certification."

Damien also echoed this point, saying that having a commitment towards biodiversity helps with planning authorities in that – because of their involvement with BB – they consider the company to be head and shoulders above competitors and "know what they are going to get from (our aggregates company) without it being overtly stated in (an) officer's reports prior to determination of planning permissions", and that this can help with gaining planning permission.

Damien: "I think it may have made the determination of planning applications a little bit easier because we you know, as I said we've got a proven track record in the management of biodiversity. So, I would hope that the planning authorities have confidence that what we say in planning applications will be followed through once planning permission is gained. It's not greenwash, for want of a better expression. You know, it is a commitment by the company."

According to three interviewees, managing biodiversity also helps to ensure regulatory compliance through the early detection of issues. The benefit of corporate biodiversity management in ensuring compliance with regulations and legislation was noted in the scientific literature (Boiral & Heras-Saizarbitoria, 2017b; Thomas Smith et al., 2019).

Rebecca acknowledged the risk management value of the BB in terms of the audits being "an early warning detection system" that helps to support ongoing regulatory compliance. "If things are going terribly wrong, if there were some impacts that were happening we'd

pick up on things like that very, very quickly if it were to happen,” she said, though she did not offer any examples of this happening.

Damien agreed, saying that having people on site who are more aware of biodiversity and protected species “has helped to avoid us getting into difficult waters with respect to wildlife legislation and infringement”. Rory also agreed, saying that the systems that are in place as a result of the BB “tick a massive box in terms of ensuring that we are compliant”.

Rory: “We’re just modernising and updating actually, we’ve had in place our biodiversity sensitive area maps for years, which basically are a map of the village but it highlights where we’ve got sensitive areas, whether they be badger setts, bat roosts, anything like that, but it’s ways of helping, of compliance and obviously Benchmark, that’s one of the things it kind of highlights, but I would say it’s something we do anyway, but I suppose going back to what I was saying earlier, is that, Benchmark is always challenging us and is always a really good sense check that what we do on a day to day basis is the right thing and we’re continuing to do the right thing, we’re not letting anything fall through the gaps as it were.”

Deirdre focussed on the value of aligning internal processes, in that the BB is structured in a similar way and uses a lot of the same terminology as other more familiar management systems, which makes it easier for the company to use. This is noted in the literature by O’Gorman (2020), and was also discussed earlier in this chapter in 5.3.2.2, where elements of the same idea emerged as a motivation of action under ‘Ensuring we’re doing the right thing’. Deirdre’s colleague Tom also raised this point in his interview, saying that they had undergone a process to align internal processes to the BB, which has supported the streamlining of biodiversity management and, as Deirdre put it, made it possible to “know what you’ve got” so that it is possible to manage activities around that.

Two interviewees commented on the fact that a systematic approach to managing biodiversity helps them to comply with changes in legislation, and to prepare for future changes, though it was not clear that this was necessarily attributable to the BB. Deirdre

said that they were always “looking forward” on legislation, while Rory said that he had built legislation updates into an ecologist’s contract, but did not clarify whether this was a stipulation of the BB scheme or an independent initiative. That managing biodiversity could help to avoid future fines, legislation and fees was noted in the literature, and connects to the idea of preparing for future changes in legislation (Hanson et al., 2012; World Economic Forum, 2010, 2020).

Rory went onto say that, because of the biodiversity success on site, new business development challenges have emerged around management for EU-protected species that have either taken up residence in the improved habitat or been noticed for the first time through improved biodiversity monitoring.

Rory: “Because of the success of our sites you know, even in the last couple of years, we’ve now had more European protected species appear on our villages, which constantly presents us with challenges because we do want to grow as a business and develop as a business, in that you know, we want to grow, so we want to build more accommodation and things and when you get, we’ve now got great crested newts at (a site) have appeared which we never ever had before. We’ve got dormouse appeared at (a site), so all of that, presents challenges and every time we build accommodation, those lodges the bats seem to like as well, we’re creating bat roosts everywhere. So as I say, it’s just part and parcel of it for us and, and just presents us with a challenge, but the processes that we’ve got in place, I’m happy and confident that we’re aware of the risks and it keeps us compliant.”

Damien acknowledged the value of developing biodiversity management plans through the BB in helping to identify risks on-site and reframe them as biodiversity conservation opportunities. He gives an example of this below:

Damien: “If a site is next door to a protected area, a SSSI or whatever, that could be seen, as both a risk for example, for discharge of fugitive dust, or water discharge potentially, but it’s also an opportunity to align what we do in the restoration scheme to enhance or extend the interest away from the protected area.”

Another element of risk management was connected to shareholders and their prioritisation of biodiversity. This finding was supported in the literature by O’Gorman (2020). Damien suggested that shareholders are becoming increasingly more perceptive, both in terms of responsible procurement, responsible resourcing and a commitment to the natural environment, while Tom mentioned how biodiversity is included in the company’s Annual Environmental Report, which is distributed to shareholders. Rory meanwhile noted that interest in biodiversity is probably "diluted" at shareholder level because the company is “a big corporate animal” that is valued at “several billion”. But he goes on to say that he is “reassured” that passion for biodiversity is strong at senior management level within the company.

Rory: “Our CEO is very very passionate anyway you know (and) when we rewrote the forest management plans five years ago he sponsored the project. He wanted to be part of it personally. And that was at his request, so he has an interest and he has a passion for the forest and things and because he appreciates how again, you know they make (the company) unique to other offerings, so as I say, I, I can’t definitely speak for our owners, but I know from the levels and our directors it has huge importance.”

5.3.3.3 Benefits: Competitive advantage

The extent to which managing biodiversity had an impact on competitive advantage was unclear to interviewees, though some felt it helped to support product or service differentiation in a competitive market. The codes identified in this section included:

1. Biodiversity supports differentiation
2. Competitive advantage benefit is not clear
3. Links between customer preference and biodiversity are unclear

Damien was the only interviewee who was clear that biodiversity supported competitive advantage for his aggregates company, and pointed to a specific example of how the BB supported product differentiation through the tendering process.

Damien: "Certainly for some of the larger tenders that we apply for or apply for the works there is questions usually in those on you know your track record of managing the natural environment and providing examples, so I think in that respect it does help in the competitive advantage ... So anything that is a little bit different will make the operator stand out, which is why major operators have a commitment to biodiversity."

While brand (as opposed to product) differentiation was somewhat supported in the literature (Hanson et al., 2012; O’Gorman, 2020), this may be a sector-specific finding, as the other companies interviewed did not remark on this. The customers for Rory’s tourism company are the general public, and while he felt that the “very unique environment” and access to wildlife they offer is a reason why people book their holidays with them, he is less certain that customers necessarily associate additional efforts around biodiversity management with better experiential outcomes: “I mean, we manage for biodiversity. What the link is and how that’s interpreted by our guests is probably very different for very many different people ... They don’t quite realise the level of work that goes on behind the scenes.” Changes in customer preference were noted as potential drivers and benefits in the literature, but interviewees’ experiences do not appear to agree with this (Hanson et al., 2012; World Economic Forum, 2010).

Tom also felt that it was “hard to say” that there is any advantage for his energy company, while Rebecca acknowledged that biodiversity management has a role to play in “maintaining a level playing field with competitors”, though she did not articulate any kind of advantage. She also suggested that there may not be a way to know about customer preference, and doubted that biodiversity would be a significant driver of choice in selecting an airport to fly out of.

5.3.3.4 Benefits: Reputation

All five interviewees strongly endorsed the reputational benefits of engaging with biodiversity, and referred to a variety of ways in which their voluntary biodiversity work has had a positive impact outside the company, particularly with communities, with NGOs and through Corporate Social Responsibility (CSR). These findings are broadly supported in the literature (Boiral & Heras-Saizarbitoria, 2017b; Hanson et al., 2012; O’Gorman, 2020; Thomas Smith et al., 2019; World Economic Forum, 2010, 2020). The nine codes that are explored in this section include:

1. Managing biodiversity improves reputation outside the company
2. Being recognised by the Wildlife Trusts improves reputation outside the company
3. Long-term commitment to biodiversity builds community relationships
4. Biodiversity supports communication with local communities
5. Community collaboration on biodiversity projects builds relationships
6. Biodiversity management helps change community perceptions of business
7. Biodiversity supports good NGO engagement
8. Biodiversity has not reduced NGO pressure
9. Biodiversity "ticks CSR boxes"

Research by O’Gorman (2020), Smith *et al.* (2019), Hanson *et al.* (2012) and Boiral *et al.* (2017) supported the findings around reputation, community engagement and the development of a social licence to operate. Rory agreed that improving biodiversity on-site had “hugely, hugely” benefitted the company’s reputation, but attributed it specifically to the BB and its association with the Wildlife Trusts.

Rory: "I think the fact that you, that the Wildlife Trusts who as I say, you know, one of if not the most recognised wildlife organisation in this country in terms of managing habitats and, for us, recognises the work that we do, and absolutely for me it definitely enhances our reputation."

Rory felt that this association offers reassurance to the community, which was valuable in terms of managing local objections to planning permission applications:

Rory: "I think the fact it offers reassurance you know, the fact that we can say to people that you know it's not just us telling you this, it's we're managing our villages responsibly and we are looking after the biodiversity because we have had when we're putting in planning applications we have objections from, you know from Parish Council or whatever that 'Ooh, you're over developing the forest' ... Our overall management approach and how we manage for biodiversity is supported and is recognised by the Wildlife Trusts so, we can't be doing it too wrong."

Tom also believed that improving biodiversity on-site had helped to engender a positive reputation and a level of trust that supported relationships with communities, regulators and stakeholders. He said that a good reputation among the local community was a very important benefit for the organisation that helped them to shift perceptions of what a nuclear power station is like.

Tom: "I think that the work we do, that biodiversity management on or land, well certainly internally (community relationships) would be viewed as a big driver of why is it a beneficial thing for a company to manage biodiversity. And sometimes, you know, what happens is people from communities and further afield from power stations can have strong views on nuclear and sometimes what happens is that groups then come to our sites and be like; oh wow, we never had any idea that you know you've got all this land and you know all this wonderful wildlife on it, wow it's completely different to what our pictures in our head, of a nuclear station is like. Certainly, people that live around nuclear power stations have a good idea, but you know from just a shorter distance further afield and coming to see what we do on site can be like yes, change the picture of what a power station is."

For Damien, improving biodiversity on site had benefitted the company's reputation, but he also felt that their responsible attitude to biodiversity demonstrated that they "don't

pay lip service to the legislation” and are “proactive in seeking remedies to problems”, which in turn benefitted the company’s reputation among external stakeholders. Part of this, he said, was due to the company’s longstanding commitment to biodiversity and associated activities in the community such as quarry open days.

Damien: “In the past I think some operators have been criticised that, leading up to a major planning application, they are seen to be active in the local community. That has, in the past you know, created a little bit of mistrust. But I think, through the involvement with the Biodiversity Benchmark and because now we have quite a history, a ten year history, of doing it year in, year out, whether we are applying for applications or not, we have created a track record for ourselves. So it doesn’t have an ulterior motive, I suppose is what I’m saying. It is a genuine attempt, not attempt, but a genuine means of managing our natural assets.”

Rebecca also agreed that managing biodiversity had not only improved the airport’s reputation within the local community and had “helped with a certain amount” of public perception around how the airport looks after the environment, but that it had also improved trust between the company and local residents. She added to this by saying that communication with communities has improved.

Rebecca: “There’s probably a bit more feeling of a two-way kind of relationship with the local community in that they’re able to engage with us on this project whether it’s to communicate or to get involved. That’s been quite positive.”

This benefit of enhanced communication with communities was echoed by Deirdre, who emphasised that the more ways her energy company can get to talk to people, the better, saying, “It’s not just about wildlife and things like that it’s a whole kinda communication type issue as well. And I think it all goes hand in hand.” She expanded on this with reference to the company’s visitor centre, where the community can come to the station and do wildlife walks and activities for children, and also in relation to birdwatchers who visit one of the company’s sites, which is renowned for migrating birds. Birders visiting the site with no prior warning had raised security concerns, but through effective communication between the wildlife surveyor, the birdwatching community and the

energy company's security team, the matter was resolved and birdwatchers were able to continue to visit.

Rory also discussed the ways in which his organisation engages with local communities and special interest groups through biodiversity. They work with local surveyors and environmental groups (e.g. bat groups) to gather ecological data and make financial contributions in recognition of that work. He interprets their openness to engaging with his company as an indication of the quality of the relationship: "They're happy to be involved with us, we don't get anybody that we kind of contact and say ooh, no don't want anything to do with (the company)." Rory claimed that pressure from environmental groups or NGOs has not been an issue to date, and he attributes this to "the level or reassurance" that the accreditation offers.

Rory: "We do hold the accreditation and the perception and well, it's not just the perception but the reality is about how we manage and the layers of protection we have, now whether that holds true in the future who knows. I mean you know, there are constant challenges and, and people will pick up on little bits of information and you know run with it from there, so who knows what it may bring but I would have said to date it probably gives people reassurance that we are managing responsibly and looking after our habitat."

Rebecca was unsure as to whether engaging with biodiversity or the BB had reduced NGO pressure, but she seemed sure that it had not eliminated it at the airport. Damien also said that NGO pressure was still there and that it had not been reduced or eliminated. Tom was more nuanced – "It depends which NGOs you're talking about, some are just inherently opposed to nuclear power" – but he said that the company does have "pretty good engagement" with the conservation NGOs that operate in and around their stations. O'Gorman (2020) supported this finding, referencing the challenges inherent in NGO/corporate relationships.

The final aspect of the reputation that emerged in the interviews was around CSR and being a responsible company, which also emerged earlier in this chapter as a driver of some businesses' initial engagement in biodiversity in Chapter 5.3.2.2, where support for this finding in the literature is discussed (O'Gorman, 2020). In discussing reputational benefits, Tom said that biodiversity was part of the company's "corporate sustainability tender", while Rebecca mentioned that biodiversity "definitely ticks a lot of boxes" in terms of CSR.

5.3.3.5 Benefits: Leadership

Leadership was the final business benefit category that emerged from the interview analysis. It comprised ideas around winning awards, being invited to speak at industry events, sharing best practice and progressing action for biodiversity in other spheres. While leadership was not explicitly referred to in the literature, Boiral *et al.* (2017) suggested that exemplifying best practice was a driver of business engagement on biodiversity, while O'Gorman (2020) wrote at length on the importance of recognition at various levels of the organisation for efforts in driving corporate action. She explained how at site level, local actions can bring a sense of pride and ownership, while at the corporate level, local actions can be aggregated to be recognised at a global level. Two interviewees were strong in their perceptions of leadership as a business benefit, while others were more guarded in their statements or less clear. The codes under this category were:

1. Biodiversity management helps us be recognised as leaders
2. Achieving and sharing best practice is valuable
3. Biodiversity management has brought positive recognition from external groups
4. Taking action beyond certification (academia, community, NGOs, farmers, council)

Rory felt that his company were “leaders in what we do by some stretch”, and pointed to the company’s investment in biodiversity and evidence of habitat enhancement on site as being “part and parcel” of that.

Rory: “We’re not trying to turn ourselves into SSSI sites, that’s not what we are about. At the end of the day our core is we are a leisure business but what we’ve, what we’ve learned over the years is that we can have a very successful leisure business but we can also support and enhance biodiversity through the management of our forests.”

Damien referred to industry awards that demonstrated the company’s leadership on biodiversity within the sector, and made the point that a wide range of stakeholders are represented at the awards – stakeholders, landowners, regulatory authorities, the Wildlife Trusts, and MPs – and he thought that “that has helped greatly in getting across what we are about to a much, much wider audience”.

Damien: “At the last Mineral Products Natural England Environment Showcase, which is the biodiversity awards, I think we came away with six awards. Six sites were recognised. And, we won the Cooper-Heyman Cup, which is for excellence in restoration. One of our sites, the Hertfordshire Panshanger Park, won the cup last year.”

Rebecca also felt that awards made the airport “stand out a bit” amongst its peers, while Rory gave an example of a County Council ecology officer nominating the company for a Department of Environment, Food and Rural Affairs (DEFRA) award for designing a green roof to support a particular species of pollinator. “There is a level of recognition for what we do,” he said, “and it does generate an awful lot of support.”

Other ways that interviewees reported recognition as leaders included being invited to speak to industry groups (Rebecca), featuring in industry magazines (Tim), and sharing best practice through industry forums (Damien).

Taking action for biodiversity outside of the requirements of the BB is another example of leadership, though it should be noted that, unlike the other higher-level codes, the question was not posed to interviewees in the context of leadership benefit. Nonetheless, it can be considered as an example of leadership for the purposes of this research. All companies (though not all interviewees, Tom did not mention any examples of biodiversity action beyond the BB) gave examples of different kinds of initiatives they had undertaken beyond the scope of the certification scheme. Damien's aggregates company has supported interested staff in providing expertise in earthworks to local projects and donated wildflower seed to a local initiative. It has also identified a way to facilitate the company's non-accredited sites to achieve the BB by developing a biodiversity management plan template is that it is aligned to the requirements the BB. "That is intentional," Damien said, "insofar that if a particular site has the interest to go for Benchmark they have the basis there already in what we are requiring under our internal biodiversity management plan."

For Rebecca, the aforementioned dedicated People and Wildlife Officer (a role supported by the airport) creates value in linking community and biodiversity to identify opportunities for potential projects with the community. Rory gave an example of his tourism company's grounds team, who support the local Wildlife Trust at a nearby reserve by helping out with practical habitat management, and also of conservation ranger colleagues who sit on partnership groups and are given time to do so by their employer. Deirdre also referred to an initiative with a local tenant farmer to support a community of yellow wagtail with wildflower margins and cover crops. Although she says the station "can take no credit" for what the farmer is doing, she feels that they have an influence: "I think as a whole we are all working towards it, not just the council but the farmers are getting on board, and ... the wildlife is benefitting."

5.3.4 Barriers to business engagement

5.3.4.1 Challenges

A range of higher-level codes emerged in the Challenges category. This topic was referred to as barriers in earlier chapters, but having heard directly from employees actively engaged in improving biodiversity on site, it became apparent that 'Challenges' was a more appropriate term, since these issues had not blocked engagement for the companies concerned. This category features data primarily in response to the challenges associated with improving biodiversity on site generally, but two respondents (Damien, Rebecca) did volunteer information about challenges associated with the BB specifically, and those data have been incorporated here. Four codes emerged in this category but none of them were mentioned by all five of the interviewees, suggesting a lack of consensus among the sample. They covered the challenge of implementing actions across multiple sites, busy sites and remote sites, the need to remain focussed on the business objectives rather than on biodiversity outcomes, and a range of experiences around costs. The need for senior management support was also acknowledged, though interviewees suggested that this was not currently a challenge for them. The four codes were as follows:

1. Practical challenges
2. Management challenges
3. Cost challenges
4. "We're not a charity"

Four interviewees referenced the practical challenges of managing biodiversity – an issue that did not emerge in the literature directly, though the complexity of biodiversity

management was often referred to more generally. Tim summed up these kinds of challenges, saying “(It’s) not necessarily just because we’re a corporate company, they’re things anyone would face in managing biodiversity and improving it on land.” According to Rory, his biggest challenge is balancing the logistics of managing the woodland with the success of the business. Weekly occupancy at his tourism company averages at 98%: “It’s like the old horror stories of Daisy goes to Benidorm and there’s a building site outside your hotel...” he said, explaining that it is a challenge to do work in a tourism village that is open 365 days of the year.

Rory: “It is about how you go and do the management that doesn’t cause major disruption for our guests. And this is the thing. I mean the teams on the ground often joke, you know, it’d be great if the guests weren’t here, we could get so much done. But then the flip side is that if the guests weren’t there then we wouldn’t bring the money into the business and we wouldn’t be able to invest in the forest and the ecology and the biodiversity in the way that we do ... The biggest challenge for us is actually the logistics of managing the woodland.”

Access is a challenge for Rebecca, particularly with rigorous health and safety requirements and the difficulties associated with equipment and personnel working in remote areas. For Damien, the BB is challenging for companies with multiple sites:

Damien: “There is a slight downside with the Benchmark insofar as you have to hit the commitments within the Benchmark for example for training, continual improvement and so forth and so at times it’s not an easy process. It may be if you’re dealing with individual sites which a lot of organisations that have the Benchmark only have one or possibly two sites. But when you’re looking at 17 it is difficult.”

Damien identified senior management support as a potential challenge, in that if it is absent, it can be difficult for managers to devote time and resources to biodiversity, though he did not mention that as an issue for his aggregates company. Rebecca said that, while there was always backing for biodiversity management, senior management support has grown as the work has demonstrated positive impact. Tom also said that the Benchmark is well embedded in the organisation and that they have “successfully

navigated the challenge (of getting buy in from senior management) to date.” The importance of senior management support in driving action was recognised by the CBD (Convention on Biological Diversity, n.d.-b).

The financial burden of managing biodiversity on-site was mentioned by two interviewees. Deirdre said that money could be “difficult” because budget control lies outside her remit, while Rebecca identified high costs as a challenge, saying that they have made efforts to get volunteers involved in order to make biodiversity management more cost effective.

Rebecca: “Over the years I think we’ve managed to save on cost by using more volunteer groups and using more resources from other projects that might be happening, so sort of capitalising on other things that are happening around the airport and being able to borrow equipment and make contacts with useful people. We’ve had a lot of help from interested contractors so there’s a lot of contractors and stakeholders that operate around the airport or for the airport. They’ve become aware of the project and wanted to get involved, so perhaps they’ve donated materials or staff and you know their time to help with the project, so that’s all quite a benefit.”

The final code that emerged in this section was around conflicts between business and biodiversity, which was widely – if not explicitly – referenced in the literature. Almost all studies in the field acknowledge the inherent challenge of reconciling commercial and ecological objectives. Both Tom and Damien reflected this through similar remarks about not being a nature conservation charity but a commercial business. Damien said that the need for continual improvement under the BB caused some issues because of the need to constantly strive to be better: “I think if I’m honest, you have to recognise that our core activity is a quarries industry. We’re not a nature conservation agency,” he said. Tom echoed this, saying that his energy company “is a commercial business, it’s an operational business, we’re not a wildlife charity, so it’s ensuring biodiversity is embedded within the systems of the company”.

5.3.5 Interpreting the findings against the research questions

This phase of the research sought to assess the perspectives of employees who had been a part of the BB implementation process within their companies in order to refine and explore the potential business drivers, benefits and barriers. This research is primarily concerned with cross-sectoral findings in the data, so identifying areas of consensus is relevant to the discussion of the findings in the context of the research questions:

1. What do business stakeholders think are the business benefits of voluntary on-site biodiversity management?
2. What do business stakeholders think drives businesses to engage with voluntary on-site biodiversity management?
3. What barriers do business stakeholders think exist for businesses in engaging with voluntary on-site biodiversity management?

Some of the categories saw stronger consensus between the interviewees than others. In relation to Research Question 2, all five interviewees endorsed the three categories under the Motivations theme: Passion, Interest and Pride, Ensuring we're doing the right thing; and Recognition for doing the right thing. These motivations were common across all of the interviewees in terms of their opinions as to why their company was motivated to engage with biodiversity.

Under the Benefits theme, all five interviewees endorsed the Employee engagement, Risk management and Reputation categories, while there was less strong consensus in Leadership, only two interviewees were strong on this benefit, and Competitive advantage, where only one interviewee had a clear and strong perspective on how it had benefitted the company. This suggests that Employee Engagement, Risk Management and Reputation were common across all of the interviewees, suggesting that they could be

considered business benefits in relation to Research Question 1, while Competitive Advantage and Leadership were not, suggesting that these items were not common benefits from the perspectives of the employees from the businesses that were sampled, and may not be cross sectoral. The potential reasons for this are explored below:

- The one interviewee – Damien – who felt that there was strong competitive advantage in achieving the BB and having strong biodiversity management practices referred to an example of biodiversity coming up in a tender for a contract. It is likely that an organisation that his aggregates company wanted to supply had prioritised biodiversity management in its procurement policies. This could be a sectoral bias and would be interesting to explore further, as it seems possible that the companies other interviewees worked for (energy generation, airport, leisure business) would not have encountered this type of procurement request, since their customers are primarily the general public, but we cannot know that from the data presented here.
- With regards to Leadership, two interviewees (Rory and Damien) were strong in their view that the BB and robust biodiversity management had had leadership benefits for their organisations. Interestingly, they both pointed to winning or being nominated for industry awards – one with the Mineral Products Association and one with the UK Department of Environmental, Food and Rural Affairs (DEFRA) – which suggests that awards and public recognition among peers and stakeholders is a demonstration of leadership that these interviewees (and potentially the wider organisations) valued, but also that these two sectors actually had awards. There's nothing to suggest that there are – or are not – awards schemes for airports or energy generation companies, but that three members of this group of interviewees did not mention them.

For the Challenges category, four out of the five interviewees gave thoughts and examples of the practical, managerial, financial or 'business vs nature'-type challenges they faced in managing biodiversity and/or implementing the BB. There is majority consensus that challenges exist, and all four of the companies I spoke to were represented in the answers, but there seemed to be some variety in interviewees' experiences of it. This could be attributable to a sectoral bias or to a role bias, in that some interviewees had different experiences of or exposure to the challenges biodiversity management presents because of their job profile, or their length of time in the job, or, indeed, their interpretation of a challenge. Either way, clearly challenges will require more exploration in future research in order to understand what BB certified companies' employees perceive as barriers to engagement and more effectively address Research Question 3.

Analysis of the interviews in Chapter 3 showed that findings could be considered against two key parameters for the purposes of explanation: internal/external perceptions of a business, and a business's internal/external objectives. I have used this approach again to illustrate how the categories that were most strongly endorsed across all sectors by interviewees in this chapter can be interpreted against these two overarching conceptual parameters (Fig. 5.1).

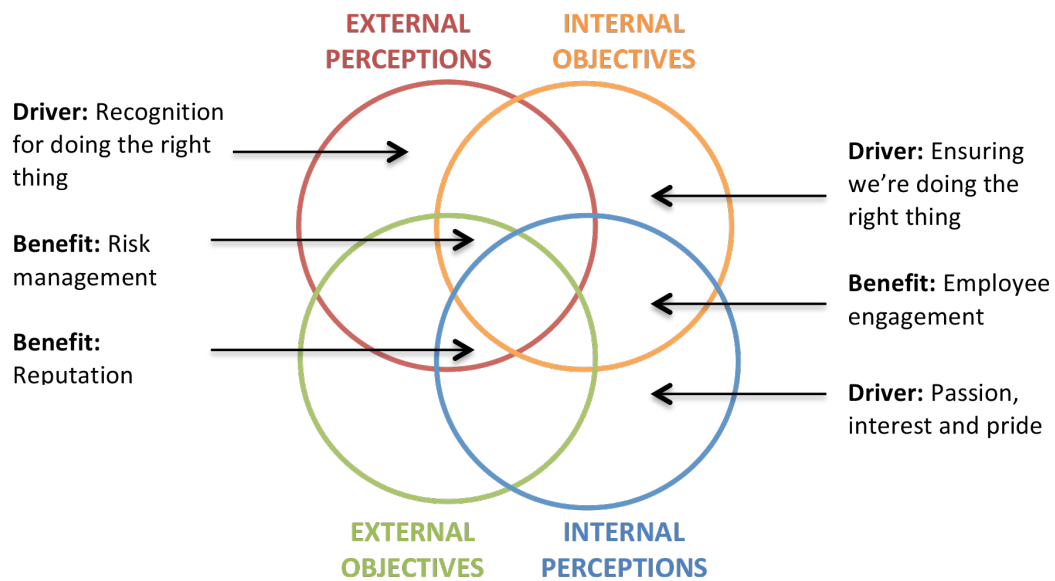


Fig. 5.1: The researcher's interpretation of the cross-sectoral drivers and benefits findings in relation to two key conceptual parameters that emerged during the analysis

5.4 Conclusion

Five employees from a cross-sectoral group of companies that had undertaken voluntary biodiversity management through the BB gave their thoughts on a range of drivers for their companies getting involved, including intrinsic values like passion, interest and pride among staff members; the desire to ensure the company is doing the right thing; and being recognised for their efforts. The drivers and benefits were plotted in the context of two key axes: internal/external perceptions and internal/external objectives (Fig. 5.1). They showed strong consensus across sectors on a range of business benefits, including employee engagement; risk management; and reputation. The majority remarked on the challenges of managing biodiversity and/or implementing the BB, but there was lower consensus on the nature of those challenges and this could be attributed to sectoral or role bias. Although some of the findings in this chapter do agree with published studies, others are novel, such as the passion and personal interest of individual staff members. Given the significant limitations of this small-scale study, further research is required to

establish the veracity of these novel findings and their frequency within the business community.

6 General Discussion

6.1 Summary of main findings

In synthesising the findings of the data that emerged from the employees of the companies certified under the Biodiversity Benchmark (BB), I sought to identify the overarching drivers, benefits and barriers that demonstrated high levels of agreement across sectors within the sample. I found that the key drivers for business engagement with voluntary on-site biodiversity management could be described as:

1. Genuine interest and passion of an individual
2. Wanting to do the right thing
3. Wanting those efforts verified and recognised

The interest and passion of a highly motivated individual within the company emerged strongly in both Chapter 4 and Chapter 5, with respondents reporting such individuals at a range of levels within the organisation, from the CEO down. While significant in this study, this finding did not occur in the literature, potentially because so few empirical studies have been done in this field. More research is needed to further explore their relevance to business engagement with biodiversity and to positive outcomes for nature. The findings also suggest that there is a relationship between an individual's passion and interest and the enabling corporate environment in which to realise their ambitions, in that the combination of both lead to good corporate practice on biodiversity. The idea of the company wanting to do the right thing also emerged as a strong driver in both Chapter 4

and Chapter 5. It comprised notions around being a responsible company and meeting Corporate Social Responsibility (CSR) objectives that already included biodiversity, but also connected to the rigour of the system itself, the fact that it was a formal scheme that aligned with existing approaches to environmental management, embedded continual improvement and supported legislative and regulatory compliance. These findings were most directly supported in the literature by O’Gorman (2020), and may contribute to the enabling environment that facilitates highly motivated individuals to take the lead on biodiversity. Wanting to be recognised for these efforts and have them validated also emerged strongly across Chapter 4 and 5, with the key issues being the value of having internal systems verified by a respected and well-known wildlife charity, which brought with it the confidence that the company was undertaking “proper” conservation. Again, these findings were supported by O’Gorman (2020). However, while businesses may tend towards management systems and certification approaches, biodiversity notoriously does not: as one assessor pointed out in Chapter 3, “Nature doesn’t conform to neat, linear reporting”. While the BB does a rigorous job of bridging this gap, this has presented challenges for businesses, in that it is harder than they might expect and there is a risk that they may drop off when they come across a finding they do not like, as pointed out by another assessor.

I took the same approach to synthesising the findings of Chapters 4 and 5 to determine the overarching business benefits reported by survey respondents and interviewees. Through this, I identified the following key business benefits of undertaking voluntary on-site biodiversity management among the sample to be:

1. Improving reputation in the community
2. Acquiring and complying with licences and permissions
3. Engaging employees

4. Being seen as leaders

Reputational benefits emerged very strongly in the data, and this was supported widely in the literature (Boiral & Heras-Saizarbitoria, 2017b; Hanson et al., 2012; O’Gorman, 2020; Thomas Smith et al., 2019). The fact that this benefit was focussed strongly on community engagement and reputation at the local level was interesting: I had expected consumers and customers to feature more highly in terms of reputational benefit, but they did not, and this was emphasised by the lack of agreement with the idea that improving biodiversity conferred a degree of competitive advantage or leverage in terms of winning contracts, clients or customers, product differentiation, or profits and growth (with the exception of the Mining and Quarrying respondents/interviewee, suggesting that it may be unique to that sector). Biodiversity management on-site, then, primarily offers reputational benefits with the external stakeholders who are proximate to that site, enhancing trust, improving both the company’s reputation in the community but also their relationship with the community. One quote that captured this was “It’s not just about wildlife”, with the context being that it is also about communicating and sharing with people. Reputational benefits with regulators were also highlighted here, connecting to findings that emerged under the risk management category. This area was strongly emphasised in the data, with high agreement across topics relating to improved relationships with regulators, smoother access to licences and permits and better compliance with regulations and legislation, with one interviewee referring to the BB as “an early warning detection system”. The benefit of risk management, particularly around licences, permissions and access to resources, was widely acknowledged in the literature (Boiral & Heras-Saizarbitoria, 2017b; Hanson et al., 2012; O’Gorman, 2020; Thomas Smith et al., 2019; World Economic Forum, 2010, 2020).

At the high level, employee engagement emerged consistently in both chapters as an important business benefit within the sample. There was consensus on specific aspects of employee engagement that could be achieved through on-site biodiversity management, most notably employee health and wellbeing, and also in the morale boost and sense of pride that taking part in such activities brought. O’Gorman (2020) supported this finding, emphasising the unique opportunity on-site biodiversity action offered for employee engagement at the local level, particularly with regards to a sense of pride and ownership. Again, this connects back to ideas around the personal interest and passion of individuals and the existence of opportunities for them to integrate them in the workplace, potentially resulting in more engaged employees. However, there were suggestions that engaging employees could be challenging, that it takes work to make it impactful, and that the impact itself was hard to measure. One interviewee cited the value of having a dedicated ‘People and Wildlife Officer’ to support on such initiatives. Leadership, or more specifically, being seen as leaders by peers and other external stakeholders, was another benefit reported by interviewees and respondents. While not as strongly emphasised as the other three benefits, some employees saw certain aspects such as awards from industry or government as very significant in helping their organisations to stand out among peers. Recognition was cited as being an important business benefit by O’Gorman (2020).

Combined, my analysis of respondents’ perceptions suggests that a passionate and highly motivated employee together with an enabling corporate culture and a business-relevant management framework can drive positive benefits for biodiversity, employee engagement, business reputation, community relationships and risk management.

A number of challenges or barriers emerged in the data. While most interviewees acknowledged that managing biodiversity is logistically difficult in and of itself, and particularly on busy sites, there was a lack of consensus among the sample beyond that. Employees' opinions were mixed in terms of what the major challenges were, suggesting diverse experiences and potentially variable exposure on the part of the employees. Nonetheless, the findings were interesting and merit further acknowledgement here, specifically the notion that "We are not a wildlife charity", which highlighted the conflict between commercial and operational objectives and nature conservation objectives, and saw one interviewee emphasise the importance of embedding biodiversity within systems in order to ensure effective management.

There are a number of limitations in the study, including small sample sizes and the selection bias inherent in a self-selecting group, which I addressed by ensuring that the findings are considered as preliminary, non-representative insights into an emerging field of study rather than generalised statements that inferred wider trends that the data cannot support. Another limitation is potential analytical bias of the researcher. As a professional in this field, I likely bring preconceived opinions about the drivers and barriers of corporate conservation. As a researcher, I was aware of this potential bias and took steps to construct my methodology in a clear and transparent way that made it easy to see what data were included and excluded from the analysis. I went to great lengths to ensure the data points selected for analysis were representative of the conversations and consciously sought to maintain intellectual distance from my own opinions throughout the process.

6.2 Reflection on the findings

My own experience engaging and consulting with over 50 businesses on biodiversity initiatives over the past six years – primarily through Corporate Social Responsibility and natural capital business networks – would suggest that individual passion and genuine interest are important factors in getting conversations started in companies about biodiversity. These conversations are often what lead to action, though in my work the nature of the action could be variable, comprising initiatives from walks and talks with companies, to volunteering days, to site-level biodiversity management plans, value chain initiatives and academic partnerships. Often, I found that companies say that they want to do the right thing, but struggle to determine what that thing is (personal communication, Fitzpatrick, U., Phelan, B., Fitzgerald, L., O’Gorman, M.). Furthermore, when working with them to identify key impacts and dependencies and prioritise material risks, the scale and nature of the strategic action required can seem overwhelming. This is especially the case for consumer-facing companies whose activities are focussed further down the value chain, e.g. multinational business consultancy firms, tech companies and financial institutions. For these organisations, more modest actions that connected to existing internal objectives around employee and community engagement tended to be the most popular, with socio-ecological benefits – rather than conservation outcomes – being preferred.

As well as direct primary impact on landscapes, access to land that the company owned was often a limiting factor of corporate ambition around biodiversity. Where companies had large landholdings, conservation science approaches (botanical and entomological surveys, habitat mapping, action planning, monitoring and targets) did often underpin the organisation’s biodiversity objectives, though the absence of an externally verified formal standard with targets and strong public-facing backing like the BB may well have impacted

negatively on the engagement of senior management and other departments beyond sustainability and environmental management, and also had consequent impacts on budget provisions and internal prioritisation in terms of project delivery. The lack of urgency and investment may also be connected to perceptions of material risk. Despite resounding consensus from the likes of the Convention on Biological Diversity, IPBES and the World Economic Forum, and the increasing likelihood of ever-tightening environmental regulations amid ambitious policy goals for transformative action, biodiversity is still not seen as a risk management issue for Irish businesses in my experience. Urgent effort is clearly needed to create tangible, actionable and verifiable connections between biodiversity loss and corporate exposure that translate to science-based targets. However, the gap between where many companies are and where they need to be in addressing the biodiversity crisis is enormous. For this reason, it is my opinion that while pursuing strategic and systemic change, we should continue to encourage practical conservation wherever possible, align the benefits of biodiversity action to complimentary organisational objectives where no clear business case for biodiversity exists in and of itself, and empower the many interested and passionate people within organisations to raise awareness of biodiversity and embed its management in day-to-day decision-making, whether at the corporate, departmental or individual level.

6.3 Recommendations for future studies

1. Business and biodiversity issues in general require significantly more study across a range of disciplines including ecology and conservation science, business management, urban planning and design, landscape management, marketing, business ethics and the social sciences.

2. Future studies seeking to explore the perceptions of business in engaging with voluntary on-site biodiversity management could benefit from an empirical research approach, particularly by assessing a wider range of employees, for example senior managers to establish the business case from the perspective of the C-suite, and site-level workers outside of an environmental job function. This could be especially interesting, particularly since some employees interviewed in this study suggested they did not have sufficient evidence to be confident in answering certain questions.
3. Another area of potential enquiry could be an investigation of companies undertaking other types of voluntary biodiversity action, for instance Net Positive Impact and No Net Loss, or Corporate Biodiversity Action Plans, or supply chain biodiversity action through commodity-based initiatives, for instance, to understand how the business cases for different types of action compare both across and within different sectors.
4. Connections between instances of best practice in corporate biodiversity management and the potential existence of individuals' passion and interest in biodiversity would be another interesting area of study, especially if focussed at senior management level and expanded to consider enablers (such as the corporate environment) and co-benefits (such as employee engagement). Such studies could seek to inform the framing of communications around biodiversity management initiatives (focussing on the heart as much as the head or the balance sheet) and also their design (embedding long-term commitment, continual improvement, targets and verification, as well as connections to complimentary business objectives such

as employee and community engagement) in order to ensure their longevity irrespective of the individual who may have initially committed to them.

5. A critical area for future studies is the connection between corporate action and biodiversity impact. It was not possible to investigate the biodiversity outcomes of the BB in this study, but quantifying the effects of the scheme – and, indeed, other types of corporate biodiversity action – is of high importance.
6. Lastly, the findings of this research also have the potential to inform the grey literature on business and biodiversity, as well as the design of the range of biodiversity-related initiatives for business by NGOs, industry groups and associations, responsible business networks and organisations that promote sustainability reporting, as outlined in Chapter 1.2.4. These initiatives are diverse in their approach (including action plans/strategies, reporting frameworks, accredited standards, and management systems) and few focus exclusively on nature and biodiversity. However the growing global attention on this space is focussing minds on business solutions to the biodiversity crisis – both within existing frameworks and through the design of new biodiversity-specific initiatives. This research has the potential to contribute to this process.

6.4 Conclusions

The small-scale exploratory research at the start of this project shed light on the understudied area of biodiversity management by business by identifying cross-sectoral drivers, benefits and barriers of companies' voluntary on-site biodiversity management

certification efforts. In taking an empirical mixed methods approach, I uncovered findings that add nuance to understandings of the topic in the published literature. For the companies involved in this study, wanting to do the right thing emerged as a significant driver with two key facets: being a responsible company, and also taking the right approach to realising that by working with a scheme that embedded biodiversity in management systems, thereby ensuring continual improvement. Wanting those efforts recognised and validated was another key driver that emphasised businesses' desire for verification from a trusted source, and their preference for that source to have a strong and respected public profile. Furthermore, in terms of benefits, the reputational benefits of biodiversity were seen primarily with local communities and regulators. Risk management benefits were most often experienced through accessing licences and permissions and ensuring compliance with legislation and conditions. Employee engagement benefits focussed on health and wellbeing of staff, greater morale and a strong sense of pride in the initiatives being undertaken at site level. Leadership benefits manifested through the recognition of best practice by external stakeholders, e.g. through awards. One key finding was novel and merits further investigation to establish its veracity, namely the genuine interest in biodiversity and the passion of an individual within an organisation. This is a fascinating insight that poses questions around how biodiversity might be leveraged within organisations and, when considered in the context of the other findings, presents interesting ideas around the potential relationship between individuals' personal passions and interests and the enabling corporate culture that facilitates the application of those passions within the business. Together with a business-relevant management framework that supports the integration of biodiversity in organisational systems, it's possible that this combination of factors could generate positive impacts for biodiversity, employee engagement, business reputation, community relationships and risk management. This analysis of respondents' perceptions offers useful

insights for future research and also for the design of biodiversity initiatives by informing how they might ensure their longevity and strategic relevance to an organisation, irrespective of the 'passionate individual' that may have instigated them.

The importance of the role of the private sector in reversing biodiversity loss cannot be underestimated. International studies have made plain the need for transformational socio-economic systems change and policy makers have set out bold ambitions in line with that transformation, many of which hinge on private sector engagement. However, while it's clear to conservation scientists that businesses both impact and depend on biodiversity, the materiality of those impacts and dependencies remains unclear for many companies. Realising the benefits of actualising business as an ally in biodiversity conservation requires that we improve corporate understanding of the biodiversity crisis, its consequences, the significance of the private sector's role in reversing it and the other business benefits that can be delivered through strategic initiatives. These topics should become a priority for future research.

7 Appendices

7.1 Appendix 1 – Interview Schedule (Chapter 3)

Ask interviewees the research questions:

1. Why are businesses interested in taking voluntary action for biodiversity?
2. What do business expect to occur as a result of taking voluntary action for biodiversity?
3. What are the business impacts of taking voluntary action for biodiversity?

4. What are the perceived impacts of the Biodiversity Benchmark certification programme on biodiversity at assessed sites?

Prompt for answers re:

5. What are companies' motivations for:
 - a. engagement with biodiversity generally?
 - b. engagement with the Wildlife Trusts specifically?
 - c. doing a paid-for certification scheme rather than an alternative approach?
6. What are companies' expectations in terms of:
 - a. the benefits to the business?
 - b. the business challenges they'll face in undertaking the certification?
 - c. the biodiversity benefits at their site/s?
 - d. the challenges to enhancing biodiversity at their site/s?
7. Why do companies choose not to undertake the Benchmark, having attended an introductory session?
8. What do companies say are the business impacts of doing the benchmark?

7.2 Appendix 2 – Interview Schedule (Chapter 5)

Preliminary Questions:

A: Job title and describe role

B: Company name and describe its primary activities

C: How many sites does company have? How many have Benchmark?

Main Questions:

1: What led to your organisation becoming interested in voluntarily improving biodiversity on-site?

Prompts:

- A passionate individual advocate within the organisation
- Our competitors had done it
- To meet Corporate Social Responsibility objectives
- To comply with legislation
- To invest in natural capital and ecosystem services

2: What appealed to you about the Biodiversity Benchmark as a system for biodiversity management on-site?

Prompts:

- The process is similar to other management systems we use
- It's target-driven
- It's endorsed by a recognised environmental group (The Wildlife Trusts)
- It guarantees that we're doing 'proper' conservation
- It's a formal scheme with an award at the end

3: What are the challenges of improving biodiversity on-site?

Prompts:

- Difficult
- Expensive
- Took a long time
- Hard to secure senior management support

4: We engaged employees by improving biodiversity on-site

Prompts:

- boosted staff morale
- benefitted employees' professional development
- benefitted internal communication
- empowered individuals within the organisation
- benefitted employee health and wellbeing
- helped us attract and retain employees
- helped improve trust within the company (i.e. stronger employee motivation and commitment)
- increased employee productivity

5: Improving biodiversity on-site has helped us manage risk

Prompts:

- improved relations with regulators
- gain permits and planning permission
- benefitted our regulatory compliance
- meet shareholders' expectations
- prepare for future changes in legislation
- helped us to manage intangible assets
- helped us improve internal processes

6: Improving biodiversity on-site has boosted our company's competitive advantage

Prompts:

- differentiated our product/service against competitors in the marketplace

- helped us win contracts and/or clients
- improved customer satisfaction
- generated profits and growth

7: Improving biodiversity on-site has benefitted the organisation's reputation

Prompts:

- helped improve trust outside the company (i.e. with business partners, suppliers, consumers and others)
- benefitted our public relations
- helped us to fulfill our Corporate Social Responsibility objectives
- improved our reputation in the community
- improved our relationship with the community and local groups
- reduced or eliminated pressure from NGOs
- helped us to align with consumer preference

8: Improving biodiversity on-site has helped us be seen as leaders in our industry

Prompts:

- keep up with best practice in the industry
- led to the company being recognised as a leader (e.g. winning awards, giving talks/presentations)

9: Has undertaking the Biodiversity Benchmark led you to take action for biodiversity in other areas, beyond the certification scheme?

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