

March 2025

Glen Earrach Pumped Storage Hydro

Environmental Impact Assessment Report

Volume 5: Appendices

Appendix 18.2: Woodland Report — Glen Urquhart Wood

Glen Earrach Energy Ltd

Quality information

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1. Introduction

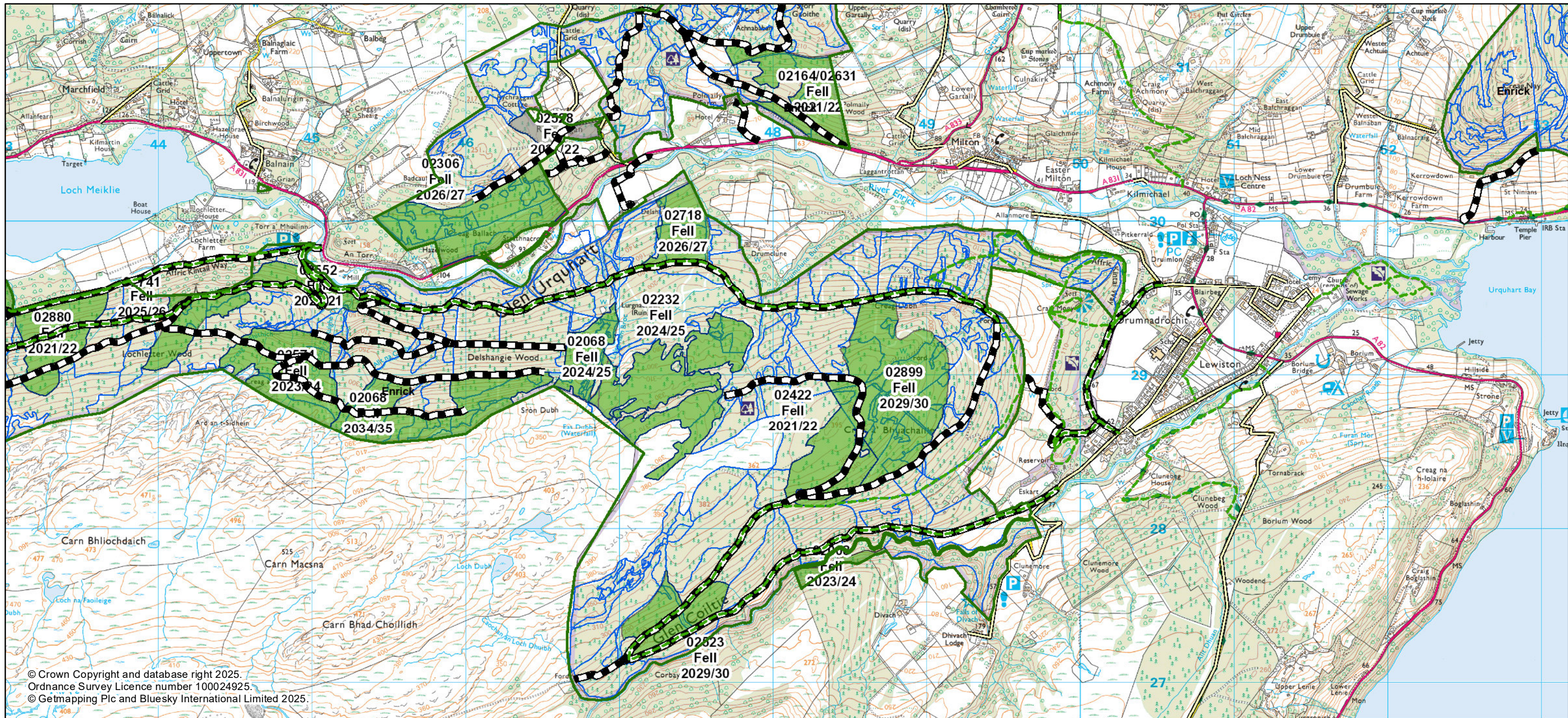
1.1 Overview

- 1.1.1 This report has been prepared by Bidwells. As part of the Environmental Impact Assessment (EIA) process, it was identified that the construction and the access tracks required to construct the Proposed Development would cross a number of woodland areas within a single private or publicly owned landholdings.
- 1.1.2 This woodland report assesses the potential impacts of the Proposed Development on the Glen Urquhart woodlands, focusing on woodland removal requirements and management recommendations to mitigate ecological impacts along the Balnain Main Access. Please refer to **Figure 18.2 Track Felling Requirements (Sheets 1-11) (Volume 3: Figures)**.
- 1.1.3 The report provides:
- An overview of woodland composition, site conditions, and existing infrastructure;
 - An assessment of forestry-related constraints and environmental considerations;
 - An evaluation of the feasibility of timber extraction and site access; and
 - Mitigation measures to minimise disruption to the woodland ecosystem and surrounding landscape.
- 1.1.4 The findings aim to inform decision-making by identifying key environmental and logistical factors, ensuring that woodland management aligns with best practices and relevant policy requirements.
- 1.1.5 The impacted woodlands form part of a larger forest complex around Glen Urquhart, with the Proposed Development removing roadside sections along the internal forest road. This report examines the characteristics of the affected woodland, including species composition, soil conditions, exposure levels, and existing felling approvals. It also considers access challenges, particularly in relation to access roads and watercourse crossings, and outlines recommended operational approaches for sustainable forest management in the context of the Proposed Development.
- 1.1.6 This Appendix presents information relevant to the Glen Earrach Pumped Storage Hydro Proposed Development S36 Application. It should be read in conjunction with the EIAR specifically **Chapter 18: Forestry (Volume 2: Main Report)**, for full details of the project.

2. Woodland Characteristics

2.1 Introduction

- 2.1.1 The Proposed Development requires widening and upgrading sections of the existing forest track (Balnain Main Access), to provide access for construction machinery and equipment throughout the Proposed Development's build period. The forest is actively managed by Forest and Land Scotland (FLS) under an established Management Plan, which includes a commercial felling and restocking program (see **Figure 18.2.1: Glen Urquhart Existing Felling Plan**, below).
- 2.1.2 The affected forest consists of a commercial plantation dominated by Sitka spruce (*Picea sitchensis*) and Scots pine (*Pinus sylvestris*). These mature stands are increasingly susceptible to windthrow events, necessitating careful planning to minimise disruption to the plantation's stability.



Legend

Core Paths

Core Paths

Blocks

Forest Roads

Forest Roads

Clearfell Programme Status

active

planned

deferred

suspended

complete

Minor Roads (GB)

Minor Roads (GB)

Sub-compartments

Sub-compartments

Untitled

Author: Ian Allsopp

Scale @ A3: 1:25,000

Date: 24/01/2025

0 0.2 0.4 0.6 0.8 1 km

Scotland's national forests and land are responsibly managed to the UK Woodland Assurance Standard.



2.2 Woodland Designations and Historical Land Use

2.2.1 Certain sections of the woodland are designated by NatureScot ¹ as:

- Ancient Woodland (Ancient or Semi-Natural Origin, Category 1a & 2a); and
- Long Established of Plantation Origin (LEPO), Category 2b.

2.2.2 However, due to extensive historical commercial forestry operations, there are no remnant features present that would typically characterise ancient woodland. The long-term impact of commercial planting has significantly altered the original woodland structure and composition.

2.2.3 This section of the Proposed Development Site is situated in open hill ground, making it exposed to prevailing winds. The Proposed Development Site has a moderate exposure rating, with a maximum DAMS (Detailed Aspect Method of Scoring)² score of 10.

2.2.4 Although the topography provides some natural variation in wind exposure, certain areas may be more susceptible to wind-related impacts, particularly following tree clearance for road widening.

2.2.5 The existing internal forest track network is suitable for timber extraction; however, selective widening will require the removal of edge trees, leading to the potential formation of a brown edge—a zone where increased wind exposure and environmental changes can affect the stability of remaining trees.

2.2.6 To mitigate this impact, the following measures will be considered:

- Selective Felling Strategy – Removing only essential edge trees to retain a stable woodland boundary; and
- Minimisation of Scrub Clearance – Retaining roadside regeneration where possible to reduce exposure effects.

2.2.7 While the majority of tree removal will involve scrub and roadside regeneration, continuous monitoring will be implemented to assess post-clearance stability and identify any necessary remedial actions, including additional management felling or reinforcement planting..

2.3 Affric Kintail Way Diversion

2.3.1 The proposed diversion of the Affric Kintail Way (see **Figure 2.30 Affric Kintail Core Path Diversion**)(Volume 3: Figures)) will require up to a 20 m-wide clearance corridor within the standing crop. This presents a potential brown edge effect, increasing exposure risks for retained trees.

2.3.2 To mitigate this, the following strategies will be implemented:

- Micro-Siting of the Track – Aligning the route to minimise unnecessary tree clearance and take advantage of existing open areas;
- Minimisation of Clearance Width – Ensuring only the essential clearance is undertaken to accommodate the diversion; and
- Post-Clearance Edge Stabilisation – Retaining windfirm trees along the new edge to prevent progressive exposure impacts.

2.3.3 This approach will help reduce the visual and environmental impact of the clearance while ensuring the integrity of the surrounding woodland is maintained.

¹ NatureScot (2000). Available at: [Ancient Woodland Inventory](#)

² Forest Research (2025). Available at: <http://www.forestdss.org.uk/geoforestdss/>

The Detailed Aspect Method of Scoring (DAMS) is a system used to assess wind exposure in forestry and land management. It provides a numerical score that quantifies the level of exposure a site experiences based on factors such as elevation, topography, and aspect (the direction a slope faces). The DAMS score helps foresters predict wind risk, which is crucial for understanding tree stability, growth potential, and the likelihood of windthrow (trees being uprooted or broken by wind) The scoring system ranges from 0 to 24, with higher scores indicating more exposure to wind.

3. Development Requirements

3.1 Study Area

- 3.1.1 The Study Area for this assessment is based on the required Proposed Development access requirements (see **Figure 18.2.1 Glen Urquhart Existing Felling Plan**).

3.2 Wind Blow Risk

- 3.2.1 The widening of the existing forest Track (Balnain Main Access) and the clearance required for the Affric Kintail Way diversion will result in the creation of brown edges— newly exposed forest margins that are more vulnerable to environmental changes. These edges, previously sheltered within the forest, will now be subjected to increased wind exposure, temperature fluctuations, and desiccation, potentially affecting tree stability and ecosystem dynamics. To minimise the impact of brown edge formation, the following measures will be implemented:

- Retention of Windfirm Trees
 - Where feasible, selective retention of structurally stable trees along the new edge will help maintain some degree of wind protection.
 - Species selection for replanting or natural regeneration will favour wind-resistant species to improve long-term resilience.
- Vegetation Buffer Zones
 - Maintaining a strip of dense undergrowth along the newly exposed edges will reduce wind penetration and help prevent soil erosion.
 - Encouraging natural regeneration of edge-adapted species will create a more stable and ecologically functional transition zone.
- Monitoring and Adaptive Management
 - Regular post-clearance assessments will be conducted to identify areas of instability, excessive windthrow, or ecological changes.
 - If significant windthrow occurs, additional reinforcement planting or windbreak measures may be introduced.

4. Woodland Management Impact

4.1 Loss of Woodland

- 4.1.1 The removal of the woodland within the Proposed Development site will have a limited impact on the surrounding woodland and its ongoing management.
- 4.1.2 The total loss of Native Broadleaved woodland resulting from the Proposed Development is 1.3 hectares (ha).

4.2 Mitigation Opportunities

- 4.2.1 **Figure 18.3 Mitigation Plan (Volume 3: Figures)** indicates the proposed compensatory planting areas within the Balmacaan Estate boundary to benefit the environmental value in the area. Wider landscape and ecological mitigation can be found within **Appendix 6.4: Outline Landscape and Ecology Management Plan (Volume 5: Appendices)**.

5. Net Effect/Summary

5.1 Forestry Management

- 5.1.1 **Table 5-1 Woodland removal for Infrastructure, within Proposed Development** outlines the operational requirements for forestry management within the Proposed Development Site. It details the areas designated for clear felling, within the Proposed Development Site. **Table 5-2 Compensatory Planting** sets out the associated compensatory planting requirements and **Table 5-3 Woodland Removal Impact of Infrastructure** summaries the net loss of woodland areas.

Table 5-1 Woodland removal for Infrastructure, within Proposed Development

Item	Woodland Type	Area (ha)
Track Widening	Commercial Plantation (AWI)	0.78
	Commercial Plantation (LEPO)	0.65
	Commercial Plantation	0.51
	Native Broadleaved Woodland (AWI)	0
	Native Broadleaved Woodland	0.53
Track Realignment	Commercial Plantation (AWI)	4.05
	Commercial Plantation (LEPO)	1.32
	Commercial Plantation	1.01
	Native Broadleaved Woodland (AWI)	0.03
	Native Broadleaved Woodland	0.75
Total Area		9.62

Table 5-2 Compensatory Planting

	Woodland Type	Area (ha)
Compensatory Planting Area	Native Broadleaved Woodland	1.3
	Commercial Woodland	8.32
Total Area		9.62

Table 5-3 Woodland Removal Impact of Infrastructure

Item	Area (ha)
Total Loss of Woodland Area	9.62
Total Compensatory Planting Area	9.62
Total Net Loss of Woodland Area	0

6. Compensatory Planting

6.1 Compensatory Planting Proposals

- 6.1.1 Only areas directly impacted by the Proposed Development will be included in the compensatory planting total, in accordance with the Control of Woodland Removal Policy (CoWRP)³. This policy ensures that woodland loss due to development is mitigated by appropriate replanting or regeneration efforts, but it specifically applies to areas where tree removal is necessary for the project. See **Figure 18.3: Mitigation Plan (Volume 3: Figures)**.
- 6.1.2 A total of 1.3 hectares of native woodland and 8.32 hectares of commercial plantation are identified for removal as part of the Proposed Development, some of which fall within NatureScot's Ancient Woodland Inventory (AWI, Category 1a and LEPO).
- 6.1.3 While 0.03 hectares of the affected native woodland is designated as Ancient Woodland (Category 1a), extensive historical commercial forestry operations have significantly altered the original woodland structure and composition. As a result, no remnant features are present that would typically characterise ancient or semi-natural woodland. This raises questions about the ecological significance of its loss in practical terms.
- 6.1.4 Discussions with NatureScot will be undertaken to determine their view on the classification and ecological value of this area, considering the lack of remnant ancient woodland features. However, in line with CoWRP guidance, the total net felling area requiring compensation is 9.62 hectares, ensuring no net loss of woodland cover at a national level. The National Planning Framework 4 (NPF4)⁴ sets out Scotland's long-term spatial planning strategy, with a strong emphasis on climate resilience, biodiversity enhancement, and sustainable land use. Under NPF4 Policy 6 (Forestry, Woodland, and Trees), there is a presumption against the loss of ancient and semi-natural woodland and a requirement to compensate for any woodland removal through replanting or enhancement measures.
- 6.1.5 Given that the Proposed Development involves the removal of native woodland, a robust replanting strategy is necessary to ensure compliance with NPF4, while mitigating the impacts on habitat loss, carbon sequestration, and biodiversity. The 8.32 hectares of commercial plantation will be replanted on-site, ensuring continuity of woodland cover. Engagement with NatureScot will inform the most appropriate approach for mitigating the loss of the 1.3 hectares of native woodland, considering its current ecological value and potential for restoration.
- 6.1.6 To align with CoWRP and NPF4 policy obligations, the Applicant proposes a comprehensive compensatory planting scheme within the Balmacaan Estate. This initiative aims to not only replace the woodland lost due to the Proposed Development but also enhance long-term ecological resilience and biodiversity.

6.2 Key Commitments of the Compensatory Planting Scheme

- 6.2.1 The compensatory planting scheme includes the following key commitments:
- Establishment of over 674 hectares of new native woodland, significantly expanding existing habitat networks and increasing overall forest cover;
 - Enhancement and protection of existing ancient woodland, ensuring its long-term viability through restoration, natural regeneration, and targeted conservation measures; and
 - Support for climate adaptation efforts, reinforcing Scotland's Net Zero commitments by increasing carbon sequestration and ecosystem resilience.

³ Forestry Commission Scotland (2009). Control of Woodland Removal Policy. Available at: <https://www.forestry.gov.scot/publications/285-the-scottish-government-s-policy-on-control-of-woodland-removal/viewdocument/285>

⁴ Scottish Government (2023) Available at: [National Planning Framework 4](#)

6.3 Ecological Design Principles

6.3.1 To maximise biodiversity gains and enhance the overall sustainability of the replanting effort, the planting scheme will incorporate:

- Locally appropriate native tree species, ensuring habitat continuity for native flora and fauna while reflecting the region's natural forest composition;
- A diverse range of age classes and structural complexity, promoting natural regeneration and creating a more resilient woodland ecosystem over time;
- Strategic habitat connectivity, linking fragmented woodlands to improve species movement corridors, enhance genetic diversity, and support a broader range of wildlife; and
- Soil and hydrology restoration measures, ensuring that replanting efforts contribute to improved water retention, soil stabilisation, and peatland restoration where appropriate.

