Deliverable 8.1
Annex 4

Upscaling Plan for the Scottish Demo Forest

Planned delivery date (as in DoA): M42
Due date of deliverable: 31/05/2025
Workpackage: WP8

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Version: 1.0

Grant Agreement number: 101036849
SUPERB — H2020-LC-GD-2020 / H2020-LC-GD-2020-3
Project Acronym: SUPERB
Systemic solutions for upscaling of urgent ecosystem restoration for forest related biodiversity and ecosystem services
Duration of the project: December 1st, 2021 - November 30, 2025

VERSION HISTORY

Version	Date	Author /Reviewers	Partner	Description
0.1	09.01.2025	Ferraretto, Locatelli & Nicoll	FLS	First draft
0.2	03.04.2025	Bengt Gunnar Jonsson; Jo O'Hara	SLU, EFI	Review of draft 0.1
1.0	27.05.2025	Ferraretto, Locatelli & Nicoll	FLS	Final version for submission

CITATION:

Ferraretto, D., Locatelli, T. & Nicoll, B. (2025). Upscaling Plan for the Scottish Demo Forest. Horizon 2020 Project No. 101036849, European Commission, 25 pp.

DISCLAIMER

ACKNOWLEDGEMENT

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 101036849.

Content

Executive summary

The Scottish demo area, situated in Central Scotland within the Loch Lomond and Trossachs National Park, is a unique research forest managed by Forest and Land Scotland (FLS). This area, primarily consisting of non-native plantation forests, has evolved from a focus on timber production to a multi-functional management approach that emphasizes biodiversity, ecosystem services, and recreational opportunities. The transformation includes the restoration of riparian zones, increased species diversity, and proactive measures to combat ecological pressures such as invasive species and deer browsing.

The demo area aims to enhance ecosystem function and resilience through three primary restoration strategies:

1. **High Elevation Woodland (HEP)**: Planting native broadleaf species above the current treeline to mitigate risks associated with climate change impacts like landslides.
2. **Continuous Cover Forestry (CCF)**: Implementing selective thinning to maintain a multi-layered forest structure, thereby improving biodiversity and reducing the ecological footprint of timber harvesting.
3. **Riparian Woodland and Natural Flood Management (NFM)**: Enhancing riparian biodiversity and implementing NFM techniques to reduce flooding risks for local communities.

These strategies align with broader policy requirements and address current environmental challenges while promoting sustainable land management practices and underlie this upscaling plan.

Barriers and Enablers to Upscaling Restoration

The report identifies various barriers to scaling up restoration efforts, including political, economic, social, technical, legal, and environmental dimensions. Key challenges include limited policy recognition of restoration benefits, high costs associated with restoration activities, and a lack of established market instruments for ecosystem services beyond timber. Conversely, enablers such as political champions for restoration, community engagement, and emerging financing opportunities are crucial for overcoming these barriers.

Stakeholder Engagement and Governance

Effective stakeholder engagement is vital for the success of the SUPERB project. The initial stakeholder mapping identified 82 key actors, including regional governments, financing bodies, private landowners, and local communities. The involvement of these stakeholders is essential to ensure that restoration practices are aligned with community needs and ecological goals. The governance framework is underpinned by existing Scottish and UK forestry laws, which promote sustainable management practices.

Financial Mechanisms for Restoration

Financing is a critical component for the upscaling of restoration activities. Current funding mechanisms include government grants, carbon credits, and biodiversity net gain initiatives. The report emphasizes the need for innovative financial models to bridge the anticipated funding gap for woodland creation and management, which is projected to reach £1.8 billion by 2032.

Knowledge Gaps and Technical Considerations

The document highlights knowledge gaps in the scientific, technical, and practical aspects of the identified restoration strategies. Addressing these gaps through research and practical trials will enhance the understanding of effective restoration practices and facilitate wider application across Scotland.

Recommendations for Future Actions

To effectively scale up restoration efforts, this document identifies some high priority barriers (see the Recommendations table) and suggests possible enabling actions, among which:

- Increasing community engagement to advocate for nature-based solutions.
- Encourage private/public partnerships, using demos to show feasibility and range of benefits
- Addressing the financial, environmental, social and cultural dimensions of herbivore control
- Enhancing training and education for stakeholders involved in restoration activities
- New approaches to restore the upper tree line where focus is shifted to the tree/shrub characteristics rather than the provenance alone.

By addressing these recommendations, the Scottish demo area can serve as a model for forest restoration practices that contribute to ecological resilience and community well-being across Scotland and beyond.

1. Introduction and Background

The Scottish demo area is located in Central Scotland in a predominantly non-native plantation forest situated within the Loch Lomond and Trossachs National Park and incorporates forested and non-forested elements. The land is owned by the Scottish Government and is managed by Forest and Land Scotland (a Public Agency) as part of the wider public forest estate which covers 9% of Scotland's land area and around 30% of Scotland's total forest area.

The demo area is designated as a Forest Park and is Scotland's only Research Forest. The wider forest area was mostly established in the first half of the 20th Century, with a focus on timber production. More recently it has been managed on an increasingly multi-functional basis, and incorporates designated habitats, as well as having a substantial and growing relevance for tourism and recreation. FLS has been proactive in transforming this forest from even-aged predominantly spruce forest to having increased species and structural diversity with an increased proportion of broadleaf species, and restoring riparian zones by removing conifers, restoring native broadleaves and applying natural flood management techniques. As a result, it featured as an Adaptation Demonstration for the Scottish Government "ClimateXChange" Centre of Expertise on Climate Change.

Management in the wider forest area surrounding the demo has historically been by clear-fell and re-planting of non-native conifers, which is the predominant forest management system in Scotland, on soil types that are probably more productive than is more generally the case in Scottish plantation forests. The current ecological pressures include considerable grazing and browsing of forest and open habitats by wild deer and goats, as well as encroachment by invasive Rhododendron spp. It is projected that climatic risks associated with flooding, storminess and pests and diseases are likely to increase and that milder temperatures might also widen future silvicultural choices. A current focus is managing an outbreak of *Phytophthora ramorum* disease across Scotland, that necessitates the removal of larch trees and replacement with alternative suitable species.

2. Strategy

2.1 Building the case for upscaling

The objectives of the Demo are to explore three specific restoration actions that were identified by local forest planners as a priority to improve the ecosystem function and future resilience of the forest:

- High elevation woodland. Restoring montane forests by planting suitable native broadleaf species above the current treeline
- Continuous cover forestry. Selective crown thinning to select frame trees which will remain to the final CCF stage to generate and provide habitat for the understorey of the next generation of seedlings. Species diversification by planting fir, pine and Norway spruce, improved multistorey and age stand structure.
- Riparian woodland and Natural Flood Management. Increasing the diversity of riparian woodland and the resulting hydraulic roughness, and to implement Natural Flood Management actions to reduce the risk of flooding in neighbouring communities and provide a demonstration area of the effectiveness of NFM solutions.

These objectives relate to managing current environmental risks to the forest and to local communities, climate change pressures on the forest and local environment, and changing

policy requirements in relation to land-use, forest management and biodiversity. The high elevation woodland planting is required to address increasing risks to the forest and adjacent infrastructure, including major roads, from landslides and soil erosion. The Continuous Cover Forestry non-clearfell systems are a potential solution for reducing felling impact, improving biodiversity, and improving resilience in relation to climate risks including wind damage. The Riparian Woodland and natural flood management area will address policy requirements to remove conifers from near watercourses to reduce acidification and improve water quality, while slowing the flow of water courses and temporarily store part of the runoff to improve protection of local communities from flooding during extreme rainfall events.

The three restoration activities are being implemented in the Scottish Demo site not only because they contribute to FLS' forest management planning in QEFP and provide benefits to the local communities, but also because they reflect forest restoration opportunities and needs across large areas in Scotland and the wider British Isles. The management of Scottish forests needs to incorporate modern silvicultural activities to reflect the requirements for forests to deliver multiple Ecosystem Services that extend beyond timber provision. High-elevation planting improves slope stability and lowers landslide risk; Natural Flood Management slows water flow in rivers and their tributaries with the potential to flood downstream communities; conversion of pure conifer stands to Continuous Cover Forestry greatly increases the amenity and recreation values of these stands, and in certain cases can lower the risk of wind damage to the stand. In addition to these intervention-specific ES, biodiversity values are expected to increase markedly following these diverse forest restoration activities.

A wide range of other forest restoration targets not addressed in the SUPERB Demo will be relevant across the UK, and are expected to be seen as priorities by some stakeholders. In Scotland these may include native Scots pine "Caledonian pinewood" restoration in the Highlands, Atlantic oakwood and "Scottish rainforest" restoration near the west coast, various other forms of native broadleaf woodland restoration and protected species habitat restoration, restoration of ancient semi-natural woodland on sites designated as "Plantations on Ancient Woodland Sites" (PAWS), and peatland restoration on previously afforested sites. These will not be discussed in more details in this plan, but principles and practicalities for upscaling restoration are expected to be comparable to the existing restoration activities in the Scottish Demo.

<u>Potential area with similar problems/opportunities as within the demo area:</u>

Given the particular features of the Demo forest, and the existence of established 'prestoration' sites that will be developed further in SUPERB, initial analysis suggests a number of routes to wider forest habitat restoration in Scotland that could be stimulated by SUPERB:

State-owned forests as exemplars of restoration. Adoption of new practices across the national forest estate in Scotland (approx. 450,000 ha in total). This would represent a major challenge in changing forestry policy, planning and management, but potentially could be the most tractable if the SUPERB Demo can be used to make a convincing case.

Restoration in similar forest types. Adoption of new restoration practices by owners of similar forest types in Scotland and beyond. Convincing cases for restoration including cost-benefit analysis would be required, based on lessons learned from the SUPERB case study, plus synthesis of wider research data. Buy-in from forest owners/ managers, and other landowners would require encouragement from trade and professional bodies, potentially with adjustments to grant structures.

Restoration across Forest Parks and National Parks. Adoption of new restoration practices by other landowners across Scotland's Forest Parks and National Parks. Incorporation of new

restoration goals into Forest Park and National Park policy would be required but might be achievable based on convincing cases based on SUPERB demo findings and if stakeholders can be convinced. This would provide a good springboard for future upscaling.

In addition to the three routes suggested above, which refer to specific treescapes, we introduce two further routes which are equally central to the forest restoration upscaling effort.

New emphasis of forest restoration in national best practice. Adoption of new recommended practices into national 'best practice' and potentially into regulations by using the SUPERB demo and Scottish Research Forest as a proof of concept. Again, this would require a substantial change in policy and buy-in by stakeholders and forest owners, but there would be potential for change through revision of the UK Forest Standard

Attraction of new finance for forest restoration. All of the options would have a financial cost that would need to be addressed, and it is not yet clear that Government grants could be adjusted for a greater emphasis on forest restoration. The evidence from the SUPERB demo would help make the case for revision of grant structures. Better metrics provided by the SUPERB demo could encourage greater investment in forest restoration.

These options were discussed with policy makers and relevant bodies at the Scottish SUPERB upscaling workshop in December 2024. The participants contributed to explore the barriers and opportunities discussed in the following section of this document, and share their visions of forest restoration in the wider UK context. Some stakeholders emphasized the need for more ambitious forest diversification, limited previously by grant schemes that tended to favour even-aged single species forest management.

All options, or a combination of them, should be on the table, and it is likely that progressive upscaling over many years will be required. Ideally buy-in from landowners would enable Forest Parks and National parks to incorporate larger restoration areas as exemplars for continuing upscaling across wider areas, especially if they are linked to improved guidance on implementation, cost-benefit analysis, research into ecosystem service benefits, changes in available finance and grant structures.

<u>Upscaling restoration over a longer time-scale:</u>

In the Natural Flood Management and riparian restoration site, timber structures, such as leaky dams and timber bunds, which are installed in the floodplain and riverbed, respectively, will require ongoing management and care, and will require replacement on longer timescales. Establishment success of different tree species in floodplains will need to be assessed and restoration trajectories might need to be adjusted in future years, for example by re-evaluating species suitability in relation to local experience and modelling based on updated climate projections.

Forest management in high-elevation stands planted above the current treeline will likely require very different silvicultural approaches and management strategies. Species to be planted are being chosen to minimise intervention requirements. Given the site's accessibility constraints, traditional management interventions will likely not apply, but management will still be required to ensure that forest cover is maintained. Local forest planners have stated that they require guidance on how to manage broadleaf woodland as continuous cover. This will require continued research input following the completion of SUPERB.

The broader transition to conifer CCF management systems is a longer process that requires attention and continued work well beyond the duration of SUPERB. Windstorms have a great impact on Scottish forests, and it is not known with certainty how the different types of CCF forests resulting from restoration actions will respond to this hazard. Current indications are

that pest outbreaks seem most likely to affect traditional UK production forestry (e.g. conifer monocultures managed on a clear-fell and re-plant system), therefore CCF restoration might help reduce this risk by further increasing the heterogeneity and complexity of stands. Disease outbreaks might be expected to respond to CCF restoration in a similar fashion. A large proportion of forest management resources are currently tied-up in removing large numbers of *Phytophthora ramorum*-infested larch trees, thus reducing the resources available for restoration actions. These urgent management constraints might, at least in the immediate future and occasionally going forward, slow down the upscaling of complex restoration actions such as CCF.

2.2 Situational analysis

The PESTEL analysis serves as a valuable framework for understanding the complex landscape of barriers to forest restoration efforts. By examining the political, economic, social, technical, and legal factors that influence these initiatives, we gain insights into the multifaceted challenges that exist within the realm of forest management and restoration. Political dynamics, such as regulatory policies and government support, play a pivotal role in shaping restoration strategies. Economic considerations, including funding availability and market incentives, affect the feasibility and scalability of restoration projects. Social factors, such as community engagement and public perception, influence the acceptance and success of these initiatives. Furthermore, technical challenges related to restoration methodologies and ecosystem knowledge must be addressed, alongside compliance with legal frameworks that govern forest management. Together, these elements create a comprehensive overview of the barriers that must be navigated to enhance the effectiveness of forest restoration efforts and promote sustainable environmental practices. In the final "recommendation" section, some of the key barriers identified in the PESTEL analysis will be addressed through targeted strategies aimed at overcoming these challenges and facilitating successful restoration outcomes.

Issue	Description	Basis/ Documentation	Urgency	Importance
Political	**Limited policy recognition at national and regional level on the benefits of restoration**	Forestry and Land Management Act (Scotland) 2018; UKFS; The Felling Regulations 2019 (Scotland); The Forestry EIA Regulations 2017 (Scotland); Plant Health Order 2005	medium	**high**
	Limited policy consensus among forestry and other natural resource agencies for supporting landscape approaches	Flood risk management (Scotland) act 2009; 2nd guidance on Delivering sustainable flood risk management		medium
	NFM: focus on woodland creation. Additional grants available in England but difficult to access by farmers	https://www.ruralpayments.org/topics/all-schemes/forestry-grant-scheme/ (Scotland); England Woodland Creation Offer; "Glastir" (Wales)		medium
	Perceived political scepticism about restoration actions, including forceful lobbying			*low*
Economic	**Costs of restoration activities**	**Feedback from national and local stakeholder**	**high**	**high**
	Lack of established market instruments and payment for ecosystem services beyond timber (e.g., biomass and carbon).	https://www.climatexchange.org.uk/wp-content/uploads/2023/09/payment-for-ecosystem-services.pdf		**high**
	Increased uncertainty / risk of investments			medium
	Loss of potential income			medium
	Lower yield			medium
	Lack of funds for re-planting (no carbon benefits)			medium
	The financial dimension of deer control	*Feedback from the national stakeholders upscaling WS*		*low*

Social	**The cultural and social dimension of deer control**	Feedback from the national stakeholders upscaling WS	**high**	**high**
	Large numbers of landowners with contrasting forest objectives			medium
	Conflicts / competition with other land-uses, for example sheep farming with Less Favoured Area Support Scheme payments			medium
	Inaccessibility of forests			medium
	Scarcity of forest schools and forest education in primary and secondary schools	See recommendations at Forest School: a marvellous opportunity to learn		medium
	Rural depopulation	*https://www.gov.scot/publications/supporting-enabling-sustainable-communities-action-plan-address-depopulation/*		*low*
Technical	**Lack of practical experience**			**high**
	Lack of contractors and staff with relevant skills to perform restoration	https://www.nature.scot/doc/nature-based-jobs-and-skills-implementation-plan-2024-25		**high**
	Better deer control	https://forestryandland.gov.scot/what-we-do/about-us/corporate-information/deer-management	medium	**high**
	Lack of appropriate machinery (e.g., for small patches, larger diameter logs)			medium
	Lack of staff time for more complex forestry operations			medium
	HEP: operational (topographical, ecological); uncertainty over what to do	“climate change” approach vs “conservation” approach, upscaling WS feedback		medium
	NFM: proof of mitigation over flood events	3rd stakeholder WS feedback, upscaling workshop feedback	high	medium
Environmental	**Herbivore impact**		medium	**high**
	Insufficient evidence of impact on biodiversity.			medium

	Few tested forest restoration approaches		high	medium
	Perceived conflicts among environmental goals.			*low*
	Possible negative impact on Carbon sequestration.			*low*
	Pest and disease reducing species choice			*low*
Legal	**Current land-use rights and responsibilities**	https://www.gov.scot/publications/review-of-land-rights-and-responsibilities-statement-a-consultation/pages/2/		**high**
	Lack of compatibility between forest law and restoration goals			medium
	Complexity of permission / licensing environment			medium
	Differences in environmental standards between UK countries		*low*	*low*

3. Addressing the barriers to upscaling

3.1 Stakeholder engagement

Enablers and barriers to Upscaling have been identified across six categories: Political, Economic, Social, Technical, Legal, and Environmental (see Table 1). National and regional Stakeholders at the December 2024 Upscaling Workshop were asked to use the same approach to identify barriers and enablers for each category and discuss those provided in a round-table. Similarly, to determine which upscaling path has the most potential, regional/national stakeholders at the workshop explored the relative potential value of these upscaling routes to deliver large-scale forest habitat restoration, and to identify others worth pursuing. The first SUPERB stakeholder workshop in 2022 at QEFP started the process with a discussion of restoration priorities, governance issues and constraints to upscaling. Once a small number of candidates for upscaling routes have been identified, planning for the development of the upscaling route (including likely information requirements and engagement pathways) can be developed in conjunction with key stakeholders in the policy and private sectors who have been identified in QEFP stakeholder mapping exercise.

The initial stakeholder mapping exercise carried out in 2022 identified 82 stakeholders for QEFP. The key actors among these belong to the following stakeholder categories:

- National Government, policymakers and regulating actors.
- Financing Actors - State investors and funders.
- Private forest landowners (medium to large scale).
- In situ forest and wildlife managers.
- Communities – Direct neighbours of the demos.
- Education & Research.
- Media – Traditional.

The first three categories have a particularly strong influence on the upscaling potential of SUPERB restoration activities beyond QEFP. ‘Regional Government, policymakers, and regulating actors’ are responsible for setting the statutory and legal frameworks for forest management practices both in the private and the public sector. Forest restoration activities in Scotland’s National Forest Estate managed by FLS are regulated by Scottish and UK laws and standards (e.g., UKFS) and voluntary certification (UKWAS) to ensure that FLS’ forests are sustainably managed. As an agency of the Scottish Government, FLS is stringent in following forest related laws, policies, and regulations. FLS engages with stakeholders in the production and updating of Land Management Plans which include felling and replanting proposals for 10-year periods, and which are submitted to Scottish Forestry (the Scottish Government’s agency responsible for forestry policy, support and regulations) for approval.

Even though the focus of SUPERB’s restoration activities is, at the moment, only on public forests managed by FLS, the importance of the ‘Financing Actors - State investors and funders’ category is key for upscaling in the private sector. For the Upscaling Strategy to be successful, support and buy-in from private and public funders alike is essential. Potential beneficiaries of upscaling measures include representatives of the ‘Private forest landowners (medium to large scale)’ category. Regardless of the primary objectives for land use, private landowners will benefit from improvements in water quality, biodiversity, and soil stability that can be provided by implementing on their land the three SUPERB restoration practices currently underway in QEFP.

Despite, and because of, their localised geographical remit, local communities remain key stakeholders whose needs and views must be taken into consideration to ensure that any upscaling practices are fit for purpose and that their impacts are long-lasting. The likelihood of success of upscaling beyond QEFP would be increased by promoting and improving relationships between landowners and local communities, involving local communities in decision making and planning, and involving local communities in discussions with relevant agencies (e.g. with the involvement of SEPA and Nature Scot in planning and restoration decisions taken by FLS in Queen Elizabeth Forest Park).

Communities around QEFP feel a very strong connection to the forest, and several Community Trusts and Councils exist across adjacent municipalities which are particularly active in and vocal about local issues pertaining to forest management, and the ecosystem services that can be derived from their forests. Local and Regional FLS staff have historically been particularly inclusive in their consultations around the forest and land management plans for QEFP. SUPERB restoration activities in QEFP are of particular relevance to the local community: natural flood management aims at reducing the flood risk to which areas around Aberfoyle are exposed to from the Duchray water; slope stabilisation practices aim at increasing public safety and reducing road closures; and CCF conversion increases the resilience and amenity and recreation values of QEFP, contributing to the quality of Cultural Ecosystem Services and underpinning tourism in the area, a strong contribution to the local economy. The relevance of the SUPERB restoration activities, together with FLS' approach of strong inclusivity of local communities in their planning, might not be representative of every forest area that can be targeted for upscaling. The importance of these traits needs to be carefully considered towards the success and permanence of any upscaling strategies. At the second stakeholder workshop held in QEFP in 2023, a representative of the nearest council (Stirling) suggested that meetings should be organised between local communities around the SUPERB Demo and associated Horizon Europe projects (e.g. FORWARDS) that span across several European countries. The objective would be to share knowledge and experience of close relationships with and dependencies on nearby forests where restoration is underway or might be needed. A suggestion was made that Scottish Government might provide collaboration grants to cover the costs of attending these events for representatives of QEFP communities.

Representative stakeholders of the 'Education & Research' category are strongly related to the local communities and the eco-tourism sector. QEFP is used as an ideal natural setting for outdoor education for local schools and for groups of young adults, adults, and senior citizens that come to visit the Park from further afield to learn about forestry and the ecosystem services that QEFP provides. For the purpose of upscaling, it should be relatively easy to advocate for strong restoration activities in forests with similar characteristics, in that education and tourism would be supported and enhanced by restored forests. These themes were strongly put forward by all participants of both the first and second stakeholder workshops.

Representatives of the 'Media' stakeholder category play an important role in the dissemination of success stories – and of challenges and shortcomings alike. Given the powerful role of media across different geographical and demographical levels in modern society, special attention should be given to collaboration with media outlets at local, regional, national and international scales, to ensure that any upscaling efforts are supported by good publicity, and not undermined by 'bad press'. Similarly, featuring forest restoration debates very prominently in public consultations, for example those organised by Scottish Forestry and Scottish Government, would increase the transparency of restoration and upscaling pathways, increasing the likelihood of successful implementation.

We identified specific upscaling-relevant stakeholders, who were invited to the Scottish Upscaling workshop in 2024:

- Landowners and landowners' associations
- Public environmental agencies
- Conservation bodies
- Experts in financing routes (e.g. Scottish Carbon, leading academics)
- Community woodland management

The "Chatham House" rule was adopted to allow the stakeholders to share information and personal perspectives more openly without these being attributed at a specific participant or stakeholder group.

As noted throughout this document, medium/large scale landowners will play a critical role in determining the success of upscaling efforts, and because of the different ownership categories they belong to, they require careful consideration. However, representatives of this category (other than FLS) were not included in the upscaling workshop, due to the focus on public forest land. Instead, representatives from the Community Woodland Association were included to give consideration of restoration actions that might find the support of an existing widespread network of local communities engaged in forest management.

The potential for implementing forest restoration varies across land-owner categories and it would depend, amongst others, on the following:

- Whether restoration actions are profitable for the landowner.
- What the landowner approach to their land is, how they see their land play a role in the landscape and for the communities.
- Landowner land-use and forest management objectives and 'open-mindedness' to alternative options provided by restoration.
- Availability of restoration-targeted grants.
- Size, extent, and level of aggregation of land.
- Public pressure, i.e. to what degree local communities rely on landowner's land to derive ES (e.g., slope stabilisation /amenity /recreation /flooding /revenue from tourism, etc).

<u>Possible conflicts:</u>

Following from the conflict categories described in Young et al. (2010), we anticipated there might be possible conflicts between different stakeholder groups. We have identified the following:

- Conflicts over beliefs and values, where differences exist over normative perceptions: Forest restoration activities in most cases differs from rewilding. Especially in the context of SUPERB's 'pre-storation', restoration activities that aim at creating forest system dynamics that are predictable (Pettorelli and Bullock, 2023), increasing confidence on society's ability to continuously draw ecosystem services from restored forests. Strong sentiments exist among certain groups about the positive aspects of rewilding as opposed to the higher management needs of restoration. These rewilding currents can be quite emotive and need to be considered to sustain the right conditions for upscaling. Similarly, ideas around what 'natural' Scottish landscapes look like (for example grouse moors and bare hilltops vs native woodland) can carry a strong emotive element and need to be considered.

- Conflicts of interest when groups want different things from the same resource: Currently, and in recent history, private landowners in Scotland have often favoured different land uses other than forestry, because of lower management costs, lower risks and higher returns, and cultural expectations rooted in history. The creation of sustained and favourable financial solutions to favour forest restoration on currently non-forested land might facilitate change. Funding streams are very relevant to public landowners whose main land-use already is forestry, e.g., FLS. In case of fluctuating or reduced Scottish Government funding for forest management on FLS land, FLS will need to find ways to sustain or increase revenue from their forests. These concepts are further discussed in Section 2.6.
- Conflicts regarding process, relating to the different approaches to decision-making: Whilst UK-level regulations about sustainable forest management exist and are widely adopted (UKFS, UKWAS), forestry is a devolved matter in the UK. This means that Scotland, England and Wales have the legislative and executive powers to make and enact decisions about e.g. the management of public land and the regulation of financing options available to the private sector. These country-level differences can result in delays or divergence in the development and implementation of legislative and funding schemes for forest restoration, such as the current lack of a biodiversity gains framework in Scotland. Scottish Government is committed to remain aligned to or exceed EU environmental standards, but not being an EU member anymore means that officially buying into EU laws and regulations (e.g. European forest restoration policies such as the Nature Restoration Law) is not possible. These concepts are further expanded in Section 2.5.
- Conflicts over information relating to situations where data are lacking, misunderstood, or perceived in different ways: Indicators of forest status (e.g., stand information, tree health, portfolio of available ecosystem services, etc.) are necessary to monitor restoration progress, challenges, opportunities, and ultimately success. Without appropriate indicators deployed at useable geographical scales and aggregation levels, it will be impossible to resolve conflicts about restoration options and upscaling pathways. For instance, biodiversity potential indicators derived from FLS data are averaged at block level, making it impossible to assess the impact of different management interventions. Conversely, amenity and recreation indicators reflect differences between Forest Development Types at larger spatial scales and can therefore be successfully used to compare restoration and upscaling solutions. Another key example is the lack of demonstrated increased resilience of CCF stands to wind damage. Existing data are anecdotal, and the dynamics of wind impacts on mixed and complex stands have not yet been sufficiently understood to confidently apply existing wind risk management tools.
- Interpersonal conflicts relating to personality differences between individuals or groups, including issues of communication and mistrust: Historically, forestry in Scotland strongly focussed on productive conifers both in the private and public sector. This trend resulted in an element of negative opinions and mistrust of public forest management. In recent years FLS has shown to be changing their operations to move away from clear-fell and replant systems to some extent and to instead value and promote multi-purpose management practices. With help from positive and supportive media campaigns, forest restoration and upscaling efforts are likely to be welcomed by the public.

In conclusion, the strong influence of national government bodies, financing actors, and local communities highlights the importance of a collaborative approach that values input from all parties involved. As we move towards implementing upscaling strategies, fostering strong

relationships and active participation among stakeholders, particularly local communities, will ensure that restoration practices are meaningful, sustainable, and beneficial for both the environment and the socio-economic landscape. This collaborative effort will not only enhance ecological resilience but also support the well-being and economic vitality of the areas surrounding Queen Elizabeth Forest Park. Some of the conflicts described in this paragraph might be overcome by ensuring that all key stakeholders are kept up-to-date with the new data available on the benefits of restoration.

3.2 Governance and Legal considerations

Forest restoration activities in Scotland are regulated by Scottish and UK laws. The current primary relevant legislation is the Forestry and Land Management (Scotland) Act 2018. This makes provisions for the functions of Scottish Government ministers in relation to forestry, following of devolution of responsibility of forestry to Scotland from the UK Government. The act requires Scotland's forestry policies and practice to promote internationally recognised principles of sustainable forest management. A suite of secondary legislation, regulations and standards provide the framework for forestry in Scotland. This consists of the UK Forestry Standard (UKFS), The Felling (Scotland) Regulations 2019, The Felling (Exemptions) (Scotland) Regulations 2019, The Forestry (Environmental Impact Assessment) (Scotland) Regulations 2017, and the Plant Health (Forestry) Order 2005.

The Scottish Government is committed to the use of the UKFS in informing forest planning decisions relating to all forests and woodlands and to ensure that international agreements and conventions are applied. The UK Woodland Assurance Standard (UKWAS) is the independent certification standard and audit protocol for verifying sustainable woodland management in Scotland. UKWAS combines the government requirements set out in the UKFS with those of the Forest Stewardship Council (FSC) and Programme for the Endorsement of Forest Certification (PEFC), the two independent internationally recognised voluntary certification schemes that operate in the UK.

Scottish Forestry is the Scottish Government agency responsible for forestry policy, support and regulations. Forestry and Land Scotland, as the agency responsible for managing Scotland's national forests and land, applies relevant forest law and regulations in maintaining state owned forests.

FLS engages with stakeholders in preparing Land Management Plans which include felling and replanting proposals for 10-year periods, which are submitted to Scottish Forestry for approval. FLS carry out Environmental Impact Assessments under the 2017 regulations. The level of protection regulated by the habitat regulations for protected species complies with the EU Habitats Directive. FLS operations abide by the Scottish Outdoor Access Code to preserve public access. Plant health regulations follow UK Government guidance (Importing and exporting wood and timber products - GOV.UK (www.gov.uk)) and their planting material is sourced from nurseries certified by UK Government (Newton Nursery - Forestry and Land Scotland).

Current Scottish Government forest-related restoration commitments include expanding the Nature Restoration Fund, supporting the creation of a new national park and local nature networks, protecting and restoring Scotland's Atlantic rainforest and ancient woodlands, and investing more in the restoration of peatland and expansion of woodlands (Rainforest action – gov.scot (www.gov.scot))

Although the UK is no longer an EU member state, the Scottish Government has committed to continue to maintain or exceed EU environmental standards.

3.3 Financing

Financing will be central for upscaling restoration, and may be provided through a combination of existing mechanisms, and new mechanisms that are emerging. Costs of restoration activities identified and demonstrated through SUPERB are not yet fully quantified but will be better understood towards the end of the SUPERB project. These costs will have been described for relatively small-scale restoration operations, but costs will be expected to reduce when these measures are applied to considerably larger areas at national scales.

Policy and grant support

Forestry and environmental policy in England, Scotland, Wales and Northern Ireland recognises the importance of adapting trees, woodland and forests to the changing climate, a concept that is in step with forest restoration or 'pre-storation' as defined in the SUPERB project. Delivery of this policy is underpinned through advice, support and financial incentives, provided by government, its agencies and partner organisations.

In England, the Forestry Commission provides advice and guidance on regulations and grants for planting, such as the England Woodland Creation Offer. In Wales, The Welsh Government's sustainable land management scheme "Glastir" and other woodland schemes offer advice and financial support to farmers and land managers for forestry. This includes "Glastir Advanced" and "Glastir Woodlands" (covering Glastir Woodland Creation and Glastir Woodland Restoration) to support forestry. In Scotland, Scottish Forestry is the Scottish Government agency responsible for forestry policy, grant support and regulations. The Forestry Grant Scheme (FGS) offers financial support for the creation of new woodland and the sustainable management of existing woodland. In Northern Ireland, information about the Department of Agriculture, Environment and Rural Affairs and support for forestry in Northern Ireland, including grants towards the cost of creation of new woodland and management of existing woodland is available from the Forest Service.

Across the UK there are a number of organisations offering both general and focussed advice and support to those looking to create or manage sustainable forests and woodland. Forestry Commission (England), NRW (Wales), DAERA (Northern Ireland), and Scottish Forestry (Scotland) offer information on woodland regulations, such as felling licences, Environmental Impact Assessments, importing and exporting timber, timber procurement and conservation, and grant schemes.

The Woodland Trust's scheme 'MOREwoods' supports planting of small woods or scattered plantings covering at least half a hectare (0.5 ha / 1.25 acres) and a minimum of 500 trees. Support is provided in the form of advice and contributions towards planting and management costs.

Carbon credits

The Woodland Carbon Code is the quality assurance standard for woodland creation projects in the UK, and generates independently verified carbon units. This is for Forest Managers and woodland owners across the UK who are looking to generate income from new woodland creation and make a contribution to the removal of CO2 from the atmosphere. The scheme involves selling the rights to the carbon captured by certified woodlands to investors, typically those who wish to compensate for emissions.

Biodiversity Net Gain

Since November 2023, planning permission for many developments in England have been required to increase the biodiversity that was on the development site by 10%, either on-site

or by paying for biodiversity units elsewhere. These units will be generated by creating or improving and then maintaining habitats. In February 2024, Biodiversity Net Gain (BNG) became mandatory for all developments in England (https://www.gov.uk/government/collections/biodiversity-net-gain). In Scotland, the approach to biodiversity in the planning system will be focussed on "enhancement" rather than "gain" and will deliver biodiversity net gain through the National Planning Framework. Development proposals should include "appropriate measures to enhance biodiversity in proportion to the nature and scope of the development."

Biodiversity Net Gain and the National Planning Framework are expected to lead to funding for local restoration projects to effectively offset the loss of biodiversity from new developments and have considerable potential for upscaling forest restoration as demonstrated by the SUPERB project.

Green Finance

The concept of green finance has developed over recent years and innovative funding mechanisms that can increase its application in the UK are being explored. This will be needed as a large component of filling a potential £1.8 billion funding gap in meeting targets for woodland creation and sustainable management that is expected by 2032. Green finance is essentially environmentally focussed sustainable finance with initiatives to incorporate climate and environmental risks and opportunities into mainstream financial decision making and includes 'financing green' initiatives that are designed to accelerate delivery of carbon and clean growth targets (Low and Valatin, 2023). Examples of existing green finance projects with a forest restoration focus in the UK are the Wyre Natural Flood Management project and The Mersey Forest. The Wyre NFM project uses a blended finance mechanism with a combination of grants from a charity, the Woodland Trust, and a private investment loan that will be repaid based on payments for ecosystem services. The Mersey Forest is a Community Forest that has raised over £85 million from external sources since 1994 to create and manage over 3000 ha of woodland. They have a focus on developing green infrastructure and boosting biodiversity.

Charitable organisations and philanthropy

There are a number of charitable organizations in the UK that have a focus on woodland conservation and philanthropy. The most prominent of these include; The Woodland Trust, the Royal Forestry Society, Future Woodlands Scotland, and the National Lottery Heritage Fund. As well as promoting sustainable forest management, these organisations aim to protect, retore and expand native woodlands. By combining varied sources of funding, these organisations have supported a variety of woodland restoration and conservation projects.

Actors in identifying and sourcing finance

The actors that have potential in identifying and sourcing financing for woodland creation, restoration and management in the UK consist of landowners, mediating agents, financing agents, and regulatory authorities:

<u>Landowners</u>

73% of the UK's woodland resource is privately owned, by individuals, family trusts, charitable trusts or companies. It is estimated that there are about 40,000 private woodland owners who own areas greater than five hectares (PEFC, 2024). The remaining 27% is publicly owned, mostly by Forestry Commission England, NRW, and Scottish Forestry, but some is owned by other public agencies and local authorities. Most forest owners use a combination of

government funding or grant support with their own financial investment, usually based on forest-based income such as from timber sales, to fund forest management, expansion, restoration activities, and facilities for public access and use of forests.

Mediating agents

Organisations across the UK that can provide advice on potential financing, and/or assistance for forest and woodland planting and sustainable management include: The Institute of Chartered Foresters, Confor, Royal Forestry Society, Royal Scottish Forestry Society, Sylva Foundation, Woodland Trust, Small Woods Association, Small Woodland Owners Group, Soil Association and Forestry and Farming Connect.

Financing agents

Partnerships between government agencies and investment banks are showing potential in financing large scale restoration schemes. NatureScot, Scotland's nature agency, is partnering in a private finance investment pilot that is expected to make up to £2bn investment available for landscape scale restoration of native woodland that will create new jobs and support rural communities. Nature Scot signed a Memorandum of Understanding in 2023 with the UK private bank Hampden & Co, investment manager Lombard Odier and impact investment firm Palladium. The scheme should unlock private investment in natural capital, with the aim of reducing emissions and restoring biodiversity through landscape-scale projects. If successful, the investment in woodland is expected to create around 185,000 hectares of native woodland and sequester 28 million tonnes of CO2e over the next 30 years.

Regulatory authorities

The authorities that regulate forestry in the UK are Forestry Commission in England, Natural Resources Wales (NRW) in Wales, Department of Agriculture, Environment and Rural Affairs (DAERA) in Northern Ireland, and Scottish Forestry in Scotland. Between £43 million and £74 million has been paid out annually between 1999 and 2023 by forestry authorities across the UK to private landowners and forestry companies as part of forestry grant schemes and partnerships.

These forestry authorities also fund public, state-owned forests, and net expenditure on these in 2022/23 totalled £65.7 million. This consisted of £43.4 million in England, £0.8 million in Wales and £21.4 million in Scotland. Timber sales also made a large contribution to the cost of managing and expanding state forests in the same year with a total income of £158.8 million. Income from recreation, conservation & heritage accounted for a further £34.9 million and other income from public forests for an additional £40.9 million (Forest Research 2023). Evidently, the potential for expanding income from forests and woodlands that could be applied to forest restoration, expansion and sustainable management is vulnerable to fluctuations in timber prices, as well as ensuring that the range of ecosystem services valued by the public is maintained or expanded.

3.4 Technical

Knowledge gaps:

Good quality, but partial knowledge exists for all three restoration activities in the Scottish Demo that could be better leveraged to promote upscaling at regional and country scales. A notable study of the impact of Natural Flood Management solutions on forest hydrology and flood risk has been carried out in England with the 'Slowing the Flow at Pickering' project (https://www.forestresearch.gov.uk/research/slowing-the-flow-at-pickering/slowing-the-flow-at-pickering-about-the-project/). Similarly, the Eddleston Water Project

(https://tweedforum.org/our-work/projects/the-eddleston-water-project/), managed by the Tweed Forum in Scotland, has restored natural riparian features, including the re-meandering of Eddleston river sections, creation of flood water storage ponds and tree planting to reduce flood risk to local communities. Findings from these projects are informing the SUPERB activities in QEFP and potential already exists for expansion to forests in the vicinity of other inhabited areas at risk of periodical flooding. A considerable body of knowledge on the conversion of existing conifer stands to Continuous Cover Forestry in the UK – both scientific and practical – has already been produced and compiled (https://www.forestresearch.gov.uk/research/continuous-cover-silviculture/). Interest in CCF practices in the UK is increasing in academic, practitioners, and public realms, due to various factors including advancements in harvesting technology, the higher amenity value that is often associated with these silvicultural solutions, and the likely suitability of CCF conversion practices to qualify for carbon and biodiversity gains credits. As for high elevation planting, woodland creation projects that aim at slope stabilisation, such as that implemented at the A83 Rest and Be Thankful (https://forestryandland.gov.scot/news-releases/rest-and-be-thankful-woodland-creation) are a source of information and a testbed for nature-based forest restoration solutions that are being explored. Knowledge produced on the establishment success of different species will be crucial in promoting upscaling of high elevation planting in areas in Scotland with a history of risk of landslides and of soil erosion.

To complement the existing knowledge, here we identify knowledge gaps for the restoration activities currently underway in QEFP. These knowledge gaps are further divided into three categories: Scientific, Technical, and Practical.

Natural Flood Management

Scientific: Effectiveness of NFM timber structures (leaky dams, timber bunds) in reducing flow speed needs to be confirmed. Impacts of NFM on local biodiversity, and interactions with ecological keystone species (e.g., beavers) need to be better understood to ensure compatibility across a broad range of environmental policies.

Technical: Factors affecting the degrade rate of timber structures need to be better understood to ensure permanence/durability of NFM timber structures and better understand management costs. Similarly, flood risk reduction studies comparing (a) the effectiveness, (b) added benefits (e.g. delivery of additional ES) of NFM and hard engineering solutions need to be performed to provide comprehensive Cost-Benefit analyses of nature-based solutions.

Practical: Maintenance and Upscaling costs of NFM still unclear and closely related to Scientific and Technical KG.

Continuous Cover Forestry:

Scientific: Establishment success of different species in CCF stands of different species composition and spatial structure. Impact of species type and proportion of different species (esp. broadleaves and conifers) on wind firmness of stands.

Technical: Sustainable strategies for (i) harvesting operations on sites with difficult access, (ii) use of modern mechanised systems for selective harvesting and thinnings, (iii) design and establishment of roads and tracks for attending to CCF operations.

Practical: Optimal, sustainable, and cost-effective ways to control competitive weeds and browsing pressure.

High-Elevation Planting:

Scientific: Altitude limits for establishment and success of tree species. Species/provenance suitability related to climate change pressure. Growth/Yield rates and models for suitable species in high-elevation sites. Effectiveness of slope stabilisation properties.

Technical: Availability of funding schemes for high-elevation planting related to land ownership and cultural perceptions of these landscapes.

Practical: Cost-effective and safe ways of accessing and tending to high elevation stands. Fencing requirements and costs to limit browsing pressure.

Plant reproductive material:

There has been a strong interest in recent years in the study of seed production from provenances of higher suitability to future Scottish climates – quite different climatic changes are predicted e.g. along an East-West gradient – as per climate model predictions produced by the UK Met Office. A forest genetics strategy has been put forward (https://cdn.forestresearch.gov.uk/2022/02/uk_forest_genetic_resources_strategy.pdf) from the collaboration of several forest and environmental trusts and research institutions. Models such as the Ecological Site Classification (ESC, https://www.forestresearch.gov.uk/tools-and-resources/fthr/ecological-site-classification/) and the Climate Matching Tool (https://www.forestresearch.gov.uk/tools-and-resources/fthr/climate-matching-tool/) are available and already widely applied in the public and private forest sectors to assist in species selection, which can and should inform on seed provenance to produce seedlings that are likely to be adapted to current and future climate conditions. In practice however, it is likely that stocks in UK nurseries of species and provenances suitable and appropriate for forest restoration in Scotland are currently insufficient, and concrete policies and financial instruments will need to be implemented to support upscaling of forest restoration practices across Scotland. The extent of the *Phytophthora* larch infection is such that financial considerations for restoration need to be made alongside ecological ones: in fact, current policies and regulations require that larch trees within a 250m radius are removed as part of *Phytophthora* sanitation fellings. Coupled with the fast rate of spread of the pathogen, this prescription requires that ample resources are devoted to the removal of very extensive forested areas. While this may open up opportunities for different forest management pathways in the future, it represents a considerable cost – together with investment losses and loss of future income.

Feedback from the December 2024 Upscaling meeting suggested that whilst in Scotland there is an ongoing project to create nano nurseries with the aim of providing local provenance seedlings, in order to respond more effectively to the climatic pressures over the forest ecosystem we might need to prioritize the alignment of species to the climate by choosing them outside of their historical range (assisted population migration).

Monitoring needs:

Assessing baseline conditions at forest restoration sites is key towards providing evidence of successful restoration. Because of the novelty of the NFM and the High Elevation Planting restoration pathways, the chronosequence monitoring activities in QEFP are restricted to CCF restoration alone, a silvicultural practice with a history – albeit small – of trials and implementations across different parts of the UK. Whilst chronosequence monitoring is of particular relevance to CCF conversion, due to the larger upscaling potential and the larger prominence of CCF conversion in the research, policy, and practitioner circles, the lack of chronosequence data and monitoring opportunities in NFM and HEP adds to the existing

uncertainty in e.g. the biodiversity and ES delivery gains that can be demonstrated with forest restoration in these areas. In addition to this, the Scottish demo in QEFP is not one of the extended monitoring SUPERB demos, meaning that resources for the assessment and monitoring of more advanced biodiversity metrics are not available within SUPERB. The risk exists that the lack of these data might hinder access to, and justification of, e.g. biodiversity gain funding for forest restoration activities. Conversely, the existing extended tree inventory practices implemented in QEFP mean higher confidence in carbon stocks estimates, and much higher quality data for individual tree modelling opportunities. Additionally, water-flow baseline assessments exist for the QEFP NFM locations, and existing flow monitoring systems are being upgraded.

Making use of modern technologies and datasets is critical to sustaining the availability of solutions to monitor the success of upscaling restoration across large geographical areas. In Scotland, this will require Government-supported plans for broader deployment of high-quality Remote Sensing data collection tools. When underpinned by sustainable plans for repeated RS measurements, these datasets will allow the development and application of RS-based indicators of forest health and upscaling patterns, and provide invaluable datasets for the application of cutting-edge modelling opportunities.

Projections and models:

Most existing mathematical and statistical models of (a) forest productivity, (b) forest resource availability under various management and climate scenarios, and (c) risk associated with different disturbances, reflect the recent history of forest management approaches in that they largely operate at the stand-level. The spatial resolution of this modelling unit is often too coarse to be useful for the modern silviculture that is required to implement most forest restoration activities, especially CCF. Single-tree models are required but these currently remain largely under-developed for British conditions (e.g. the MOSES model is currently only available for Sitka spruce – the most profitable conifer species for productive forestry, but also the species that the sector is trying to reduce its reliance on by exploring alternative silvicultural approaches). The wind risk model ForestGALES is an exception as risk calculations for single-tree applications (TMC) were developed about a decade ago and has been successfully implemented in very different management and climate scenarios, but it does need to be improved and refined to be confidently applied in complex stands. For upscaling, the current developments and applications of the EFISCEN-Space model in SUPERB hold great potential in the assessment and comparison of different management scenarios under climate change, but relying on NFI plots, the model itself does require that these plots are reflective of the forest restoration practices that SUPERB seeks to upscale. Until a sufficient proportion of NFI plots in Scotland include examples of CCF stands, riparian woodland, and high elevation stands, scenario modelling with tools like EFISCEN-Space might not be entirely representative of the upscaling potential and benefits provided by these restoration options – thereby limiting the model's suitability to explore adaptation options to inform management and promote uptake and upscaling.

4. Recommendations

The following recommendations relate to the contents of Table 1 – the PESTEL analysis of barriers to forest restoration. These recommendations do not encompass the entire range of identified barriers but provide possible enablers to address some of the most critical barriers previously identified as highly urgent and/or important. They reflect a synthesis of experiences gathered through the actions in the Scottish Demo area, along with suggestions collected from participants at the December 2024 National Stakeholders Upscaling meeting and during three workshops with local stakeholders.

Where the enabling actions are not applicable to all three restoration actions implemented, the specific actions (CCF, HEP, NFM) are indicated in brackets

Recommendation 1	
Barriers addressed *– Limited policy recognition at national and regional level on the benefits of restoration. NFM: Focus still on woodland creation.*	
Enabling action – Stronger cross-sector coordination of new and existing frameworks and land use policies. - Political champions of successful restoration actions - local communities may pressure their elected representatives to promote nature-based solutions as alternative/complement to hard engineering	
Actors	Forestry Scotland; SEPA; FR & FLS; local communities
Feasibility	Medium-high, there is an ask by the national government to provide data to support restoration, especially on NFM and HEP.
Comment	

Recommendation 2	
Barriers addressed*: Costs of restoration activities and lower yield*	
Enabling action – Focus where ecosystem benefits are the greatest - Use Demos to show feasibility and range of benefits. - Encourage private / public partnerships	
Actors	Forestry Scotland; SEPA; FR & FLS; local communities
Feasibility	Medium-high, there is an ask by the national government to provide data to support restoration, especially on NFM and HEP.
Comment	On CCF, the Demo results showed that higher yield than from conventional productive plantations may be expected. Thus, the higher return from timber could offset the higher management and extraction costs. Cost-benefit analysis is currently being conducted by FR. NFM: these structures are much cheaper than traditional hard-engineering solutions and have shown potential to be better accepted by locals, pending proof of their effectiveness. Existing modelling shows a potential flood reduction, data analysis from the Demo is ongoing.

Recommendation 3	
***Barriers addressed**: The impact of herbivores on restoration*	
Enabling action	– Potential for change to legislation on deer - towards communities owning the deer ("community larders") - informing community groups of the positive results of culling towards natural regeneration and increased biodiversity
Actors	National government, private and public forestry sector, community groups
Feasibility	medium
Comment	Deer culling in the QEFP Demo has shown to be effective in keeping deer population densities markedly lower than before the action was taken. Natural regeneration is present both in the NFM area and in the CCF plot.

Recommendation 4	
***Barriers addressed**: Lack of established market instruments and payment for ecosystem services beyond timber (e.g. biomass and carbon)*	
Enabling action	– New financing streams for biodiversity and other ecosystem services including carbon sequestration - Increased support for eco-tourism and other nature-based businesses
Actors	National government, private and public forestry sector, community groups
Feasibility	medium
Comment	Ongoing process where existing and innovative tools like the Woodland Water Code could monetize services currently out of the market

Recommendation 5	
***Barriers addressed**: Lack of contractors and staff with relevant skills to perform restoration*	
Enabling action	– Demos available as learning resource. - Training and education of contractors, staff and volunteers - Existing skills packages available
Actors	NGOs, FR, FLS, Professional bodies
Feasibility	high
Comment	The SUPERB Demo actions have shown how both contractors and FLS personnel quickly developed skills for CCF, NFM works and HEP restoration activities. Future Woodlands Scotland (NGO) have delivered a two-year Forestry Skills Programme for individuals, local communities, and small forestry businesses. Similar project could boost forestry workforce technical skills to deliver forest restoration.

Recommendation 6	
***Barriers addressed**: Conflicts between landowners*	
Enabling action	– Improve information / resources on costs/ benefits of forest restoration - Authorities and agencies facilitating improved partnership and conflict resolution
Actors	NGOs, FR, FLS, Professional bodies
Feasibility	high
Comment	The SUPERB Demo actions have shown how both contractors and FLS personnel quickly developed skills necessary for CCF, NFM and HEP restoration. Future Woodlands Scotland (NGO) have delivered a two-year Forestry Skills Programme for individuals, local communities, and small forestry businesses. Similar project could boost forestry workforce technical skills to deliver forest restoration.

Relevant literature

Importing and exporting wood and timber products - GOV.UK (www.gov.uk)

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