

Principles of responsible peat extraction for the Scotch Whisky Industry

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Chapter 1: Executive summary

This guidance seeks to safeguard the Scotch Whisky industry's peat supply chain and credibility by outlining clear criteria for responsible peat extraction and harvesting. It expands on the Scotch Whisky Association's Commitment to Responsible Peat Use, notably its first pillar of *Responsible Extraction*¹, which should be read in conjunction with this guidance. It provides the industry with clear, actionable guiding principles and serves as a toolkit for responsible approaches to existing and future peat harvesting. The guiding principles of responsible extraction are underpinned by evidence and advice provided by key organisations, including NatureScot and SEPA, who have worked to deliver peatland management and restoration at scale across Scotland as part of broader efforts towards mitigating climate change and restoring biodiversity.

The guiding principles of responsible peat extraction identified are:

1. **SELECT sites responsibility** - Site selection should focus on peat characteristics that meet required flavour profiles and support efficient use in production while avoiding intact or high-value peatland. Assessments should align peat properties with distillery needs only where the ecological condition, carbon function, and recovery prospects indicate minimal long-term impact.
2. **MINIMISE harvesting impacts** – Extraction should use low-impact methods confined to degraded areas, maintaining water tables and limiting disturbance to avoid emissions and biodiversity loss.
3. **RESTORE harvested peatlands** – All peat harvesting must be paired with robust restoration plans that align with current best practise.
4. **DEVELOP knowledge gaps** – The industry should continue researching means to secure the long-term sustainability of the peat supply chain. It should strive to innovate on ways to minimise its need for peat wherever possible.
5. **COLLABORATE with stakeholders** – Responsible peat management requires active cooperation across the supply chain and beyond into the Scottish Government and third parties, with data sharing, joint monitoring, and collective accountability. This will ultimately lead to information-driven, industry led best practice in extraction and harvesting for the Scotch Whisky Industry.

This guidance is structured into chapters themed around these five principles, with information, resources and recommendations to support their implementation. It should be noted that each harvesting operation (existing or future) must be considered on a site-by-site basis. The guiding principles of responsible peat extraction will be applied differently depending on the nuances of site topography, age and scale.

¹ Priority One: Responsible Extraction: www.scotch-whisky.org.uk/media/2115/commitment-to-responsible-peat-use-full-version-summer-2023.pdf

Chapter 2: Introduction

Aim of the guidance

This document sets out guiding principles to support informed, consistent decision-making on peat extraction and harvesting within the Scotch whisky sector, in line with the Scotch Whisky Association's Commitment to Responsible Peat Use (CRPU). This guidance aligns specifically with the CRPU pillar of *Responsible Extraction*.

Developed through collaboration across a wide range of stakeholders, including sector practitioners and external experts, it has been written with an appreciation for the unique context of peat use within the Scotch whisky industry. This is a context in which cultural heritage, flavour integrity, world-renowned brands, and a multi-stage supply-chain blend with the profound ecological and climate importance of peatlands. The guidance is informed by expert advice and policy expectations, including the role of bodies such as NatureScot, and is designed to support effective planning, coordination, and teamwork with partners throughout the lifecycle of an extraction site.

The techniques for site selection and harvesting and the restoration methodologies outlined in this document are not prescriptive or universal. However, they are offered in service of the industry's ambition that peat is used only when genuinely necessary, and that any use is balanced by sustainable practice – maintaining peatlands as valuable habitats and carbon stores, while recognising their role as a carefully managed commercial resource. It is hoped that this document will support the sector in its future peat use by setting out principles that apply both to existing extraction sites and to new proposals, supporting consistent decision-making across varied operational settings.

In alignment with the Responsible Extraction pillar of the CRPU, the guidance's primary focus is on site selection, planning, extraction and outcomes, including expectations for restoration. Where relevant, the guidance also recognises links to wider peatland restoration objectives but does not attempt to be a substitute for broader national restoration programmes and guidance. It's terminology strives to align with current Scottish planning and policy language (including NPF4) to ensure consistency.

Finally, the guidance is not positioned as a fixed endpoint for the industry and its journey towards responsible peat extraction. There remains uncertainty – including the need for clearer shared understanding on concepts such as “no net loss” and the appropriate role of carbon offsetting in the context of peat extraction/restoration. It is the expectation of the Scotch Whisky industry that the principles outlined in this guidance will evolve and deepen as knowledge develops. Accordingly, the SWA continues to engage in an ongoing dialogue with policy makers, peatland scientists, expert bodies and partners. Lastly, it is hoped that the guidance will be a helpful reference point for any stakeholder interested in the use of peat in Scotch Whisky.

Who should read the guidance

Although aimed primarily at supporting players within the supply chain involved in the harvesting of peat and the subsequent necessary restoration of degraded peatlands, it is hoped that this guidance will have relevance for all parties involved, including peat license holders, maltsters, distillers, regulators, local communities, and environmental stakeholders. It is the position of the SWA that the responsible use of peat is a shared obligation across the Scotch Whisky industry and that everyone has a part to play.

Peat use in the Scotch Whisky industry involves a multi-stage supply chain; from the extraction of peat at the bog through to its use in malting where it is burned within a kiln to impart a distinctive smoky character to the malt. This peated malt will be used to produce peated malt whisky for future sale either as single malt whisky, or as a component of blended scotch whisky. This guidance focuses on the beginning and the end of the supply chain; addressing best practice in regard to initial site selection and the licensing of peat bogs, through to the harvesting of the minimal amount of required peat and then ultimately the restoration of the worked peatlands. It does not address best practise in the context of peat use in malting (kiln efficiency, heat recovery, etc).

The scale of peat-use by the whisky industry

Peat extraction for Scotch whisky currently affects a relatively small area of peatland: Roughly 300 hectares from which about 8,000 tonnes of peat are harvested annually². This tonnage is only the best possible approximation as the varying moisture content of extracted peat renders an exact prediction difficult. To place this use in context, Scotland contains approximately 1.8 million hectares of peatland in total, of which 80% (around 1.44 million hectares) are in a degraded condition³. Peatland that is relied upon by the Scotch Whisky industry therefore represents a very small fraction of Scotland's overall peatlands. The emissions produced by the extraction and use of this peat also represents a small component of the industry's overall emission profile.

Of the peat-related emissions the industry is responsible for, roughly 20% comes from the act of peat harvesting whilst 75% arises from the combustion of peat during malting⁴. Despite its relatively limited scale, careful management and mitigation of the industry's use is absolutely critical. All peat use must be justified and well-managed.

The legal basis for peat use

A strict legal framework exists to define Scotch Whisky and protect it globally. Scotch Whisky has been defined by statute in the United Kingdom since 1933. The current

² SWA (2025): scotch-whisky.org.uk/industry-insights/sustainability/commitment-to-responsible-peat-use/

³ NatureScot: www.nature.scot/doc/scotlands-national-peatland-plan-working-our-future

⁴ SWA (2023): www.scotch-whisky.org.uk/media/2115/commitment-to-responsible-peat-use-full-version-summer-2023.pdf

definition is set out in the Scotch Whisky Regulations 2009, which gives Scotch Whisky the best and most comprehensive protection that it has enjoyed to date.⁵ It covers every aspect of the making, bottling, labelling and promotion of Scotch Whisky.

In addition to its statutory protection, Scotch Whisky is also a Geographical Indication protected in UK and EU law, and in other markets across the world. To support Scotch Whisky's GI status, there is a Product Specification which sets out the reputation and characteristics associated with Scotch Whisky and its main legal requirements.⁶ The role of peat in whisky production is recognised within the Product Specification and it therefore plays a critical role in how Scotch Whisky is defined and protected globally.

Under these enforceable legal protections, Peated Scotch Whisky cannot be made without malted barley that has been dried over a peated fire. It is this traditional process that imparts peated whisky with its unique aroma and flavour profile and has served to propel a number of Scottish distilleries into globally recognised brands. Studies have thus far shown that this unique flavour profile cannot be replicated with alternatives.

Stakeholders in the peat supply chain

The peat supply chain is complex with many different players and stages. The majority of Scotch Whisky distilleries that make peated whisky do not interact with the process of peat harvesting or own a bog from which they take peat. This is instead carried out at a select number of sites in Scotland. The peat supply chain is comprised of a commercial business network of linked stakeholders that include harvesters, maltsters distillers and more.

Peat harvesters (Licence holders) – The independent companies or distillers that hold peat extraction licenses are responsible for site selection, conducting low-impact harvesting operations, and executing full restoration of the bog (as required by law under their planning permissions). They must prepare evidence-led licence applications (demonstrating need and including restoration plans), harvest peat with minimal drainage and damage, monitor environmental data, and rewet and revegetate the site after use. In practice, licence holders are the operational leads and are expected to ensure that only degraded peatlands are extracted from and that post-harvest restoration is funded and implemented over the long term.

Maltsters – Maltsters (both independent companies that produce malted barley for the industry and distilleries that own or operate maltings), play a critical role in ensuring that peat is used efficiently and responsibly. In many cases it is maltsters, not distillers, that are directly interacting with peat extractors. They are legally obligated to source

⁵ UK Government (2025): <https://www.legislation.gov.uk/ukxi/2009/2890/contents/made>

⁶ SWA (2025): https://assets.publishing.service.gov.uk/media/5fd36667e90e07662ed92c85/Scotch_Whisky_Technical_File_-_June_2019.pdf

peat only from licensed, responsibly managed sites. Furthermore, the malting industry is now striving to reduce the peat needed for malting through improved process efficiency (e.g. better kiln design). Maltsters keep records of peat origin, volume, and use, and to verify that suppliers uphold environmental and restoration commitments.

Distillers – Distilleries that produce peated Scotch Whisky all are accountable for the sustainability of their peat supply chain. This is regardless of whether they harvest peat directly from an owned extraction site or if they purchase peated malt from a maltster instead. This guidance will recommend that distillers should set responsible sourcing policies to use only peat from sites that are licensed and undergoing restoration, and they should contribute to peatland conservation efforts (for example by funding or participating in restoration projects). Additionally, distillers should integrate peat use into their sustainability reporting – for instance, disclosing peat-related greenhouse gas emissions and offsets as part of corporate climate and environmental disclosures – thereby demonstrating transparency and commitment to peatland stewardship.

Regulators – Government agencies such as NatureScot, the Scottish Environment Protection Agency (SEPA), and local authorities oversee peat extraction to ensure it complies with environmental laws and policies. Regulators evaluate and approve licence applications, attaching strict conditions (e.g. leaving a minimum residual peat depth of 1 meter and requiring progressive restoration) in line with national policy (Scotland’s National Planning Framework 4). They also conduct compliance inspections, review monitoring reports, enforce any necessary remedial actions, and can sanction operators if conditions are breached. Regulators play a crucial role in upholding the public interest and ensuring peat is harvested and restored responsibly.

Specialist Advisors – Specialist Advisors include environmental consultants, scientists and other experts who provide technical guidance throughout the peat supply chain. Advisors may conduct peat depth and habitat surveys, hydrological assessments, carbon accounting, and peat slide risk analyses to inform site selection and management plans. They often help prepare documentation for licence applications and develop monitoring programs, ensuring that decisions are science-led and based on accurate data.

Specialist contractors – Specialist Contractors are practitioners skilled in peatland management and restoration techniques who carry out on-the-ground work. Specialist contractors implement measures such as constructing peat dams or bunds to raise water tables, reprofiling eroded peat hagsgs, blocking drainage ditches, and replanting bog vegetation (e.g. transplanting Sphagnum moss). They typically have experience and low-ground-pressure equipment tailored to working in peatland environments. Their expertise ensures that restoration interventions are executed effectively and that damaged peatland habitats are nursed back to health post-harvest.

The structure of this guidance

The guidance is divided into the following chapters:

Chapter Three – Site Selection: provides guidance regarding the first principle of selecting sites responsibly. This chapter addresses the entire process of selection, including licencing, baseline screening and surveying and risk assessments.

Chapter Four – Site Harvesting: provides guidance regarding the second principle of minimising harvesting impact. This chapter includes an overview of harvesting methods and their impact on the peatland. It includes recommendations relating to reporting, engagement at a local, governmental and industry level, and methods of verification.

Chapter Five – Site Restoration: provides guidance regarding the third principle of restoring extracted peatlands. This chapter touches on approaches used in peatland restoration that might be most relevant to sites used by the Scotch Whisky industry.

Chapter Six – Knowledge Gaps & Next Steps: provides guidance regarding the fourth principle of researching knowledge gaps and the fifth principle of collaborating with stakeholders. It discusses recommendations for next steps and area of opportunity.

Chapter Seven – Case Studies: provides case studies of peatland restoration at sites degraded by peat harvesting and those degraded by other means. By examining projects from different contexts, they show the benefits of restoration and also the challenges.

The appendix of this guidance includes further details on site selection, regulatory guidance and licensing, monitoring techniques and verification, an overview of peatland restoration techniques, and a compendium of key contacts to assist in the delivery of restoration projects. The guidance concludes with a glossary of terms.

Going forward

The Scotch whisky industry's use of peat is an instance in which sustainability intersects with Scottish heritage and global brand identity. By adhering to the principles and actions outlined here, it is the ambition of the SWA that the Scotch Whisky industry can protect its flavour legacy whilst meeting 21st-century environmental and social standards. This guidance affirms that peat extraction for whisky must be precise, transparent and finite. By following the guiding principles of responsible extraction and acting on recommendations it sets out, operators can demonstrate climate responsibility (through net-positive carbon outcomes), ecological enhancement (by restoring healthier peatlands), and cultural respect (by preserving heritage values).

It is our hope that the Principles of Responsible Peat Extraction will serve as a meaningful expansion on a key element of the SWA's Commitment to Responsible Peat Use, serving as a reference point as the industry continues to manage its use of peat. This must always be done in a manner that is respectful, responsible and sustainable.

Chapter 3: Site selection

‘Select Sites Responsibly’

Not all peat is the same and site selection is therefore guided by the characteristics of the peat required. Alongside the composition of peat and the need to meet appropriate flavour profiles, site selection must avoid intact or high-value peatland. Peat that meets the distiller and maltster’s requirements should be extracted only where the ecological conditions, carbon function, and recovery prospects of the site indicate minimal long-term impact. In order to be done effectively, site selection will last a number of years.

Overview

At present, the majority of peat used in the Scotch Whisky industry comes from a single commercial site, where the commercial license holder will likely not go for renewal, potentially cutting available supply for mainland Scotland by around two-thirds. This looming shortfall means identifying new peat harvesting sites is an urgent priority – but any new sites must meet far stricter sustainability criteria than in the past.

Scotland’s National Planning Framework 4 (NPF4) now prohibits new commercial peat extraction except when in service to the Scotch Whisky industry, and even then, only under tight conditions (e.g. leaving at least 1 m of peat in situ and implementing progressive restoration). At the same time, 80% of Scotland’s peatlands are already degraded, creating an opportunity to target previously damaged sites for peat harvesting while avoiding intact carbon-rich bogs. In short, future supplies of peat for the Scotch Whisky industry must come from carefully chosen, environmentally suitable locations that can be harvested with minimal harm to the bog and restored to a net-positive state.

In choosing a site, operators must address two critical questions:

- 1) Is the peat that will be harvested from the site suitable to achieve the desired flavour profile, peat quality and moisture content that is consistent with current supply⁷?
- 2) Can peat harvesting proceed without compromising climate, ecological, or cultural values?

As this guidance is focused upon responsible extraction, it will not provide support for the first of these questions (the answer for which depends on the needs of the brand).

In order to satisfy regulators and de-risk investment, operators should expect to spend significant time and resources in the planning stage of site selection for a new peat extraction site (oftentimes 1 – 3 years of survey work and planning). However, this up-front investment is necessary. Skipping or rushing early steps in the site selection

⁷ Harrison, B. (2007). <https://www.ros.hw.ac.uk/items/5810f686-f9f5-4019-93f1-9286066ec1bd>

process can lead to failed license applications and costly problems later on. The process of site selection can be broken down into a few key components which are detailed in this chapter. These include: engaging in the licensing process early, applying strict screening criteria to prospective sites, conducting comprehensive baseline surveys, and performing thorough risk assessments. The following sections outline specific guidance for each component, explaining which actions are mandatory and which are strongly recommended (and why they are worth doing from an industry perspective).

Licensing

Securing or renewing a peat harvesting license is a rigorous, multi-year undertaking that must be started well in advance of any harvesting. By law, new extraction for whisky requires demonstrating an “overriding need” for peat (i.e. that it’s essential and alternatives are impractical) and submitting a fully funded restoration plan as part of the planning application. Early engagement with regulators – NatureScot, the Scottish Environment Protection Agency (SEPA), and local planning authorities – is highly recommended to clarify expectations before formal submission. In practice, any substantial peat development will trigger an Environmental Impact Assessment (EIA) process (automatically required for sites over 150 ha and often applied to smaller sites).

This means an evidence-led application must be prepared, underpinned by extensive field data on the site’s environment. Regulators will scrutinise whether the proposal meets all conditions over its lifetime: for example, that 1 m of peat will remain across the site, that progressive restoration will occur, and that sufficient funds are in place up front for long-term aftercare. It is not unusual for a peat license application to require multiple years of baseline monitoring (observing hydrology, habitats, etc.) before authorities are satisfied. This underlines the need for forward planning on the part of the Scotch Whisky industry in order to protect future peat supply.

This guidance recognises that the licensing process can be challenging for the industry - comprehensive EIAs, public consultations, habitat regulations appraisals, and other studies add considerable cost. This is particularly the case for smaller operators with tight margins. It is also acknowledged that the regulatory landscape can be unclear, for example, there is a lack of peat-specific guidance for meeting the new standards set by the Scottish Government through the National Planning Framework 4.

Early proactive engagement with the relevant stakeholders crucial. Whilst this will entail upfront costs, if there is consultation early and frequently with regulatory bodies, planning consultants or specialist advisors to review the application it will greatly improve the chances of a smooth application and reduce risk of rejection.

In summary, a successful license application hinges on robust preparation – demonstrating need, forecasting impacts with solid data, and showing regulators a

credible plan for the sustainable management of the site, including the eventual restoration of the peatland’s ecological function and carbon sequestration capability.

Screening and surveying

Before investing heavily in a particular site, operators should apply stringent screening and surveying to determine if the peatland is suitable for harvesting. It is far better to rule out high-risk or sensitive sites at an early stage than to waste time and money on a project that regulators or stakeholders will later oppose. It is recommended that prospective sites are evaluated against four key criteria (aligned with NatureScot guidance and the whisky sector’s commitments to responsible peat use).

Table 1: Criterion for site selection process

Criteria	Justification	Methodology
Protect Peatland hydrology (intact, undrained peat bogs should be excluded)	To align with policy, only peatlands that are already degraded or modified (for example, drained in the past, cut-over, or afforested bogs) should proceed to further evaluation. A site with long- term drainage or damage has more scope for improvement through restoration. Disturbing an intact blanket bog would cause large carbon emissions and biodiversity loss that cannot be justified.	Use geospatial datasets and site visits to confirm a candidate bog’s hydrology is compromised (e.g. presence of ditches, oxidation of peat surface) such that harvesting and re-wetting could yield an overall benefit. If the water table is largely intact and peat is waterlogged and active, the site should be rejected for extraction on climate grounds.
Understand peatland condition (pristine sites should be excluded)	To identify suitable sites, peat depth and quality should be established. This information lets the operator target shallower, well-decomposed peat deposits that are most suitable for low-impact harvesting. Current best practice for peat quality is to use already degraded sites. For peat depth, sites need to be sufficiently deep to allow for peat extraction while also leaving 1m as per NFP4 guidance. Sites with deeper peat are likely to offer a longer period of extraction on the	Detailed peat depth mapping (e.g. probing on a 100 m grid) and peat coring should identify the thickness and quality of peat across the site (guidance following NatureScot ⁸).

⁸ NatureScot: www.nature.scot/sites/default/files/2018-03/Guidance-Peatland-Action-Peat-depth-survey-2017-18.pdf

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	site, reducing the need for opening multiple extraction sites over time.	
Identify peatland habitat (plant communities or rare species need to protected)	To ensure the protection of peatland biodiversity (a key metric for peatland health). Vegetation Classification (NVC) mapping should be conducted to assess the ecological value of the site and mitigate for harm to biodiversity.	National Vegetation Classification (NVC) mapping undertaken by qualified ecology contractor.
Protect archaeological and cultural sensitivities	Archaeological surveys are usually a requirement. Planning authorities will consult Historic Environment Scotland on any peat extraction proposal, and if you cannot show due diligence in surveying and protecting heritage assets, your application could be denied.	An assessment of Historic Environment Scotland digital resources and walk-over survey by a qualified heritage contractor.

While performing these up-front screenings (hydrological analysis, habitat surveys, etc.) has a cost, these will be far lower than the cost of a refused license. A site that scores poorly on the above criteria (e.g. very wet, deep peat with high biodiversity) is likely to be expensive or even prove to be impossible to restore satisfactorily. Screening sufficiently helps to avoid these costly outcomes. Moreover, larger, well-chosen sites tend to be more cost-effective to manage than multiple small ones: for instance, restoration projects under 10 ha have averaged ~£2,375 per hectare, whereas 25+ ha projects averaged ~£1,300 per hectare⁹.

This economy of scale is another factor to consider in site selection. If an extractor's peat demand cannot justify a larger site alone, it may be prudent to collaborate or aggregate needs with other distillers so that a single bigger site (with compartmented working areas) is developed instead of several small sites. NatureScot's Peatland Action programme advises that projects under 10 ha should be bundled with others, as very small sites are less likely to deliver value for money. In addition, larger sites allow extraction and drying to occur on site, which improves overall system efficiency.

Beyond sustainability considerations, the material makeup of the peat itself must also be evaluated. Peat composition can influence the final product's flavor and may require adjustments to the malting process and equipment. Variations in peat type can lead to issues such as less predictable smoke characteristics or an increased risk of fire during malting, either of which could disrupt production or damage equipment.

⁹ Glenk et al., 2025. ClimateXChange report: www.climatexchange.org.uk/publications/understanding-peatland-restoration-costs-and-contractor-capacity/

In summary, strict screening is recommended to ensure that a selected site will support a successful, cost-effective project with manageable restoration requirements. This screening should also account for peat characteristics, as variations in peat composition can influence final product quality and may necessitate adjustments to the malting process. Understanding these characteristics in advance safeguards operational efficiency and equipment integrity.

Risk assessments

Site selection and baseline assessments for peat extraction involve complex field operations and stringent regulatory conditions. These activities carry several operational risks that can impede project progress or lead to costly errors if not managed. Key risk categories are outlined in Table 2. Each risk is evaluated on a standard likelihood–impact matrix (High/Medium/Low) to guide mitigation priorities alongside potential impacts, proposed controls and residual risk level after mitigation.

Table 2: Operational risks in peatland management

Risk Category	Impact	Likelihood	Mitigation Strategies	Residual Risk
Access & Logistics: Poor site access due to steep, boggy terrain, rural roads or bad weather.	High – Delays/costs from missed field days; incomplete survey coverage.	Medium (seasonal)	Plan fieldwork in dry seasons; use all-terrain vehicles or helicopters; negotiate all permission/keys beforehand; temporary mats or bridges.	Medium (after prep)
Data Quality: Inaccurate or incomplete baseline data (survey error, equipment failure, insufficient sampling).	High – Wrong site choice, regulatory non-compliance, need for rework.	Medium	Rigorous QA/QC (calibrate instruments, duplicate samples); use mixed survey methods (GIS pre-screening, expert ecologists); provide training; schedule extra time for repeats.	Medium
Stakeholder Engagement: Landowner or community opposition; poor communication with supply chain partners.	Medium – Delayed access or lost permissions; reputational harm.	Medium	Early consultation with landowners, crofters and local councils; hire local liaison or use community liaison notes; clearly communicate scope; meet regulatory/stakeholder expectations.	Low – Medium

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<p>Regulatory Compliance: Permit/license oversights; failure to meet planning conditions (e.g. restoration plan).</p>	<p>Medium – Delayed access or lost permissions; reputational harm.</p>	<p>Medium</p>	<p>Early consultation with landowners, crofters and local councils; hire local liaison or use community liaison notes; clearly communicate scope; meet regulatory/stakeholder expectations.</p>	<p>Low – Medium</p>
<p>Health & Safety: Field injuries, exposure or ground instability.</p>	<p>High – Injury or fatality; liability; project shutdown.</p>	<p>Medium</p>	<p>Conduct detailed health & safety field RA; use safety gear (helmets, lifejackets, boots); carry comms equipment (sat phones, PLBs); follow “buddy” protocols; provide first-aid training; monitor weather and ground conditions.</p>	<p>Low – Medium</p>

Chapter 4: Peat harvesting

‘Minimise Harvesting Impacts’

Peat harvesting is a complex process that determines not only the physical form of peat but also the downstream drying process, which is a critical stage in producing a consistent fuel for malting. In addition to affecting the malting process, peat extraction is relevant because the method of harvesting can greatly affect the extent to which the site can be subsequently restored.

To implement peat extraction responsibly, harvesting operations should be planned and executed in a methodical manner. Harvesting should be done in a way that the peatland’s broader ecosystem remains as intact as possible. This means using low impact harvesting methods confined to degraded areas, maintaining water tables and limiting disturbance to avoid emissions and biodiversity loss. Minimised harvesting practises should be supported with ongoing reporting, monitoring and aftercare, the extent of which is required varying based on the nuances of site topography and scale.

The impact of drying requirements

After being extracted, all peat must be dried for a period of time before it is processed for malting. The method of extraction and the size of the extracted peat will influence these drying requirements. Larger peat blocks typically dry more slowly than smaller extruded pieces, and achieved moisture content, particle size, and available drying area all influence peat handling, combustion behaviour, and ultimately quality consistency.

In practice, limited drying space can constrain operational throughput, particularly where on-site drying areas are small or weather exposure is restricted; where appropriate, outdoor air-drying in adequately managed drying fields can relieve pressure, provided risks such as excessive desiccation and fire are actively controlled.

Given that current supply of peat has been heavily dependent on one primary extraction site, the potential development of multiple harvesting sites (subject to licensing and site suitability) when this site closes could improve resilience and flexibility allowing operators to balance extraction, drying capacity, and restoration constraints across locations rather than relying on a single point of supply.

Peat harvesting methods

In addition to influencing drying rate, how peat is harvested can also greatly influence the overall environmental impact of a site. The principle of minimal harvesting impacts requires operators to focus on preserving the integrity of the peatland throughout the extraction process and maximizing the prospects for restoration when harvesting has been completed. An overview of current peat harvesting methods is seen below.

Table 3. Overview of peat harvesting methods and their impacts

(definitions of harvesting methods can be found in the glossary of terms)

	Domestic cutting	Adapted extrusion	Tractor extrusion	Block cutting	Baulk and hollow
Quantity of peat able to be extracted ^{10, 11}	Low	Low-medium	High	Medium	Medium
Progressive restoration possible ¹²	✓	✓	✗	✓	✓
Environmental impact on site ¹³	Low/Medium	Low	Medium/High	Medium	Medium
Typical site conditions post-extraction	Irregular and uneven surface. Compacted peat in cut zones	Acrotelm replaced following each extraction leaving vegetated surface.	Surface vegetation left in situ and mole drains close after harvest collection. Acrotelm removed or damaged.	Deep, open trenches with exposed cut faces with variable levels. Stepped appearance.	Undulating, uneven surface. Limited vegetation remaining.
Suitable restoration methods					
Reprofiling¹⁴					
Refreshing	✓	✓	✓	✓	✓
Micro-topography	✓	✓	✓	✓	✓
Rewetting¹⁵					
Filling Ditches	✓	✓	✓	✓	✓

¹⁰ IUCN (2014). www.iucn-uk-peatlandprogramme.org/sites/default/files/2024-03/Briefing%205%20Domestic%20Peat%20extraction.pdf

¹¹ PeatMoss: peatmoss.com/en/sustainability/responsible-peat-extraction

¹² NatureScot: www.nature.scot/doc/guidance-how-restore-peatland-once-commercial-peat-extraction-has-ceased

¹³ HLA: hlapmap.org.uk/types/5/energy-extraction-and-waste/traditional-peat-cutting

¹⁴ NatureScot: www.nature.scot/doc/peatland-action-technical-compendium

¹⁵ NatureScot: www.nature.scot/doc/peatland-action-technical-compendium

Drain Blocking with peat dams¹⁶	Suitable on sites where remaining peat depth is <50cm and the drain is <150cm wide and <120cm deep.				
Drain Blocking with timber, plastic or rock dams¹⁷	Suitable on sites where remaining peat depth is >50cm, or where the drain is >150cm wide or <120cm deep.				
Surface Bunding					✓
Revegetation^{18,19}					
Turves	✓	✓	✓	✓	✓
Donor material/mulch	✓	✓	✓	✓	✓
Geotextiles	Can be suitable for sites with an increased erosion risk. However, its use is localised as it is very expensive and extraction sites are generally too large for this technique.				
Fertiliser	Suitable for sites where mulch is used. However, consult a specialist as high nutrient addition can alter peatland chemistry, leading to unwanted plant types or increased decomposition				
Ash	✓	✓	✓	✓	✓

Responsible practises to limit damage

The planning and organisation of harvesting should consider the final restoration. Careful planning will optimise the harvest, natural environment benefits and reduce the final restoration costs. There are a range of methods which can be applied to a site throughout the extraction process which increase the chances of restoring the bog. The viability of particular methods is dependent upon specific site conditions.

¹⁶ NatureScot: www.nature.scot/doc/peatland-action-technical-compendium

¹⁷ NatureScot: www.nature.scot/sites/default/files/2022-08/Guidance-%20Peatland%20Action%20installing%20peat%20and%20plastic%20dams_0.pdf

¹⁸ NatureScot: www.nature.scot/doc/peatland-action-technical-compendium

¹⁹ NatureScot: www.nature.scot/climate-change/nature-based-solutions/nature-based-solutions-practice/peatland-action/peatland-action-how-do-i-restore-and-manage-my-peatland

Table 4. Responsible Peat Harvesting Techniques

Practise	Process	Justification
Retaining and relocating vegetated turves	Preserve and reapply surface vegetation and peat (acrotelm) during and following extraction	Help maintain key hydrological and ecological functions, supporting more favourable conditions for restoration.
Progressive extraction and restoration	Extraction should be carried out in phases across the site, where possible	Enables the reapplication of vegetation and implementation of progressive restoration measures, reducing the area and duration of exposed bare peat. Progressive work also allows for more effective water management and erosion control during operations
Compensatory restoration	On sites where progressive restoration is not possible—such as those requiring large-scale or full-site extraction—restoration should be carried out on alternative areas. This may include unused portions of the same site or separate, degraded peatlands requiring intervention	Prompt rewetting helps stabilise carbon stores, reduce emissions, and create the conditions necessary for successful restoration.
Maintaining residual peat depth	A minimum of 1 metre of residual peat should be left in place where feasible	Maintains compliance with NPF4 guidance. Although this target may not be achievable on all sites due to machinery limitations, shallow starting depths, or operational constraints, maintaining residual depth significantly improves the prospects for successful rewetting and restoration. Restoration becomes increasingly difficult where peat has been fully removed to the mineral substrate.

Site Reporting

Consistent reporting and periodic review are central to accountability and continuous improvement across peat harvesting operations as well as restoration projects. In this guidance, “reporting” refers to a defined cycle of data collection, analysis, interpretation, and submission that is proportionate to site scale and risk, and that supports planning compliance and adaptive management. Reporting should be framed to align with National Planning Framework 4 (NPF4) expectations on evidence, monitoring, and demonstrating delivery against approved plans and conditions.

In most instances, formal reporting operating on a five-year cycle is likely to be sufficient. However, wherever feasible, peat operators should endeavour to provide annual reporting on their activities, including but not limited to:

- **Extraction activity:** Reporting should include volumes extracted, location and extent of works, areas harvested, and areas progressively restored.
- **Restoration activity and condition:** Reporting should include restoration actions undertaken at the site, progress against agreed trajectories, vegetation recovery indicators, and hydrological performance such as water table proxies and threshold exceedances.
- **Carbon and climate reporting:** Where applicable, reporting should include clarification of reporting boundaries, including how Scope 3 considerations are treated.
- **Compliance and learning:** Reporting should include performance against plan targets and regulatory conditions, corrective actions taken, lessons learned, and implications for the next year’s workplans.

Annual reporting supports ongoing compliance with permissions and conditions, early identification of risks such as hydrological concerns, vegetation recovery issues, or emissions data gaps, and continuous improvement through corrective actions. To avoid overclaiming within reports, operators should focus strictly on measured change and documented actions. Broad facing public assertions should be avoided.

To improve consistency and reduce reporting burdens, the whisky industry would benefit from the development of templates for standard reporting. These templates should use simple and recognised formats that support planning compliance and are compatible across a range of sites. Templates should be designed to allow alignment with the Commitment to Responsible Peat Use (CRPU) where appropriate.

Such a template should also make clear what information is mandatory and what is optional, whilst supporting proportionate reporting for smaller operators. Operators should anticipate that structured reporting is likely to become increasingly standard within planning processes as time goes on and peat use is increasingly monitored.

In summary, optional annual operational reporting to support day-to-day compliance and early corrective action is recommended for operators. Furthermore, periodic comprehensive reviews aligned with planning cycles is also recommended, with an advised five-year review period to reflect typical planning and monitoring rhythms. Where local planning conditions specify different timings, those requirements take precedence over these recommendations.

Reporting should use cautious, evidence-led language focused on measured indicators and compliance. It should avoid implying outcomes (particularly carbon outcomes) that cannot be robustly evidenced. It should clearly distinguish between commitments, intentions, and early-stage findings.

Reporting should be applied to both existing and new extraction sites to support comparability across the sector. Restoration reporting should clearly distinguish between restoration of extraction sites as required in planning permission and wider peatland restoration delivered beyond worked areas, where relevant and evidenced.

Site Monitoring

Monitoring practises by peat operators can be divided into three approaches.

- **Mandatory (baseline)**
 - Core operational and environmental indicators required for all sites, supporting planning compliance and sector comparability.
- **Site-specific (risk- and consent-led)**
 - Additional monitoring driven by site sensitivities, hydrology, designated features, local authority conditions, or restoration complexity.
- **Optional best practice**
 - Enhanced monitoring where capacity exists (for example advanced hydrological instrumentation or extended ecological indicators), explicitly labelled as optional and not used to imply universal standards.

The use of the peatland code in site monitoring: Where peatland restoration is being undertaken by peat extraction operators tied to the Scotch Whisky industry, monitoring should reflect recognised best practice. The Peatland Code²⁰ can be referenced as a credible source of restoration monitoring practices and evidence requirements where applicable to restoration outcomes.

However, the following caveat should be noted. The Peatland Code is not designed for peat extraction regulation and should not be presented as a direct fit for extraction operations. Where Peatland Code approaches are used for restoration reporting, the reporting should make clear which components are applicable and which are not.

²⁰ The Peatland Code: www.iucn-uk-peatlandprogramme.org/using-peatland-code/support

Peat and Scope 3 Accounting

Scope 3 carbon accounting is a system which tracks a company's indirect emissions across its entire value chain (involving suppliers and customers) using the Greenhouse Gas (GHG) Protocol's 15 categories²¹. When companies intend to, or are bound to report Scope 3 carbon accounting, it should consider the following factors:

- Clarity needs to be sought on whether Scope 3 accounting is intended to cover peat use in production only (inputs and processing), and/or emissions and fluxes from worked sites, including post-extraction trajectories.
- Operators should recognise that carbon data requirements are likely to tighten and that methods will evolve; reports should document data gaps and methodological choices transparently.
- Where tools exist (for example Scottish Government calculators), they can be referenced as available resources without mandating a single tool as the required approach.

Verification of Extraction Sites

External verification ensures that reported peat harvesting and restoration outcomes are credible, accountable, and trusted. Verification arrangements should be third-party led, proportionate to scale and risk, and aligned with public sector standards and planning expectations. Verification should not be performed by the industry itself and should be designed to support learning as well as assurance.

A mix of credible third-party approaches can be explored, potentially including:

- **Independent site inspections/visits** by qualified specialists ahead of periodic comprehensive reviews.
- **Local authority or council checks**, where appropriate and resourced, as part of consent compliance and monitoring.
- Learning from assurance models used in other sectors (for example Red Tractor-style features such as independent auditing, clear standards, and transparent non-compliance pathways), adapted to peat extraction and restoration realities.

Verification may not be appropriate for all peat extraction operations. Multinational providers may not be suitable for the needs of small-scale operations. If verification is desired, it should be delivered by organisations with capacity and methods tailored to smaller peat projects, rather than large multinational certification bodies.

²¹ The Greenhouse Gas Protocol's 15 categories: ghgprotocol.org/scope-3-frequently-asked-questions-0

Adequate timing of verification

To ensure that findings can influence reviews and action plans independent verification inspections should be varied out in advance of critical review points (for example ahead of a five-year review).

Proportionate verification by scale

Verification should be designed so that:

- Large and complex operations can follow a more formal pathway (for example structured audit protocols and deeper datasets).
- Smaller operations should use organisations with methods designed for smaller projects and local contexts.

Advisory structures and the role of local authorities

To strengthen independence and confidence:

- Consider forming a third-party advisory group to oversee verification design, review methods, and provide non-binding technical advice on emerging issues.
- Explore a defined role for local authorities, potentially coordinated via COSLA²², in supporting consistency of checks and interpretation across council areas, where this aligns with statutory functions and capacity.

Transparency and realistic claims

Verification outputs should support accountability by doing the following:

- Clear reporting of findings, corrective actions, and material uncertainties.
- Avoidance of implied guarantees on outcomes that cannot be evidenced.
- A focus on demonstrable compliance, measured improvement, and learnings.

Useful documentation

To ensure harvesting is carried out competently and appropriately, peat operators should seek to maintain the following documentation:

- **Site maps:** Detailed site maps marking operation boundaries, harvesting zones, restoration/revegetation areas, buffer strips, donor peat sites, High Conservation Value zones, water bodies and flow directions, sediment basins, roads, etc. This mapping helps ensure all activities and protected areas are clearly defined.
- **Harvesting records:** Documentation outlining annual harvested volumes. This provides an auditable record and supports chain-of-custody transparency.

²² COSLA: www.cosla.gov.uk/

- **Peat extraction plan:** A formal harvesting plan that covers all steps of the operation, impacts, and restoration targets. This should also include the rehabilitation timeline for each cutover area.
- **Peatland restoration plan:** All peat operators are required under their planning permissions to maintain a robust peatland restoration plan for the site.
- **Water quality management plan:** For certain scale sites, a water quality management plan with specific goals (e.g. pH, turbidity) and required monitoring may be required. These plans call for the setting pH/suspended-solids targets and tracking these during extraction. Operators can voluntarily adopt similar protocols, sampling inlet and outlet water regularly.

Chapter 5: Peatland restoration

‘Restore harvested peatlands’

All forms of peat harvesting, even when carefully managed, alter the hydrology, vegetation, and carbon function of the bog. Restoration therefore aims to reverse these impacts by reinstating natural water regimes, encouraging the return of native peat-forming species (particularly sphagnum mosses), and creating conditions that allow the site to gradually regain its carbon sequestration functionality and ecological value. Peat extraction should be carried out hand in hand with the principle of restoration, focusing on restoring peatland functionality, hydrology, sphagnum cover and biodiversity to align with NatureScot’s NPF4²³ Policy 5 (Soils): Return sites to carbon-sequestering capability (peat-forming vegetation) and Policy 3 (Biodiversity): Align with local biodiversity goals.

Overview

All peat harvesting must be delivered in tandem with a restoration plan. As this guidance has indicated, it is best practise for a restoration plan to target the area of extraction alongside delivering tangential restoration efforts in the surrounding area to ensure that the entire peatland is left in a net-positive state. There is an abundance of information that is available on peatland restoration, including:

- **NatureScot:** Restoration guidance, technical compendium and long-term management guidance on peatland restoration for across Scotland
- **SEPA:** Specific guidance on developments on peatland sites and excavation processes
- **International Sources:** Guidance has been produced in Canada based on restoration associated with harvested sites.

Restoration techniques

A suite of field-tested techniques is available to support peatland restoration in Scotland. The choice of approach must reflect the site’s condition, depth, hydrology, and history of modification, ensuring that interventions are both practical and effective. Restoration is not a one-size-fits-all process; it requires careful planning, adaptation to local conditions, and long-term commitment to monitoring and aftercare.

In line with national policy and industry best practice, peat restoration should:

- Prioritise degraded or modified sites where ecological recovery is most feasible.

²³ NPF4: www.nature.scot/doc/advising-peatland-carbon-rich-soils-and-priority-peatland-habitats-development-management#:~:text=and%20offsetting%20requirements.-,NPF4%20requirements%20for%20assessment%20of%20impacts%20and%20the%20mitigation%20hierarchy,assessments%20to%20be%20carried%20out.

- Reinststate natural hydrological regimes to stabilise carbon stores and encourage the return of peat-forming vegetation such as Sphagnum mosses.
- Minimise disturbance during interventions and ensure works are proportionate to site scale.
- Secure measurable outcomes in carbon sequestration, biodiversity recovery, and resilience against future degradation.

The methods detailed in the table below offers just an overview of the potential approaches that can be applied by operators, maltsters, and distillers to ensure harvested sites deliver a clear restoration programme.

Table 5: Potential approaches to peatland restoration at extraction sites

Method	Site Characteristics	Advantages/Disadvantages
Reprofiling		
Refreshing	Suitable for extraction sites where flat or semi flat bare areas are end result (e.g. extruded peat extraction) It should not be completed if peatland vegetation is naturally restoring.	Removes loose peat, biological crust, oxidised peat and vegetation to facilitate contact between fresh peat substrate and donor plant fragments.
Reprofiling boundaries and filling boundary drains	Suitable for all sites, especially those with difference in elevation between restoration area and adjacent areas.	Improves hydrological connectivity. Improves eco-hydrological connectivity with surrounding environment. Requires disturbing adjacent land to reprofile.
Micro-topography	Suitable for sites where acrotelm turves remains during extraction (e.g. block cutting). Bunds can be used to create micro-topography on refreshed sites.	Creation of microtopography such as hummocks and hollows can accelerate the development of peatland structure and moss growth. Microtopography may be key to climate resilience and success of revegetation and rewetting long term. Micro-topography can dry out if not designed correctly with water table. Bunds may also increase water table too high, reducing vegetation establishment.
Rewetting		
Filling ditches	Suitable for all sites	Useful use of excess material if refreshing site. Improves hydrological connectivity.

Principles of responsible peat extraction in the Scotch Whisky Industry

Drain blocking – Peat dams	Suitable for sites where remaining peat depth is <50cm	Improves hydrological condition. If base peat is not deep enough risk of dam failure.
Drain blocking – Timber, plastic or rock dams	Suitable for sites where remaining peat is <50cm	Improves hydrological condition but is expensive compared to peat dams.
Surface bunding	Suitable for sites where elevation changes by 30cm or more. Sites where excessive surface runoff or high winds that may impact revegetation efforts.	Improves water retention and distribution and reduces surface runoff and erosion. Acts as a wind break and a microtopography.
Revegetation		
Turves	Suitable for all sites. Especially in areas of high erosion risk or where acrotelm is not being extracted (e.g. block-cutting).	Instantaneous cover. Acrotelm stays intact creating favorable microsites for moss establishment. It requires large donor sites, which risk becoming erosion points if too much material is removed. A resource intensive process if done at scale.
Donor material and Mulch	Suitable for all sites.	Can achieve ≥60 % Sphagnum cover within five growing seasons. Requires large donor sites for mulch (1ha for every 10ha restored). Susceptible to surface erosion. Consider using bunds to reduce surface runoff.
Geotextiles	Suitable for sites with increased erosion risk	Stabilises mulch on site preventing erosion and improving revegetation chances. Can be damaged by livestock and deer. Expensive when used at scale.
Fertilisers	Suitable for sites where mulch is used.	Promotes germination of spores, resulting in boost to initial revegetation. Should only be done at start of project. Presents risk to biodiversity if enters watercourses.
Ash	Suitable for all sites.	Less damaging alternative to phosphorus fertiliser. Boosts biomass and diversity of revegetation. Relatively novel approach still requiring research to identify best ash mix.

Chapter 6: Knowledge Gaps and Collaboration

‘Develop knowledge gaps and collaborate with stakeholders’.

Despite progress in shaping best practice for peat use, there remain several areas where knowledge is incomplete or where regulatory and operational challenges pose ongoing difficulties for the Scotch whisky industry. Addressing these gaps will be essential to protect the future use of peat, balancing the industry’s heritage of flavour and sustainability ambitions alongside compliance with national policy.

Compliance with NPF4 guidance

Scotland’s National Planning Framework 4 (NPF4) requires that a minimum of 1 m of peat is left in situ following extraction. While this principle underpins long-term restoration potential, some sites will inevitably struggle to comply due to shallow starting depths which were acceptable when licensing for the site was originally granted, historical modifications, or operational constraints. This creates potential complications for sites that continue to provide for the industry. It may also mean that otherwise degraded sites with considerable restoration potential that could supply the industry with a small quantity of peat whilst at the same time benefiting from a large-scale restoration plan may fall outside the scope of licensing under current rules.

This presents a significant policy–practice gap. It should be framed as both a challenge and an opportunity. The industry, working through the SWA and in dialogue with Scottish Government, could seek to clarify expectations and identify proportionate solutions in the years to come. This may include defining acceptable exemptions, developing mitigation strategies (such as compensatory restoration on alternative sites which may have difficulty meeting certain licensing requirements), or exploring flexible verification pathways. Finding a middle ground to such issues will require joint exploration, but without this, some operators may be left without viable supply options.

Local council licensing and capacity

Licensing remains a complex, multi-layered process that requires Planning Permission obtained through the local council authority. The process of applying for licencing will involve consultation with the statutory regulators NatureScot and SEPA. The licensing application will also draw comments from non-statutory consultees, that may request surveys and additional site-specific information and actions. Councils often lack peat-specific expertise or consistent resources to evaluate applications effectively. This can lead to uneven decision-making, extended delays, or uncertainty for applicants. A clear knowledge gap exists around building local capacity and consistency in licensing decisions.

Some ways in which these licensing issues could be addressed is:

- Developing guidance materials tailored to local-to-local authority planners.
- Offering training or joint workshops with regulators and industry experts.
- Proposing a more centralised or standardised licensing pathway.

Knowledge sharing between research and industry

There is a wealth of academic and consultancy-led research on peatland hydrology, restoration, and carbon accounting, but much of this knowledge is fragmented and not routinely shared with distillers or maltsters. Conversely, practical knowledge generated by operators on the ground is rarely fed back into the research community. A structured mechanism for knowledge exchange would benefit both sides. This does not necessarily require public dissemination but should enable secure, industry-wide sharing of data and lessons learned. Possible approaches include:

- Establishing an SWA-led knowledge hub for peat-related data and case studies.
- Facilitating joint research-industry workshops or field visits.
- Encouraging collaborative monitoring projects to pool data (e.g. hydrology, restoration success rates).

Reporting and verification

The industry currently faces a lack of consistency in reporting and verifying peat-related activities. While some distillers voluntarily report on peat use and restoration, others do not, making it difficult to establish sector-wide benchmarks. There is also no single industry-wide reporting template, creating duplication and gaps. The question remains whether a standardised system could be introduced to support the industry. A clear next step is to co-develop an industry-standard reporting template, capturing:

- Volume of peat extracted and used.
- Areas restored vs. areas harvested.
- Key environmental indicators (e.g. water table levels, vegetation cover).
- Verification outcomes, aligned with schemes such as the UK Peatland Code.

A baseline template, adopted by all operators, would improve consistency, transparency, comparability, and credibility, while still allowing flexibility for businesses.

Biodiversity metrics

The Peatland and Woodland Codes are in the process of creating biodiversity metrics for monitoring and reporting on peatland restoration. As these tools evolve, there will be significant scope to align future monitoring and reporting standards with such metrics. However, as this work is still in development, it has not been pursued in depth within this study. There is potential for the Scotch Whisky industry to engage further with these as they develop.

Chapter 7: Case Studies

The following case studies illustrate different approaches to peatland restoration in Scotland. They cover both non-harvested sites, where degradation has mainly resulted from drainage, erosion, or afforestation, and harvested sites, where peat extraction has left bare and exposed peat surfaces. Together, these examples highlight the range of interventions being applied from re-profiling eroded peat hags and blocking drainage channels to re-vegetating extraction scars and removing non-native conifers.

By examining projects from different contexts, these case studies show not only the carbon and biodiversity benefits of restoration but also the practical challenges of monitoring, financing, and sustaining long-term outcomes. Appendix E at the end of this guidance provides a comprehensive list of key contacts that can assist in the delivery of peatland restoration projects in Scotland.

Case study 1: NatureScot Peatland Restoration Project

Background

This NatureScot case study highlights the restoration of a non-whisky peat extraction site.²⁴ The restoration was performed at a Scottish estate managing a degraded peatland that was suffering from long-standing damage, including bare peat down to the mineral layer (from historic peat cutting), drainage ditches, eroded gullies and peat hags, and colonisation by non-native conifers. The project aimed to reduce carbon loss, increase carbon sequestration, and enhance resilience to climate change.

Extraction and land use

Historically, the peat had been extracted and cut, leaving large expanses of bare peat stripped to the mineral substrate. Drainage infrastructure had been installed, which further dried the peat, accelerating decomposition and erosion. Gullies and peat hags (deep eroded channels) were widespread. Non-native conifer plantation had replaced areas of native peat vegetation, altering hydrology and shading, further reducing peat formation and function. These past land uses had greatly reduced natural capital (carbon storage, water regulation, habitat diversity).

Restoration action

A peatland restoration programme was carried out, supported primarily by the NatureScot Peatland ACTION fund, with financial and in-kind contributions from the estate. Restoration actions included:

- Blocking and re-profiling drainage ditches to raise water levels and slow water flow.

²⁴ NatureScot case study: www.nature.scot/sites/default/files/2023-08/8.%20Peatland%20Restoration%20-%20Case%20Study.pdf

- Re-profiling, stabilising and re-vegetating areas of bare or eroded peat, to restore surface cover and peat forming vegetation.
- Removal of non-native conifers to restore natural peatland plant communities and reduce drying/ shading effects.

Monitoring and results

To evaluate the restoration, carbon emissions reduction was calculated using the Peatland Code methodology and emissions calculator. Costs and benefits were assessed on a per hectare basis over an assumed project lifetime of 50 years (no leakage assumed). The annual marginal cost per hectare including amortized restoration and fees was estimated at about £35.33. Using the non-traded carbon price, annual marginal benefits were about £150.72/ha, giving a net benefit of ~£115.38/ha. Using the traded carbon price (much lower), the net benefit was negative.

Other benefits (though less well quantified) were improved water quality, reduced soil erosion and runoff, downstream flood risk mitigation, and biodiversity improvements.

Challenges

- Lack of sufficient data to measure many ecosystem services: water quality regulation, soil quality, erosion regulation, species diversity, recreation and education.
- The financial valuation depends heavily on the carbon price used: with traded carbon price the benefits may not cover costs.
- Assumptions (e.g. 50-year duration, no leakage) may not hold in all cases, introducing risk.
- Restoration requires significant upfront investment, and coordination, technical expertise, and long-term management.

Lessons learned

- Restoration of peatlands delivers high returns in terms of natural capital if non-traded (social) values of carbon are used.
- Quantifying ecosystem service co-benefits (beyond carbon) remains difficult but is important for fully capturing value.
- Monitoring design must include multiple ecosystem functions (water, soil, biodiversity) to support comprehensive evaluation.
- Funding models need to consider long timescales and realistic carbon pricing scenarios.
- Removing non-native species and restoring vegetation cover are essential to reverse degradation processes.

Case study 2: Suntory Global Spirits Peatland Water Sanctuary (Scotland)

Background

Launched in 2021, Suntory Global Spirits are investing over \$4 million in their Peatland Water Sanctuary™ programme to improve water retention and quality, carbon sequestration and biodiversity. This compliments Suntory's philosophy of 'Mizu to Ikuru' ('living with water'). By 2030, Suntory plan to restore 1,300 hectares, which is sufficient to replenish their annual requirement for distilling peated whisky. By 2040, they aim to increase the area of restoration, to replace the equivalent of double the quantity of peat used annually. To date 490+ hectares had been restored, with a further 750 hectares currently in planning. Suntory are restoring and managing peatlands in Aberdeenshire, Ayrshire, Speyside and on the Isle of Islay, with other sites planned in Scotland.²⁵

Harvesting and land use

On the Isle of Islay, Suntory harvest and restore peatlands at their 91ha Glenmachrie site for their Bowmore and Laphroaig distilleries. The area harvested annually covers about 10ha to 15 ha, a scale that allows for adaptive decisions, to reduce vegetation damage and disturbance to ground nesting birds. In its dried state, the annual peat harvest weighs about 800 tonnes. The peat is harvested from degraded areas, which are restored soon after harvesting is finalised. Restoration is ongoing in the other areas at Glenmachrie, with 12ha restored in 2022 and 27ha planned for restoration in 2026.

At Glenmachrie, two mechanical harvesting methods are used:

- A specially adapted cutting bucket that replicates traditional hand cutting. Surface turves (vegetation) are replaced after cutting.
- Specifically designed extrusion machinery that leaves the vegetation in place during harvest.

Restoration action

Suntory restore the peatlands they own and sites owned by NGOs and private landowners. Degraded peatlands unsuitable for conventional funding are considered for restoration, an example of which is Craigculter Moss in Aberdeenshire. In the late 20th century, Craigculter Moss was harvested for the whisky industry, abandoned and left unmanaged. Wind and water erosion had further reduced the peat depth to between zero and 2.5 m deep. To slow down and obstruct water flows and create consistently wetter conditions, bunding and damming using onsite material, including a stockpile of unused harvested peat, were installed along with composite log bunds,

²⁵ With thanks to Land & Habitats Consultancy for providing this case study.

surface compaction and reprofiling peat banks. Sphagnum moss is ‘propagated’ onsite to reintroduce after restoration.

Monitoring and results

Before restoration starts, detailed drone images are collected to provide baseline monitoring information and record the extent of drainage, erosion, open water and vegetation cover. After completion of work, detailed drone images are collected again, to map the restoration work. With a need for consistently damp conditions, Sphagnum provides a proxy, for mapping water consistency and indicating areas for post-restoration remedial work. Quadrats and fixed-point photography are used for sites with greater vegetation variation. Presently, post-restoration monitoring is at an early stage, with assessments to date, indicating positive outcomes.

Lessons learned

- Private funding increases site choice and restoration methods.
- Talk with contractors on-site before finalizing decisions.
- Engage skilled contractors with an adaptive approach.
- Winter storms and heavy snow can impact budget deadlines.

Case study 3: Restoration at Lough Boora (Ireland)

Background

Bord na Móna’s Lough Boora peatland was an intensive industrial peat-harvesting site²⁶. Over 50 years, virtually all peat was removed, leaving a cutover landscape of lakes and mineral spoil (now the Lough Boora Discovery Park). The midlands bogs are lowland raised and fen peat; after harvest the site had minimal peat left.

Extraction and land use

Mechanical harvesters (milling and continuous cutters) operated on vast blocks (tens of hectares) from the 1960s until late 2000s. Harvesting created large “windows” of exposed subsoil and drainage network. Post-peat, the site was allowed to flood naturally, forming recreational lakes, now a park.

Restoration actions

- Building selective dykes around remaining shallow basins to retain rainwater.
- Spreading vegetation sourced from donor sites.
- Encouraging the formation of peatland pools.

Monitoring and results

Natural regeneration was monitored via vegetation surveys and groundwater levels. Early signs show colonization by willow scrub and wet grassland plants. Bord na Móna’s

²⁶ Bord na Móna: www.bnmecas.ie/wp-content/uploads/sites/18/2021/08/Boora-Rehab-Plan-2021-V12.pdf

Peatland Climate Action Scheme included long-term greenhouse gas measurements to quantify benefits. Satellite imagery and on-site surveys were used to track changes in moisture and cover. Lessons from Boora inform methods for other bogs: e.g. creating microtopography for sphagnum, and prioritizing rewetting of deep hollows.

Lessons learned

Lough Boora illustrates restoration at the industry scale. It shows that, even after complete peat removal, managed rewetting can restart peatland development if given time and funding. Key lessons include the importance of setting clear long-term goals (bog, wetland, woodland mix) and of securing sustained funding (Ireland's scheme aims 65,000 ha rehabilitation). Boora also highlights the value of multi-use planning – integrating restoration with public amenities – and rigorous post-restoration monitoring to guide adaptive management.

Appendix A: Contributors to this guidance

The following organisations provided input, support and guidance for this document:

- Belgrove Distillery, Tasmania
- Canadian Peat Moss Association
- Chivas Brothers Ltd
- Diageo
- Edrington
- Elixir Distillers
- Isle of Arran Distillers
- Lagg Distillery
- Land & Habitats Consultancy
- NatureScot
- Northern Peat and Moss
- Pernod Ricard
- SAC Consulting
- Scotland's Rural College (SRUC)
- Scotch Whisky Research Institute (SWRI)
- Suntory Global Spirits
- The Maltsters' Association of Great Britain (MAGB)
- The Scotch Whisky Association (SWA)
- Whyte & Mackay

Appendix B: Useful Resources

Site selection and baseline assessment define whether peat extraction can proceed without compromising climate, ecological or cultural goals. Operators will need to secure a license that demonstrates overriding need, funds restoration in advance, and satisfies stringent regulatory scrutiny. Screening then subjects each prospective site to four filters—hydrological integrity, peat depth, habitat value and archaeological sensitivity—ensuring only degraded, recoverable peatlands advance.

To do so effectively, operators will be required to engage with a range of stakeholders and resources. Some of the most useful contacts are summarised below:

- **NatureScot** – Guidance on peat depth, condition surveys and habitat classification (including NVC methodologies).
- **Historic Environment Scotland (HES)** – Protocols for archaeological walk-over surveys and cultural heritage assessments.
- **ALGAO** - Protocols for archaeological walk-over surveys and cultural heritage assessment specific for peatlands.
- **Scottish Government Risk Assessment** – Protocols for hazards and risk assessment for electricity generation developments but useful for risk matrices.
- **Peatland Code** – Guidance for site assessments that align to the Peatland Code.

Appendix C: Regulatory requirements and licencing

Overview

This section of the guidance provides a comprehensive overview of the legal and licensing landscape relevant to peatland restoration. It aims to support practitioners in navigating regulatory processes, ensuring compliance, and integrating restoration practices with broader environmental policy objectives. By clarifying obligations and permitting pathways, this guidance helps reduce project delays, avoid legal penalties, and enhance the ecological effectiveness of peatland restoration initiatives.

Table 6: Summary of relevant policy and regulations.

Instrument/Policy	Summary of Relevance & Requirements	Key References
National Planning Framework 4 (NPF4, 2023)	Scotland’s statutory national spatial strategy. NPF4 only supports new commercial peat extraction to supply the Scotch whisky industry (Policy 5). It requires progressive restoration (e.g. leaving ≥1 m peat). All new peat projects must demonstrate an “overriding need” for whisky production.	Scottish Government NPF4
Planning (Scotland) Act 2019	Established statutory basis for NPF4 and strengthened community planning duties. Requires all planning authorities to follow NPF4 when determining applications, including for mineral/peat extraction.	Planning (Scotland) Act 2019
Town and Country Planning (Scotland) Act 1997	Primary legislation for land use and development control. Commercial peat extraction is treated as a mineral extraction requiring planning permission and restoration conditions (often via planning agreements).	Town and Country Planning (Scotland) Act 1997
Town and Country Planning (EIA) (Scotland) Regs 2017	Implements EU EIA Directive (still in force). Requires an Environmental Impact Assessment for large schemes; peat extraction on sites >150 ha always triggers EIA. Assessments must cover impacts on water, carbon, habitats, etc.	EIA Regulations 2017 (Scotland)

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Environmental Protection Act 1990	UK-wide law defining waste. Excavated peat is legally a waste unless kept on-site. Along with the Waste Management Licensing (Scotland) Regs 2011, it means off-site peat disposal (e.g. by-product use) requires a waste license.	<u>Environmental Protection Act 1990; Waste Management Licensing (Scotland) Regs 2011.</u>
Water Environment (Controlled Activities) (Scotland) Regs 2011 (CAR)	Controls discharges, abstractions, engineering works in or near water to implement the EU Water Framework Directive. Licenses may be needed for drainage work, pumping, or damming in peatland projects. SEPA oversight ensures water quality and habitat protection.	<u>CAR Regs 2011</u>
Water Environment and Water Services (Scotland) Act 2003	National law transposing the EU Water Framework Directive. Establishes SEPA's duties (River Basin Management Plans) and obliges public bodies to protect water quality. Peatland restoration is recognized as a beneficial activity for water bodies.	<u>WEWS Act 2003</u>
Wildlife & Countryside Act 1981	UK act protecting SSSIs and species. Many peatlands are SSSIs or SPAs/SACs; this Act prohibits damage to protected habitats or species. Restoration works must avoid harming such features.	<u>Wildlife and Countryside Act 1981</u>
Nature Conservation (Scotland) Act 2004	Introduces biodiversity duty on public bodies. Restoration projects should consider biodiversity net gain. Also amends Wildlife Act 1981 for native species protection.	<u>Nature Conservation (Scotland) Act 2004</u>
Habitats Regulations 1994 (as amended)	Transposes EU Habitats Directive. Peatland sites designated as SAC/SPA must be maintained. Appropriate Assessment may be needed if restoration or extraction affects these sites.	<u>Conservation (Natural Habitats etc) Regs (1994)</u>
Flood Risk Management (Scotland) Act 2009	Requires planning to consider flood risk. Peatland restoration that re-wets and slows water flow can reduce downstream flooding. Strategic flood risk assessments (SFRA) may apply to site design.	<u>Flood Risk Management Act 2009; policy context in SEPA RBMP guidance</u>

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Pollution Prevention and Control (Scotland) Regs	Regulates industrial emissions to air, land, water. Peat processing plants or soil storage (if high capacity) may need permits (PPC). Best practice should be followed to minimize peat dust or runoff.	PPC Regs
Polluter Pays Principle (Policy)	While not an Act, this EU-derived principle is enshrined in UK law: project proponents must pay for environmental harm. In practice, site operators are expected to fund restoration and any pollution remediation.	Implied by laws like <u>Environmental Protection Act and CAR (no single source)</u>

Appendix D: Key contacts for peatland restoration

This section provides guidance on the key contacts relevant to peatland restoration projects. It highlights the organisations, agencies, and networks that can offer advice, support, technical expertise, and regulatory guidance. By identifying these contacts early in the planning process, practitioners can build partnerships, access specialist knowledge, and ensure that restoration activities align with legal, environmental, and community requirements. These contacts will also have value to any stakeholder within the peat supply chain interested in conducting peatland restoration projects.

Table 7: Key contacts for peatland management and restoration

Organisation	Type	Role / Key Services	Contact
Angus Davidson Ltd	Developer	Peatland restoration design & delivery; surveys; gully reprofiling; peat dams; monitoring; carbon audit support	www.angusdavidsonltd.com
Atlantic58	Private Consultant	Peatland assessment/planning, CAR licensing support, peat slide risk assessments	www.atlantic58.co.uk
Auchlyne Estate (RJ Cooper)	Private Contractor	Multi-site blanket bog restoration procedures under Peatland ACTION	www.auchlyne.co.uk
Ballindalloch Trust	Developer	Landowner/estate; potential peatland restoration on estate lands	www.ballindallochhighlandestate.com/ enquiries@ballindallochcastle.co.uk 01807 500 205
Bidwells	Developer	Natural capital & peatland advisory: feasibility, funding, transactions, project management	www.bidwells.co.uk Stuart Burbidge, Partner: stuart.burbidge@bidwells.co.uk 07918 142868

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Caledonian Climate	Private contractor	Peatland Code project developer; project design, registration/validation, monitoring	www.caledonianclimate.com Contact form on website
Consultancies (JBA, Jacobs, etc.)	Private Consultant	Restoration design, hydrological/ecological surveys, modelling, monitoring	www.jbaconsulting.com www.jacobs.com
Corrour	Developer	Estate implementing peatland restoration and land stewardship	www.corrour.co.uk enquiries@corrour.co.uk 01397 707 070
Cumbria Wildlife Trust	Developer	Peatland restoration delivery, surveys and monitoring across Cumbria	www.cumbriawildlifetrust.org.uk info@cumbriawildlifetrust.org.uk
Drumclog Plant	Private Contractor	Mechanical & manual peat dam/ditch restoration, bunding, peat hag reprofiling	www.drumclogplant.com
Duchy of Cornwall	Developer	Landowner; partner in South West Peatland Partnership; peatland restoration on Dartmoor	duchyofcornwall.org/ london@duchyofcornwall.org 020 7834 7346
Dunbeath Partnership	Developer	Landowner partnership; potential peatland restoration (Highland)	Registered address: Dunbeath, Caithness (Companies House)
Durham County Council	Developer	Public authority supporting North Pennines peatland restoration procurement and delivery	www.durham.gov.uk General enquiries: 03000 26 0000

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Forest Carbon	Developer	Developer of woodland & peatland carbon projects (WCC/Peatland Code)	www.forestcarbon.co.uk/contact
Forestry and Land Scotland	Developer	Public land manager; Peatland ACTION delivery partner; forest-to-bog restoration	forestryandland.gov.scot Contact form on website
Fountains Forestry UK Ltd	Developer	Forestry management; woodland creation; carbon services	www.fountainsforestry.co.uk enquiries@fountainsforestry.co.uk 01392 877741
Galbraith	Developer	Natural capital consultancy; carbon/nature market advice; project development	www.galbraithgroup.com/services/natural-capital
Glenrath Farms	Developer	Landowner/farming; potential peatland restoration on upland holdings	www.glenrathfarms.co.uk info@glenrathfarms.co.uk 01968 675596
Green Finance Institute (GFI)	Finance / Carbon Market	Carbon project development advice, funding facilitation	www.greenfinanceinstitute.co.uk
Greenbeard Forestry	Developer	Forestry support services; potential peatland restoration contracting	Companies House registered: IV14 9DY
Heritage & Lottery Fund (HLF)	Public Funder	Grants for integrated peatland & heritage projects	www.heritagefund.org.uk

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Highland Conservation Ltd	Private Contractor	Ditch damming, gully blocking, plug planting (cotton grass/Sphagnum), peat translocation	www.highlandconservation.com
Highlands Rewilding / Revitalize & Conserve	Private Contractor	Tailored peatland restoration interventions, ecological management	info@highlandsrewilding.co.uk
IUCN UK Peatland Programme (UKPP)	NGO / Network	Peatland Code, training, project validation	www.iucn-uk-peatlandprogramme.org info@iucn.org
James Hutton Institute (JHI)	Academic	Soil carbon & hydrology research, data analysis	www.hutton.ac.uk 01330 826 922
Land & Carbon Lab	Developer	Nature-based carbon projects; peatland & woodland (details depend on project)	landcarbonlab.org
Land and Habitats Consultancy	Private Contractor	Specialists in peatland restoration and management in Scotland, expertise in restoring harvested sites	www.landandhabitats.co.uk hq@landandhabitats.co.uk
McGowan Environmental	Private Contractor	Low-ground- pressure machinery for peatland restoration; specialist design delivery	info@mcgowangroupltd.com
Montgomeryshire Wildlife Trust	Developer	Peatland habitat restoration and monitoring in mid-Wales	www.montwt.co.uk info@montwt.co.uk 01938 555654

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Moors for the Future Partnership	Peat Partnership	Groups of organisations working together to restore and protect peatlands	moorsforthefuture.org.uk moors@peakdistrict.gov.uk 01629 816 200
National Trust for Scotland	Developer	Peatland restoration on estates (e.g., Mar Lodge) and conservation management	www.nts.org.uk
NatureScot – Peatland Action Programme	Public Agency	Principal funder of peatland restoration, policy guidance, technical support	www.nature.scot PeatlandACTION@nature.scot 01463 725 000
North Pennines AONB Partnership	Peat Partnership	Groups of organisations working together to restore and protect peatlands	northpennines.org.uk
Northumberland Peat Partnership	Peat Partnership	Groups of organisations working together to restore and protect peatlands	www.nwt.org.uk/projects/northumberland-peat-partnership
Palladium	Developer	Nature-based solutions and finance; developer/partner for peatland restoration	thepalladiumgroup.com Revere: revere.eco
Peatland Restoration Scotland	Private Contractor	Restoration in upland terrain using specialist machinery	info@plrscotland.co.uk
Ridge Carbon Capture Ltd	Developer	Peatland restoration developer; project design, credits and community benefits	www.ridgecarboncapture.com restoration@ridgecarboncapture.com 01608 819 253

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RSPB	Developer	Peatland restoration, monitoring, partnerships and advocacy	www.rspb.org.uk/contact-us
RSPB Scotland	NGO	Peatland restoration, monitoring, volunteer engagement	www.rspb.org.uk/scotland 0300 244 9730
Savills	Developer	Natural capital advisory: valuation, feasibility and transactions; peatland restoration opportunities	www.savills.co.uk/services/consultancy/natural-capital.aspx
Scottish Environment Protection Agency (SEPA)	Public Agency	Environmental regulation, CAR licensing, hydrology & flood-risk advice	www.sepa.org.uk info@sepa.org.uk 03000 99 66 99
Scottish Forestry (SF)	Public Agency	Forestry-related restoration funding, guidance	www.forestryandland.gov.scot 0300 067 6600
Scottish Government	Government	National peatland funding, policy (Climate Emergency Fund, Peatland Action capital)	gov.scot
Scottish Wildlife Trust (SWT)	NGO	Restoration demonstration projects, biodiversity monitoring	www.scottishwildlifetrust.org.uk 0131 312 7765
Scottish Woodlands Ltd	Developer	Forestry & natural capital services; woodland creation; peatland restoration planning	www.scottishwoodlands.co.uk enquiries@scottishwoodlands.co.uk 0131 451 5154

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Severn Trent Plc	Developer	Water company funding & delivery partnerships for catchment/peatland restoration	www.severntrent.com/help-and-contact/contact-us
Snowdonia National Park Authorities	Developer	National Park authority (Eryri); peatland conservation and land management	authority.eryri.gov.wales/contact/parc@eryri.llyw.cymru 01766 770274
Soil Association/ Organic Farmers & Growers	Certification Body	Peatland Code validation, carbon credit certification	www.soilassociation.org www.ofgorganic.org
South West Peatland Partnership	Peat Partnership	Groups of organisations working together to restore and protect peatlands	southwestpeatlandpartnership.co.uk/ southwestpeatlandpartnership@gmail.com
Strath Caulaidh	Developer	Technical services for peatland: peat probing/modelling, condition & stability assessment, plans	www.strathcaulaidh.com
Strutt and Parker	Developer	Natural capital consultancy for estates; peatland feasibility & transactions	rural.struttandparker.com (local office contacts)
Taylor Wildlife Ltd	Private Contractor	Peat-depth & condition surveys, feasibility studies, ecological clerk of works	www.taylorwildlife.co.uk
The Future Forest Company	Developer	Landscape-scale restoration and reforestation; nature markets	thefutureforestcompany.com Contact form on website

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The James Hutton Institute	Developer	Soils, hydrology and carbon science; monitoring and data analysis	www.hutton.ac.uk info@hutton.ac.uk 01382 562731
Tilhill Forestry	Developer	Forestry management, woodland creation; carbon & natural capital services	www.tilhill.com/contact-us
University of Highlands & Islands (UHI)	Academic	Ecological research, training, peatland monitoring	www.uhi.ac.uk
Wildland Limited	Developer	Estate rewilding and peatland restoration across Highland estates	wildland.scot
Woodland Trust	Developer	Habitat restoration; native woodland creation on peat margins, advocacy	www.woodlandtrust.org.uk 0330 333 3300
Yorkshire Peat Partnership	Peat Partnership	Groups of organisations working together to restore and protect peatlands	www.yppartnership.org.uk/contact-us
Yorkshire Wildlife Trust	Developer	Hosts Yorkshire Peat Partnership; peatland restoration & monitoring	www.ywt.org.uk info@ywt.org.uk 01904 659570

Glossary of terms

Adapted Extrusion – peat harvesting process, commonly known as sausage cutting or extrusion harvesting, is a mechanised method for extracting peat, particularly for fuel. In this process, tractor-driven machines cut a "pipe" or "sausage" of peat from beneath the surface, which is then laid on top of the bog to dry.

Acrotelm – The upper, living layer of peatland where vegetation grows and initial peat formation occurs.

Afforestation – The process of planting trees on land that has not previously been forested, sometimes affecting peatland hydrology.

Baseline Survey – A comprehensive set of ecological, hydrological, and carbon measurements taken before peat extraction or restoration begins, used to assess impacts and monitor progress.

Baulk and Hollow – A harvesting process that is a traditional and, more recently, mechanized method of extracting peat, primarily for fuel (turf) or horticultural use. The technique involves dividing a bog into rectangular sections, where shallow trenches ("hollows") are excavated, and the extracted peat blocks are stacked to dry on the raised areas ("baulks") separating the trenches.

Block Cutting – A traditional or industrial method of peat harvesting where saturated peat is cut into blocks (or turves) using specialized spades or machines, then air-dried on the bog for months to reduce moisture usually from 90% to 40-60% before use.

Bog – A type of peatland that is waterlogged, nutrient-poor, and dominated by mosses (especially Sphagnum species).

Bund – A low embankment constructed to control water levels, often used in peatland restoration.

Carbon Store – The role of peatlands in locking away carbon in accumulated peat, helping mitigate climate change.

Cutaway / Cutover – Terms used for peatlands where peat has been removed through industrial or domestic extraction, leaving exposed peat or mineral soil.

Degraded Peatland – Peatland that has been drained, cut, burned, or otherwise modified, reducing its natural functions.

Distiller – A whisky producer who uses malted barley (sometimes peated) to produce Scotch whisky.

Domestic cutting – General term for small-scale, non-commercial extraction of peat using hand tools from bogs.

EIA (Environmental Impact Assessment) – A statutory process for assessing the potential effects of a project (such as peat extraction) on the environment.

Environmental Authorisations (Scotland) Regulations 2018 (EASR) – From 1 November 2025, water, waste management, and industrial activities are regulated under EASR.

Habitat Regulations – The Conservation (Natural Habitats, etc.) Regulations 1994, implementing the EU Habitats Directive to protect Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

Hydrology – The movement and distribution of water within a peatland system; restoration often focuses on rewetting to restore natural hydrology.

IUCN UK Peatland Programme – A UK-wide initiative that supports best practice peatland restoration and administers the Peatland Code.

Licence Holder – The company or operator with formal permission to extract peat, subject to strict restoration obligations.

Maltster – A company or operator that malts barley (sprouts and dries it), often using peat smoke to impart flavour for Scotch whisky.

National Planning Framework 4 (NPF4) – Scotland’s statutory spatial planning framework; Policy 5 restricts commercial peat extraction, allowing it only for whisky production under strict conditions.

NatureScot – Scotland’s nature agency, responsible for biodiversity, protected areas, and peatland restoration funding (including the Peatland ACTION programme).

Overriding Need – A planning test requiring peat users to demonstrate that extraction is essential (e.g. for whisky production) and alternatives are impractical.

Peat – Accumulated, partially decayed organic matter formed in waterlogged conditions over thousands of years.

Peatland Code – A UK voluntary certification standard for peatland restoration projects that seek funding through carbon markets.

Polluter Pays Principle – The principle that those responsible for environmental harm must fund remediation or restoration.

PPC (Pollution Prevention and Control) Regulations – Scottish regulations controlling emissions from industrial activities, potentially relevant to peat processing.

Progressive Restoration – The practice of carrying out restoration alongside ongoing extraction, so that worked areas are rehabilitated before operations fully end.

Reprofiling – The reshaping of bare peat or eroded features to reduce erosion and encourage vegetation regrowth.

Rewetting – Restoring a peatland’s natural water levels by blocking drains or constructing dams, essential for halting carbon loss and enabling peat formation.

RSPB Scotland – A leading NGO involved in peatland restoration, biodiversity monitoring, and community engagement.

SAC (Special Area of Conservation) – A protected site designated under the EU Habitats Directive.

SEPA (Scottish Environment Protection Agency) – Scotland’s environmental regulator, overseeing water, pollution, and licensing of activities affecting peatlands.

Site of Special Scientific Interest (SSSI) – A statutory conservation designation protecting important habitats, species, or geology, often applied to peatlands.

Sphagnum Moss – A group of moss species central to peat formation, acting like a sponge to retain water and build peat.

SPA (Special Protection Area) – A protected site designated under the EU Birds Directive, often overlapping with peatlands important for birdlife.

SWA (Scotch Whisky Association) – The trade body representing the Scotch whisky industry, supporting sustainable peat use.

Tractor Extrusion – Often referred to as sausage cutting, is a mechanized method of harvesting peat used primarily for fuel (briquettes) or horticultural purposes. It involves specialised, tractor-driven machinery that cuts, extrudes, and places "pipes" or "sausages" of wet, macerated peat onto the bog surface to dry. This is functionally very similar to adapted extrusion.

Town and Country Planning Act – Scottish planning legislation governing land use and development, including peat extraction.

Waste Management Licensing (Scotland) Regulations 2011 – Rules governing the handling and disposal of waste, relevant where extracted peat is not reused on site.

WEWS Act (Water Environment and Water Services (Scotland) Act 2003) – Establishes SEPA’s duties under the EU Water Framework Directive, including protecting water quality in peatland areas.

Wildlife and Countryside Act 1981 – UK law protecting designated sites (SSSIs) and species, relevant to peatland habitats.