

Early insights on whisky producer engagement with environmental sustainability

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List of acronyms

NbS	Nature based Solutions
NC	Natural Capital
SWA	Scotch Whisky Association

1. Introduction

Within policy and academic communities working for environmental sustainability there is increasing recognition of the need to include private sector actors in ecosystem restoration (Cortina-Segarra et al., 2021; Scottish Government, 2025). The ideas of Natural Capital (NC) and Nature-based Solutions (NbS) are widely acknowledged as having the potential to support such endeavours by showing the diverse and multiple socio-economic benefits that can arise from working with nature. Yet, how to achieve more widespread involvement of the private sector across economic sectors is not well understood. Therefore, closer scrutiny on how, when and why business decision making engages with these issues is important.

This short report outlines progress in terms of data collection and analysis for a study on the uptake of Nature-based Solutions (NbS) by whisky producing companies involved within the Scotch Whisky sector. The Scotch whisky sector was selected as a case study of private sector actors, as it is directly dependent on Scotland's natural resources both operationally and reputationally and is also considered important both culturally and economically (Carmen E. & Waylen, 2023; O'Connor, 2018; Spracklen, 2014). Insights from this sector could be useful for better understanding mainstreaming efforts within a range of sectors dependent on the natural environment.

This study addresses the following research questions;

1. How, when and why do whisky companies get involved in activities related to NbS?
2. Does – or could - Natural Capital framings, tools or data play a role in encouraging business involvement in NbS?

The structure of this document is as follows. We first briefly explain the link between the concepts of Natural Capital (NC) and Nature-based Solutions (NBS) and our focus in this study on exploring the multiple factors involved in shaping the uptake of NbS within the Scotch whisky sector. Second, we present our study methodology, outlining the data collection methods used, study participants and analytical process to date. We finish by setting out some initial findings and next steps to complete this study.

2. Conceptual background

We did not always use the terms NC and NbS with our participants, but they are concepts that motivated and informed our research, so we explain them here.

Natural capital (NC) emphasises how the natural environment underpins the flow of multiple ecosystem goods and services, thus explicitly orientating ecosystems as a type of asset for supporting human activity and outcomes for human wellbeing (Barbier, 2019). From a business perspective NC therefore represents an alternative way of thinking about the role of and relationship to the natural environment to economic activities. To operationalise the concept of NC within decision making business actors there is a need to consider not only the services this asset class produces but also the type and distribution of benefits that arise (Bateman & Mace, 2020). This has led to a focus on how NC data and tools can help guide decision making, alongside understandings of how climate change is also influencing the services and benefits linked to NC (Ingram et al., 2024). The assumption that tools and data for economic assessments to qualitative and (financially) value NC is the only way to achieve positive socio-ecological outcomes within a NC approach has however been rebuked, with studies showing that strategic decisions to work with nature can be guided without monetary

valuation (Glass, Waylen, Reed, Peskett, & Stevens, 2025). The alignment of business practices to a NC approach is also important for shaping positive socio-ecological outcomes (Guerry et al., 2015).

Natural capital and Nature-based Solutions concepts are inherently linked, particularly in terms of private sector support for and involvement in protecting and improving the natural environment. Nature-based Solutions (NbS) are interventions that work to sustain, protect and restore natural processes and functions to deliver socio-economic benefits for proponents, society and for biodiversity (Eggermont et al., 2015). They are defined by the IUCN (2016) as *“actions to protect, sustainably manage, and restore natural or modified ecosystems, which address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits”*. Social challenges driving the delivery of NbS may include climate mitigation, climate adaptation, flood risk management, heat management, flood and drought (socio-ecological) resilience and human health and wellbeing, place regeneration and economic opportunities (Dumitru & Wendling, 2021). The types of measures deployed as part of NbS interventions can range from the integration of habitat elements into traditional engineering approaches (i.e. grey infrastructure) to measures that focus on restoring natural ecological processes (i.e. wetland creation and floodplain reconnection) as well as interventions that seek to sustain and protect natural processes (Martin, Scolobig, Linnerooth-Bayer, Liu, & Balsiger, 2021). However, achieving multiple benefits, including long term benefits for business often require designing at scale, e.g. landscape scale (Cohen-Shacham et al., 2019; Turkelboom et al., 2021). This includes business benefits in terms of sustaining core business activities and developing new activities to strengthen business resilience (Kooijman, McQuaid, Rhodes, Collier, & Pilla, 2021).

For engagement with businesses we used aspects of this topic and terminology that was already familiar – such as ‘sustainability’ or ‘carbon emissions’ – and we did also explore the extent to which these terms and ideas were familiar.

3. Methodology

3.1 Approach

Multiple actors and factors are likely to be involved in shaping the uptake of NbS in decision making within the Scotch whisky sector, but this is not a well understood topic. A qualitative exploratory research strategy was therefore selected to explore from the perspective of different actors the factors involved in guiding if and how whisky companies work with nature (Ritchie & Lewis, 2003), using a case study of the Scotch whisky sector. There are many independent whisky companies producing whisky within Scotland, often linked to one or few distilleries, however many whisky distilleries are also owned and controlled by large national and multi-national companies. Within these larger companies strategic decision making related to sustainability often occurs at the company level for their portfolio of distilleries. To avoid duplication and ensure a diversity of perspectives whisky companies were selected as the focus for this study (as opposed to distillery sites). An abductive approach was chosen which entails ‘grounding theoretical understandings of the contexts and people in the language, meanings and perspectives’ of study participants (Bryman, 2016, p 394). This was informed by a review of theoretical understandings of key factors shaping decision making based on the business management and NbS governance literature Carmen E. and Waylen (2023) [milestone 4.1](#).

3.2 Methods and Materials

3.2.1 Data collection

The primary data collection method used in this study was semi-structured interviewing, which was informed by company strategic documents relating to sustainability.

Semi-structured interviews were conducted from June 2024 – September 2025. To guide discussions an interview guide was developed (see appendix 1). Recruitment of study participants was informed by different variables including size, geographical distribution, interest and involvement in nature related activities. An initial list of companies was developed drawing on existing research networks and scoping discussions with the Scottish Whisky Association. Desk-based searches were also undertaken to identify additional companies to invite to participate. This led to identification of 36 companies, 28 of which were emailed to invite them to participate in the study. Invites were addressed to sustainability coordinators, with 16 such named individuals identified in the scoping stage. The configuration of roles and sustainability responsibilities often varies between companies within a sector – similar formal roles may encompass different combinations of responsibilities (e.g. measuring performance, steering employee behaviour, stakeholder engagement, development of corporate strategic documents and/ or leadership) (Lespinasse-Camargo, Eustachio, Bonifacio, Macini, & Caldana, 2024). While interviewees professional titles varied (from marketing manager to sustainability coordinator) all interviewees confirmed they had sustainability related responsibilities and an understanding of environmental sustainability activities beyond their own activities. Interviewees from smaller independent whisky production companies were more likely to have sustainability responsibilities alongside other responsibilities (e.g. health and safety or marketing), however sustainability responsibilities are often shaped by a range of factors, such as the centrality of sustainability within the business model.

Ethical approval was obtained from the James Hutton Institute Ethics Committee, and subsequently from RESAS. Informed consent was obtained prior to all interviews which were conducted on-line and audio recorded. All data has been stored securely and managed and processed in accordance with GDPR. All interviews were transcribed verbatim.

Prior to each interview desk-based research was undertaken to gain better understanding of company priorities relating to sustainability and any activities. This involved a review of company webpages and strategic documents to develop data collection memos which informed interview questions and probes to explore the type of environmental sustainability activities and goals being pursued by companies, how and why. Interviewees were asked to share their formal sustainability strategy if one existed. These strategic documents and memos of webpages were included as data in this study to explore company level strategic intentions in relation to sustainability concerns. In total 16 companies participated in the study, including companies of varying sizes and geographic locations (see table 1). The data collection phase of this study has now concluded.

Table 1: Study participants

Company name	Description	Formal role of interviewee	Environmental sustainability strategic document
1. Angus Dundee	Whisky production company with two distilleries in Scotland	Sustainability coordinator	No

2. Adelphi	Whisky company focused on bottling and since 2014 one distillery (Ardnamurchan) producing whisky	Marketing/communications manager	In part - website sustainability pages
3. Arbikie	Company producing vodka, gin and (now) whisky from one distillery	Distillery Manager	In part - impact report
4. Chivas/Pernod Ricard	Large multinational drinks company that includes production of single malts and blended whisky from multiple distilleries	Environmental Sustainability manager	Yes
5. Diageo	Large multinational drinks company that includes production of single malts and blended whisky from multiple distilleries	Environmental management	Yes
6. Edrington	Large multinational drinks company that includes production of single malts and blended whisky from multiple distilleries	Environmental Sustainability manager (biodiversity)	Yes
7. Elixir	Multinational drinks company primarily focused on bottling but now also includes production of single malts and blended whisky from two distillery sites	Environment Manager	In part - an environmental policy
8. Glen Wyvis	Community owned whisky (and gin) distillery	Distillery Manager	In part - sustainability webpage
9. Glenallachie	Whisky production company (blended and a single malt) with one distillery	Distillery Manager	In part - sustainability webpage
10. Glenmorangie	Whisky production company (single malts) from one distillery site	Business Services Director	In part - sustainability webpage
11. Glenturret	Whisky production company (single malts) from one distillery site	Project Manager and Sustainability Officer	In part - sustainability webpage
12. Kilchoman	Whisky production company (single malts) with 9 distilleries on Islay	General manager	In part - sustainability webpage
13. Moffat	Whisky production company (single malts) from one distillery site	Owners	In part - website sustainability pages
14. Nc'Nean	Whisky production company (single malts) from one distillery site	Sustainability Manager	In part - website sustainability pages
15. Beam Suntory	Large multinational drinks company that includes production of single malts and blended whisky from multiple distilleries	Head of Distilling & Environment	Yes
16. Tomatin	Whisky production company (blended and a single malt) with one distillery	Distillery health safety environment and quality director	In part - website sustainability pages

3.2.2 Data analysis

The analytical approach was abductive thematic analysis. This analysis is ongoing. To prepare data for analysis all transcripts and strategic documents have been coded in NVIVO (software used by social scientists for organising and sorting qualitative data). The first cycle of coding involved descriptive coding (also referred to as topic coding) with code labels identified to represent the topic being talked/ written about (Saldana, 2016). This was an iterative process and involved multiple cycles of coding to refine codes and to aggregate codes into more conceptual categories. Coding of the first

interviews was undertaken in parallel with later data collection, informing the topic guides of later interviews.

At the time of writing, data (transcripts and strategic documents) from all 16 companies have been coded. Analytical memos are also being developed to refine codes and inform the next stages of analysis to explore further patterns in the data to move from descriptive to more conceptual understandings.

3.2.3 Limitations

Limitations of this study need to be recognised. In terms of study participants, one person from each company was interviewed. Whilst this approach is likely to be sufficient to gain a good overview of company aims and activities in relation to environmental sustainability and nature-related activities in terms of smaller sized companies, caution is needed when interpreting findings in terms of larger whisky companies. Furthermore, while recruitment focused on individuals with a role relating to sustainability, in some companies responsibility and expertise relating to environmental sustainability may be dispersed across levels and departments, particularly within large multinational companies.

The scope of this study is examining how whisky producing companies (i.e. organisational level) are approaching nature-related activities. Some study participants also highlighted the need to better understand opportunities and challenges for leveraging nature related activities across their supply chains. A supply chain focus was beyond on the scope of this study however this is a topic for future research, for example examining the role of maltsters and barley producers.

Further, companies participating in this study are often those with an interest in or already actively involved in nature-related activities, with one exception. This was despite efforts by the research team to recruit whisky companies with less focus and engagement in working with nature. Recruiting participants who are not already interested in a topic is a common challenge for social researchers. This study therefore provides insights into motivations for engaging, with fewer insights about why companies may choose not to prioritise and undertaken nature-related activities.

Business-nature knowledge and practice is evolving within the sector, as highlighted by one interviewee who emphasised that such a topic was less relevant within the sector 5 years ago. Levels of engagement within the sector and the wider policy context is dynamic. This study provides a snapshot of engagement in NbS activities within the whisky sector to support better knowledge about how a NC approach can be better enabled within this and other sectors. A deeper exploration of organisational and sector learning may benefit from embedded and longitudinal research designs.

4. Initial Findings: Key themes

Analysis is ongoing however some key themes are already being identified. These are outlined below.

4.1 Environmental challenges

The reliance on a source of water of sufficient quality and quantity was highlighted within strategic documents and by interviewees as a key dependence for whisky. **Water scarcity and increasing water temperatures** were therefore identified by many participants as key challenges that could hinder the production of whisky. Some interviewees highlighted direct experience of increased shutdown. However the location of distilleries and source of water were all contextual factors, alongside the volume of production, influencing how much of a perceived business risk this entailed. Some companies producing peated whisky also highlighted the **use of peat** use as key dependency.

Other business challenges identified were **the quality, quantity and source of barley**, which is also reliant on the availability of water and the quality of the soil. Furthermore, pests and disease were also identified by those companies growing barley for whisky. Finally, landscape and site aesthetics was also identified as important for visitors.

In terms of relevant societal challenges almost all companies recognised **climate mitigation** as important and the role of the sector. Some companies also explicitly recognised **biodiversity loss** and **peat bog depletion** as challenges that also need to be addressed.

4.2 Strategic approaches to environmental sustainability

Whisky companies broadly recognise a common set of dependencies in relation to the natural environment, for example barley, water, wood, and energy. The focus of company sustainability strategies (i.e. their priorities) in terms of the natural environment however varies. From this a range of strategic approaches to sustainability are being identified as analysis progresses. Currently these entail;

1. **Efficiencies:** Focuses on enhancing production processes to reduce the amount of water and energy required. Types of activities include investments in infrastructure and technologies and shifts in business models towards more 'luxury' whisky with lower production levels.
2. **Reducing negative environmental impacts:** Improving the quality of water (chemicals and temperature) and reducing emissions from business operations. Types of activities include holding ponds, reedbeds, riparian tree planting, reducing use of on farm chemicals and electric vehicles. Some companies were also actively phasing out the use of peat in their operations.
3. **Sustainable supply:** Creating and securing the local supply of goods and services from ecosystems, for example wood and water. Types of activities identified as relevant may include alternative packaging, onsite renewable energy, woodland creation and management (for biomass energy and wooden casks), on site growing (barley) and protection of natural water sources (i.e. springs).
4. **Creating positive economic and ecological impact:** Providing resources for local businesses within other sectors and contributing to an increase in biodiversity. Activities identified as relevant include by-products diverted to animal feed, species and habitat enhancement and ecosystem restoration (e.g. beehives, wildflower or tree planting, and peatland restoration) and organic/ regenerative farming practices (for in-house production of barley).
5. **Nature for diversification:** New business activities developed to supplement/ complement the production of whisky. Relevant activities include honey, nature education, community events and outdoor activities.

These approaches are not mutually exclusive – company sustainability strategies often involve a mix of two or more of these approaches. Some approaches involve a more explicit focus on working with nature than others.

4.3 Types of nature-related activities

For those companies that are already working with nature, the types of activities that they select to lead or support also varies. Dimensions that interviewees highlighted as important included ecosystem types, and spatial scale of interventions. Some companies activities related mainly to terrestrial ecosystems, whereas other companies were undertaking (or planning) activities focused on freshwater (e.g. peatlands) and/ or aquatic (river restoration).

The spatial scale of individual nature-related initiatives being led by companies also varied, from small plots of land/ single locations along rivers to large areas of land or stretches of river. Those

leading larger initiatives often had fewer sites and had a more explicit focus on restoring ecosystems (i.e. landscape scale initiatives), whereas for smaller plots of land the focus of activities was often framed in terms of measures, species and habitats (e.g. tree planting, wildflower seeding and bee hives). Exploring the type and size of initiatives supported but not led by companies was beyond the scope of this study.

In summary, not all companies are currently working with nature, but those that are often do so in different ways.

4.4 Motivations for working with nature

From data analysis six different motivational pathways have been identified that, in combination or singularly are helping to drive company plans and actions to work with nature. These are;

1. **Policy and regulations:** Businesses must be legally compliant
2. **Corporate Responsibility:** Business has a duty to demonstrate (i.e. report to stakeholders) a positive impact for communities and for nature.
3. **Ethical leadership:** It is morally the right thing for businesses to create a positive social and ecological local impact.
4. **Customer expectation:** Key social groups that we want to buy our products expect products linked to positive environmental impacts.
5. **Competition and uniqueness:** Differentiation from similar businesses and being innovative.
6. **Business risk:** Reduce risk to business from the environment (e.g. in context of climate change).

The alignment with an NbS approach (i.e. activities that deliver socio-economic benefits for business and more widely alongside nature outcomes) varies across these pathways. Some pathways, for example competition and uniqueness, and business risk appear to be closely aligned with a NC and NbS approach, however other pathways may involve enhancement of species and habitats in their own right, thus aligning with a more traditional approach to biodiversity protection or entail nature-related activities with less tangible and/ or recognised socio-economic benefits. The business risk pathway relates to growing awareness in the sector of climate change related impacts, specifically the need to adapt to increasing water scarcity. This is an **emerging pathway** that is starting to guide sustainability priorities (i.e. corporate sustainability strategies) in at least one multinational company included in this study. Some companies are acting to maintain natural sources of water, but this involves protection (e.g. avoiding disturbance) with very little action identified in terms of ecosystem restoration to increase the resilience of ecosystem services in the context of a rapidly changing climate in the long term.

A few companies who produce whisky products using peat are actively pursuing peatland restoration. While benefits for climate mitigation were often cited, interviewees emphasised a lack of (current) interest in selling carbon credits (i.e. engaging in carbon markets for financial benefit). Instead this action was motivated by historical impacts (corporate social responsibility) and changing social attitudes (customer expectations). Therefore peatland restoration was not being linked to formal net zero targets or seen as part of offsetting or insetting by companies. Some companies had however shifted away from the use of peat in production to avoid further impact on peatlands. Thus business model changes was a more explicit insetting strategy adopted by companies.

4.5 Different roles undertaken by companies

Those companies that are already getting involved in nature-related activities are doing so in different ways. Some companies are **leading** nature-related activities that involve activities on their

own land, mainly involving working with nature within distillery sites. One except is a company that includes an estate where they are undertaking large scale re-wilding activities. This approach was often informed by a perception that land tenure was a limiting factor (see section 4.6 below). Companies are also leading activities (e.g. tree planting) on local sites identified by local community groups, adopting a more opportunistic approach to guide their nature-related activities.

Some companies are working with nature by **partnering** with other organisations, such as environmental NGO's, working sites of much larger spatial scale (i.e. landscape scale approaches focusing on restoring ecosystems such as peatlands – see section 4.3 above). This was identified as a useful approach as partnerships provide access to expertise that may not be available in-house (see section 4.6 below).

Many companies also get involved in nature-related activities by providing resources to **support** the efforts led by others, either locally or in other countries. This entails contributing labour via staff volunteering or providing financial resources (i.e. philanthropy). These external initiatives were often selected based on a link with a key feature or iconography of the business (e.g. water supply projects, forest restoration or species such as giraffes that invoke the shape of stills used in production).

In summary, there is variation within the sector between companies in how they choose to work with nature (i.e. the process) ranging from a more active role by companies to a more hands off approach.

4.6 Factors influencing how companies work with nature

Interviewees identified a range of factors that influence the type and scale of nature-related activities undertaken (see section 4.3 above). This includes internal (i.e. organisational), business-landscape factors and external factors.

Organisational factors that shape how companies engage with nature-related activities relate company sustainability priorities (see section 4.2 above) and types of solutions considered relevant within the company (i.e. if nature-based solutions are considered alongside more traditional infrastructure approaches to addressing environmental challenges – see section 4.8). Having personnel with defined roles and ecological expertise was also identified as critical, as was the knowledge and interests of such teams/ individuals. By working with others knowledge to inform operational decision making was highlighted in some companies as also useful, as was buying in expertise by employing consultants (relatively common) or seeking out partnerships with other organisations to help fill gaps (see section 4.5 above). Some interviewees highlighted how companies also supported their own upskilling and knowledge developed to increase their capacity to support more ambitious and meaningful business activities relating to environmental sustainability and nature in the future. This suggests that some companies are explicitly adopting a learning approach to sustainability. Within some companies the ability to undertake more ambitious nature-related activities was hindered by access to land – here the focus of action was on their own land holdings.

An allocated budget to deliver nature-based activities was also identified as key by interviewees. The level of financial resources available and ease of access for personnel was however an important additional factor – resources may be set aside but the level of autonomy by personnel and business case requirements to access additional resources controlled elsewhere in the organisation was also identified as a potential hindering factor for undertaking more ambitious activities. This led some interviewees to emphasise the need to prioritise activities based on available resources within a budget cycle.

Landscape factors (i.e. the geographical context of business activities) were also identified in the analysis as important. Across the sector there is a shared understanding of the key resources provided by the environment for producing whisky; though geography affects this. For example some companies source their water from springs, while others may draw water for processing and/ or cooling from nearby burns or boreholes. Experience of water scarcity and perceived future risk in relation to these landscape connections was a key factor that influenced if a Nature-based Solutions approach was being applied in relation to these key resources. A few companies drew water from reservoirs controlled and regulated by other organisations (e.g. Scottish water and the Scottish Environment Protection Agency). The responsibility for sustaining water supply for company activities was often perceived as shared with SEPA (as the regulator) or the responsibility of Scottish Water.

External factors were also identified. Many interviewees highlighted a perception of a dynamic policy context in terms of requirements and expectations for businesses now and in the future. All interviewees highlighted a strong focus on climate mitigation activities. Some were aware of the role of peatland restoration within this. Some interviewees also emphasised an expectation from future policy also in relation to how business works with nature. Anticipating these future policy contexts in a dynamic policy landscape in Scotland was therefore also a factor influencing their current activities.

In summary, internal organisational structures and processes, landscape links and perceived responsibilities in terms of the natural environment and anticipation of future policy developments were factors identified as important for influencing how companies were engaging with nature.

4.7 Use of NC data and tools

The use of tools and data to help companies contextually understand dependencies, risks and outcomes of activities varied, but was recognised as important and necessary by almost all interviewees. Data gathering and use was seen as a core business practice, via key performance indicators and for efficiency related targets.

Interviewees from larger companies highlighted the role of consultants in assessments, often with a strong hydrological focus as the core natural capital dimension examined. The widespread use of consultants adds a further challenge to better understanding the type of data and tools being applied to inform decision making within the sector. Some companies also however highlighted undertaking biodiversity assessments on their own landholdings, some of which involved regular not one-off assessments (e.g. for landholdings in close proximity to designated conservation sites). One large company was also developing tailored biodiversity improvement plans for their distillery sites. These assessments and plans were used mainly by companies to inform operational decisions, however there was one example identified (from analysis of strategic documents) of a company using natural capital data and tools at a strategic level – leading to identification of priority sites within Scotland and beyond for action to reduce water scarcity and climate related risks that included nature as a potential solution. Natural capital data, when used, was often applied to define baselines and involved data gathered by companies and also publicly available datasets.

A few companies (including large and smaller companies) were enrolling in certification schemes that necessitate a deeper engagement with natural capital data. This includes a water stewardship scheme and B-Corp – the latter involving a more holistic approach to the relationship between business activities and the natural environment. A further exemplar identified is a large company working in partnership with and environmental NGO and with research organisations to restore peatlands that are too degraded to meet the criteria for public sector funding. The approach being taken by this company includes an explicit focus on contributing to the knowledge-base on peatland

restoration, and therefore contains a strong focus on pre and post action monitoring and evaluation to understand impacts.

There is however much more to explore and understand in terms the use of NC data tools for operational decisions, and for strategic decisions within companies. While this study plans to examine this further (i.e. in a sector workshop in the spring – see next steps, section 5), additional research and a wider range of methods may be needed in order to better understand current practices, gaps and opportunities across the sector.

4.8 Sector challenges and opportunities

Interviewees also identified a range of sector wide challenges to mainstreaming NbS within the sector but also some ideas to help achieve this (see table 2 below).

Table 2: Challenges and opportunities for mainstreaming nature-based approaches within the sector

Challenges	Environmental sustainability is seen as a marginal issue across the sector – many are not taking action beyond legal compliance needs
	Engineering solutions are often the default
	Approaches to climate mitigation (scope 1 and scope 2) often involve investment in new technologies and infrastructure. The level of investment needed deters decisions to undertake other activities that may also require investment, for example working with nature at a landscape scale.
	Large companies may have more resources but other pressures/ challenges (e.g. market pressures) may hinder investment for working with nature.
	Small and medium sized companies often lack resources for investment in NbS to reduce business risks (e.g. to protect water supplies).
	Limited knowledge within many companies about the types of NbS activities that could be helpful and how (i.e. the multiple benefits that can arise).
	Public sector often has a siloed approach and lacks business understanding – hindering more holistic action by companies.
Opportunities	Climate mitigation actions are very technological however nature is more enigmatic, which could motivate action by companies.
	Nature-related activities could be applied across the supply chain to leverage multiple benefits.
	Small and medium sized companies can be more agile with less complex decision-making processes and thus more able to pivot to incorporate nature-related activities more easily.
	Industry standards for the whisky sector could encourage more companies to undertake nature-related activities.
	There is a strong collaborative ethos across the sector with ideas and knowledge shared between companies, particularly at the distillery level.
	Furthermore, interviewees were keen to find out more about NbS. The Scottish Whisky Association has technical working groups that help to share knowledge across the sector – a technical group focused on working with nature could enhance knowledge within the sector.

Further analysis of interview data is underway to identify and refine findings relating to challenges and opportunities. Furthermore, opportunities and challenges for more ambitious and widespread nature-related activities by whisky producing companies will be explored with whisky companies in a workshop in April 2026.

5. Next steps

- Analysis of interviews and documents will continue during January – March to refine themes and sub themes and examine patterns between themes. For example, to explore the relationship between type and scale of restoration (such as peatland restoration) and motivations. This will include the identification of examples of current activities for the final report.
- A knowledge sharing/ validation and data elaboration on-line workshop is being organised for mid April 2026 to examine findings and identified recommendations. All participants have in principle agreed to be involved. The Scottish Whisky Association (SWA) will also be invited, alongside any other key sector stakeholders identified within this study.
- Analysis of all data (interviews, documents and workshops) will also help identify knowledge gaps. In the final report we will include future research needs (topics and relevant methods) for further improving our understanding on how to strengthen the uptake of a natural capital approach within the scotch whisky sector. For example, how natural capital data and tools are being used in strategic decision-making processes within the sector.

6. Key insights and outputs

By September 2026 we will deliver our main report on private sector perceptions and experiences of NC and NbS (deliverable 4.2). This will present insights into key activities, motivations and factors influencing action that affect decision-making by whisky company actors in support of sustainability, with generalisable implications (recommendations) for future steps or changes that can encourage those and other business actors to embed sustainability considerations. The target audience will be policy and key strategic stakeholders from the whisky sector such as the Scotch Whisky Association (SWA).

By March 2027 (end of project) we will deliver a briefing (deliverable 4.3) on issues shared across cases and places, with implications for mainstreaming sectoral involvement in managing nature. The target audience for this briefing will be policy. Please see Appendix 2 for more information on the future work plan of this project.

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8. Appendix 1 - Interview guide

Pre interview check list: Prep and read interviewee briefing

Start of discussion:

- Introduce researcher(s)
- Introduce research and opportunity to ask questions
- Get written consent to proceed
- Turn on audio recorder

What are our research questions?	Decision making cycle (Conceptual framework)	What do we need to know to address this?	Probing
		Background: What is the corporate structure (distilleries and brands)	And what is interviewees role
RQ1. How, when and why do whisky companies get involved in activities related to NbS?	Strategic motivations: Recognition (awareness) and relevance of nature	<ul style="list-style-type: none"> • Is sustainability a concern within the company? What is the focus? (Is there a sustainability strategy)? • Is the natural environment in the local landscape/ region considered relevant to the business (what)? <ul style="list-style-type: none"> ○ Why/ why not? • Is nature and landscape seen as the source of any risks to the business? <ul style="list-style-type: none"> ○ Why? ○ Prompt on types of risk (market-based risks – reputational, financial etc) • Is sustainability (esp in terms of the natural environment) considered equally across the corporate structure, or more focused in some areas (i.e. specific geographies/ brands?) 	<p>Socio-environmental/ social-economic challenges/ risks could be relevant here. Don't just focus on direct nature-risks – probe for indirect risks. Other risks (socio-economic) – for example reputational risks are about wider social expectations of target consumers. Financial risks are relate to increasing costs of business activities e.g. insurance premiums, shareholder investment)</p> <p>If they not sure what action could be done (i.e. low awareness of NbS) then use examples from other distilleries to illustrate) Probe to find out if/ how sustainability decision making is distributed – where is the power – is it brand driven, distilleries, and/ or company wide?</p>
	Organisational agency: resources, accountability and external constraints for deciding to focus on NbS as potential course of action act	<ul style="list-style-type: none"> • Have you/ do you plan to get involved in working with local nature or landscape? <ul style="list-style-type: none"> ○ Why/ why not? • What type of initiatives? <ul style="list-style-type: none"> ○ Why these (what challenges/ risks are they seeking to minimise?) ○ Where (on own land, within local landscape, other)? ○ How? (leading/ working in partnership – if in partnership what are they contributing?) 	<p>Constraints/ Barriers:</p> <ul style="list-style-type: none"> • organisational process and structures? • Markets? • Policy? • Resources (£ and expertise) • Uncertainty – inadequate evidence of effectiveness / inadequate localised data/ information
	Response and involvement	<ul style="list-style-type: none"> • Across the sector, what barriers may be hindering involvement in nature-based initiatives (within organisations and the wider context)? • What opportunities to you see for helping the sector to maintain and improve the natural environment more <ul style="list-style-type: none"> ○ (what needs to change to help them do more, internally and/ or externally)? 	

		<ul style="list-style-type: none"> If not involved in nature-based initiatives is there anything else they do in relation to minimising nature-related risks (i.e. contribute to/ commission studies etc?) 	
RQ2. Does – or could - Natural Capital framings, tools or data play a role in encouraging business involvement in NbS?	Strategic motivations: Recognition (awareness) and relevance of nature	<ul style="list-style-type: none"> How are nature related risks assessed (do they use data and tools, what and why/ why not)?_ If no action/ focus on natural environment, would access to data and tools help? How? If no, why not? 	If not, probe if there is anything that would help/ encourage?
	Organisational agency: resources, accountability and external constraints for deciding to focus on NbS as potential course of action act	<ul style="list-style-type: none"> Is there anything else beyond access to data/ tools etc that would encourage you to consider nature-based initiatives? <ul style="list-style-type: none"> What? Why? 	
	Response and involvement	<ul style="list-style-type: none"> If they do act, how do they decide what to do and where to do it? (expertise of others? Crunching data themselves?) 	
RQ1 & RQ2	Organisational learning	<ul style="list-style-type: none"> Has anything changed (how they view and act) within the organisation; As they have examined nature-related risks (data/ information/ tools)? Through their involvement in nature-based initiatives? <ul style="list-style-type: none"> What, why? 	Change in staffing – see new post /expertise needed?
	<u>Recommendations, follow up and further contacts</u>	<ul style="list-style-type: none"> Any recommendations for scientists or policy makers seeking to enable /encourage whisky sector to do more support for sustainability in terms of the natural environment and the local landscape/ region)? Would they be interested in findings etc or further information about possible tools etc that could help?) Would they be interested in further discussing this topic (e.g an online discussion involving different companies and the SWA?)) Suggestions for other companies or contacts to speak to? - 	
Wrap up interview		Thank you and end. <ul style="list-style-type: none"> Next steps for us when results are available to share <p>Do they have any questions for us?</p>	

9. Appendix 2 - Timetable until March 2027

Undertaking research activities (Activity 2: Understanding private actor involvement in NC)	
Develop deliverable structure and content	Jan – May 2026
Expanded literature review (beyond whisky sector)	April 2026
<u>Deliverable (D4.2):</u> Report on private sector perceptions and experiences of NC and NbS	Sept 2026
Testing and generalisation (Activity 3: Testing resonance of issues across cases and places)	
Engagement with key stakeholders to validate findings and explore resonance for private sector involvement more widely (i.e. with and beyond the whisky sector). We envisage a workshop and/or delphi-like process, but will design this after discussion of this work with key stakeholders (e.g. Scottish Whisky Association and Enterprise Agencies)	Sept 2026 – Dec 2026
<u>Deliverable (D4.3):</u> Briefing on main issues shared across cases and places, and implications for mainstreaming sectoral involvement	January 2027