

Beauly to Blackhillock to New Deer to
Peterhead 400 kV Project
Environmental Impact Assessment Report
Volume 5 | Appendices

Appendix 12.1.32: Woodland Report Parcel 168, Daviot Wood





# APPENDIX 12.1.32: Woodland Report Parcel 168, Daviot Wood

1	Introduction	2
2	Woodland Property	2
3		
	3.1 400kV Overhead Line Infrastructure Requirements  3.2 Access Track Route Design	2 3
4		
	4.1 Woodland Composition and Site Conditions	3
	4.2 Photo Record – Operational Corridor Assessment	4
5	Windblow Risk	8
6	Woodland Management Impact	8
7	Mitigation Opportunities	8
	7.1 Woodland Mitigation Measures	8
	7.2 Restructuring	9
	7.3 Restocking	9
8	Net Effect / Summary	9
9	Compensatory Planting	10

#### **Appendix Figures**

Figure 12.1.32a: Parcel 168 Location Map

Figure 12.1.32b: Parcel 168 Proposed Felling Requirement Figure 12.1.32c: Parcel 168 Proposed Planting Areas



#### 1 Introduction

- 1.1.1 This Appendix presents information relevant to the Beauly to Blackhillock to New Deer to Peterhead 400 kV Overhead Line (OHL) Project (the Proposed Development). It should be read in conjunction with the Environmental Impact Assessment (EIA) Report, specifically **Chapter 12: Forestry**, for full details of the Proposed Development.
- 1.1.2 As part of the EIA, it has been identified that construction of the Proposed OHL Alignment and the associated access tracks would cross several woodland areas within private or publicly owned landholdings.
- 1.1.3 This woodland report assesses the potential impacts of the Proposed Development on Parcel 168, Daviot Wood. It includes the requirements for woodland removal and management recommendations to mitigate the impact of the woodland removal. The report provides an overview of the characteristics of the affected woodland, including woodland composition, site conditions, soil conditions, exposure levels and existing felling approvals. The report also provides details of existing infrastructure, and potential constraints related to forestry operations. It aims to inform decision-making by identifying key environmental and logistical considerations associated with the Proposed Development. Additionally, it evaluates the feasibility of timber extraction and access whilst highlighting necessary mitigation measures to minimise disruption to the woodland ecosystem and surrounding landscape.
- 1.1.4 Field surveys of the woodland areas have been undertaken and have been used to determine the various woodland characteristics, to identify the woodland removal required and recommended. This document also sets out the area quantity hectare (ha) to be compensatory planted to ensure no net loss of woodland is achieved.

## 2 Woodland Property

2.1.1 The landholding property boundaries are identified in Figure 12.1.32a: Parcel 168 Location Map. Daviot Wood is found 3.4 km southeast of Inverness within the Highland Council region (NH 699581 399944) The forest is a semi-mature mixed conifer plantation

# 3 Development Requirements

### 3.1 400kV Overhead Line Infrastructure Requirements

- 3.1.1 The Study Area for this assessment initially focussed on a 100 m width either side of the centreline of the Proposed OHL Alignment and ancillary infrastructure, where relevant, prior to the identification of an Operational Corridor (OC). The Applicant defines the OC as the area in which it has rights to remove woodland for the purposes of the safe construction, resilience and continued maintenance of OHLs, or protection of electrical plant as required by the Electricity Safety, Quality and Continuity Regulations (ESQCR) 2002<sup>1</sup> and The Electricity Act 1989<sup>2</sup>. The OC is defined based on two different factors as follows:
  - The first factor in which the OC is determined is with reference to the distance at which a tree could fall and cause damage to the OHL, resulting in a supply outage. As a result, the OC width would be based on the safety distance required to allow for a mature tree falling towards the OHL at the mid-point on an OHL span between two towers, taking account of topography and tree height at maturity. Standard falling distance for a mature conifer tree is considered to be a minimum of 45 m. Where the OC passes through areas of broadleaved woodland, it is noted that the width of woodland removal is likely to be reduced, due to the general lower height and characteristics of the tree species present.

<sup>&</sup>lt;sup>1</sup> UK Gov (2002). The Electricity Safety, Quality and Continuity Regulations 2002. Available at: The Electricity Safety, Quality and Continuity Regulations 2002

<sup>&</sup>lt;sup>2</sup> UK Gov (1989). Electricity Act 1989. Available at: <u>Electricity Act 1989</u>



TRANSMISSION

- The second factor that is considered is the maximum distance that the OHL conductors can blow out from the tower under a 1 in 50-year return period wind condition, plus the required electrical clearance distance. This is to ensure that the OHL conductors do not come into contact with, or come close enough to, any object that could result in an electrical clearance infringement. This conductor blowout distance varies between each tower dependent on span length and must therefore be considered on a span-by-span basis.
- 3.1.2 The typical OC required within areas of commercial conifer forestry for a 400 kV OHL is 90 m (i.e. 45 m either side of the centre line). Where the OC passes through areas of broadleaved woodland, it is proposed that the extent of woodland removal is likely to be reduced due to the lower height of the tree species present. The OC for the Proposed OHL Alignment through areas of broadleaved woodland has been reduced to 70 m (i.e. 35 m either side of the centre line of the OHL). This has been based on the likely height of the woodland at maturity. Where any woodland removal within the OC is proposed to be reduced from the 45 m either side of the line, a site-specific assessment must be carried out to confirm that the conductor blowout does not exceed the OC width. If the conductor blowout exceeds the OC, then the width of the OC must be increased to meet the requirements of the blowout assessment as a minimum. This will ensure compliance with ESQCR requirements and that the required safety clearances are maintained.
- 3.1.3 A resilient OC of 90 m in width is required within the commercial forest within Woodland Parcel 168 taking into account the requirements of the conductor blowout assessment. The OC is illustrated in Figure 12.1.32b: Parcel 168 Proposed Felling Requirement.

#### 3.2 Access Track Route Design

3.2.1 The tracks associated with this section of the OHL are within the OC.

### 4 Woodland Characteristics

#### 4.1 Woodland Composition and Site Conditions

- 4.1.1 The woodland was surveyed in December 2024. The forest consists of productive, mature conifer plantation of mainly Scots pine (SP), larch (LA), and Sitka spruce (SS). The crop is of variable height depending on ground conditions, age and species and has largely been thinned.
- 4.12 The forest is well used for recreation with access taken from the Forestry and Land Scotland managed forests to the east.
- 4.13 The landscape is characterised by the flat moorland plateau south of Inverness.
- 4.14 The National Soil Map of Scotland<sup>3</sup> indicates identifies the site as being predominantly humus iron podzols.

  Rooting is variable but overall appears good with an exception for the eastern part of this parcel where a highwater table inhibits rooting
- 4.1.5 The Ecological Site Classification (ESC)<sup>4</sup> identifies the site as having a cool, moderately exposed and wet climate. The soils have a moist moisture status and a poor nutrient status.
- 4.1.6 The section of Proposed OHL Alignment is moderately exposed with a maximum Detailed Aspect Method of Scoring (DAMS) score of 15<sup>5,6</sup>.

<sup>&</sup>lt;sup>3</sup> Scottish Government (2024). National soil map of Scotland. Available at: https://soils.environment.gov.scot/maps/soil-maps/national-soil-map-of-scotland/

<sup>&</sup>lt;sup>4</sup> Forest Research Decision Support Tools. Ecological Site Classification. Available at: <a href="http://www.forestdss.org.uk/geoforestdss/">http://www.forestdss.org.uk/geoforestdss/</a>

Forest Research (2025). Available at: <a href="http://www.forestdss.org.uk/geoforestdss/">http://www.forestdss.org.uk/geoforestdss/</a>.

<sup>&</sup>lt;sup>6</sup> 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.



TRANSMISSION

- 4.17 The section of forest in the OC is categorised as Long-Established Plantation Origin (LEPO) in the Ancient Woodland Inventory (AWI)
- 4.18 No environmental designations apply to this parcel.
- 4.19 No active felling permissions or forest design plans were found for the area. A thinning permission was in place until 2016.
- 4.1.10 The section of the Proposed OHL Alignment consists of a section of OC between towers CB2-10 and CB2-13. The Proposed OHL Alignment will run parallel to the existing Beauly to Blackhillock line on its south side.
- 4.1.11 There is existing forest road infrastructure through the property which appears to have been used for forest management in recent years. The topography allows for easy building of infrastructure and timber extraction.
- 4.1.12 Considering the volume, species, quality and location, felling using harvester/forwarder combinations is recommended. Timber could easily be extracted to the existing infrastructure to the unclassified C1068 Daviot to Dunlichty Road, this is classified as a Consultation Route by the Timber Transport Forum<sup>7,8</sup>.
- 4.1.13 An element of mulching is required for regenerating Scots pine southeast of CB2-11.

### 4.2 Photo Record - Operational Corridor Assessment

4.2.1 The following photographs provide a visual record of key locations along the OC. Each image illustrates existing vegetation types, land use, and notable landscape features relevant to the planning and management of the OC. Particular attention has been given to areas of mature woodland, natural regeneration, and locations where proposed works may intersect with ecologically or visually sensitive habitats. The photos are intended to support site assessments and inform mitigation strategies.

<sup>&</sup>lt;sup>7</sup> The Timber Transport Forum. Introduction to Agreed Routes Map. Available at: <a href="https://timbertransportforum.org.uk/agreed-routes-map/introduction-to-agreed-routes-map/">https://timbertransportforum.org.uk/agreed-routes-map/introduction-to-agreed-routes-map/</a>

<sup>&</sup>lt;sup>8</sup> Roads which are key to timber extraction but, for a variety of reasons, are not up to Agreed Route Standard. Consultation with the Local Authority is required before any timber haulage takes place and it may be necessary to limit the amount, timing or frequency of timber haulage, or to specify lower impact vehicles to prevent damage. All minor roads (B, C and unclassified roads) should be treated as Consultation Routes by default unless covered by one of the other categories (e.g. Severely Restricted Route).



TRANSMISSION

Photo 1: Existing OHL with green edges, proposed new line to run parallel on right hand side (NH 696533 399817, looking northeast)





Photo 2: Young plantation south of CB2-10 (NH 696803 398961, looking southeast)



Photo 3: Well thinned Larch adjacent to semi-mature Sitka spruce near CB2-11 (NH 697453 398584, looking east)





Photo 4: Potential windfirm edge near CB2-12 (NH 702581 399292, looking northwest)



Photo 5: Boundary of property at CB2-12, parcel 168 on the right (NH 703136 401776, looking southeast)





#### 5 Windblow Risk

- It is acknowledged that the creation of the OC would result in wider potential indirect effects on the surrounding 5.1.1 woodland areas. These areas would be subject to potential increased risk of damage (windblow). Each woodland report identifies further areas of felling to a windfirm edge, defined as 'Management Felling' (categorised as an indirect secondary impact), which is covered in more detail in the Chapter 12: Forestry in Section 12.4. Management felling would be considered as part of any application for felling permission. This would provide restocking as agreed with Scottish Forestry which would result in balancing the loss of woodland. Any felling undertaken outwith the OC would be solely under the control of the relevant landowner (and not the Applicant). It is the intention of the Applicant to encourage the landowners to follow this good practice in terms of redesign of their current Long-Term Forest Plans, which in-turn would aim to follow UK Forestry Standard (UKFS)9 for the implementation of the works required.
- 5.1.2 There is a medium risk of windblow in this area of forest. Exposure is limited but the OC will be cut through mature and sometimes unstable forest. The new OC will join up with the existing corridor to the north. This will result in one large corridor allowing for the windspeeds to build up.

#### 6 **Woodland Management Impact**

- Considering the current land use, it is expected the line will have a medium impact on the forest management 6.1.1 within and surrounding the OC. In the western section young, semi-mature and mature crops are found. Stability in this section of the property is good, and it is expected that the felling of the OC will have limited impact on the surrounding crop. The semi-mature plantation has been thinned and is still short enough that recovery postfelling is likely. The mature larch is well thinned and appears stable. The younger crop near CB2-10 will also likely recover from felling without significant wind damage.
- 6.1.2 In the eastern section, near CB2-12 the situation is different. Here, high water tables and mature Sitka spruce result in an unstable forest block. Management felling to windfirm edges is recommended to prevent windblow
- The OC will furthermore reduce the area available for growing productive conifer which will have a lasting impact on the forest productivity.
- The infrastructure built for this section of the OHL could provide a benefit to the landowner for future forest management as it will improve access in the northern part of the property. As part of construction works, dedicated crossing points and long-term access opportunities should be discussed with the landowner(s).
- The Proposed OHL Alignment furthermore introduces an electrical hazard, but the constraint associated with the 6.1.5 electrical hazard will be reduced by regular maintenance of the OC which will avoid the incidences of "Red Zone" trees (reference Forest Industry Safety Accord, FISA 804 "Electricity at Work: Forestry" 10).
- 6.1.6 The total loss of broadleaved woodland resulting from the proposed alignment is 0.0 ha.

#### 7 **Mitigation Opportunities**

#### 7.1 **Woodland Mitigation Measures**

7.1.1 To mitigate the landscape impact on this section of the Proposed Development, a replanting has been set out in Appendix 7.6 Forestry Landscape Mitigation Principles as demonstrated in Figure 12.1.32c: Parcel 168 Proposed Planting Areas.

Scottish Forestry (2024). Available online at: <a href="https://www.forestry.gov.scot/publications/sustainable-forestry/uk-forestry-standard-ukfs">https://www.forestry.gov.scot/publications/sustainable-forestry/uk-forestry-standard-ukfs</a>
 Forest Industry Safety Accord (2020), FISA 804 Electricity at Work: Forestry. Available at: <a href="https://ukfisa.com/Safety/Safety-Guides/fisa-804">https://ukfisa.com/Safety/Safety-Guides/fisa-804</a>

# 7.2 Restructuring

- 7.2.1 Considering the felling of a wide range of species and ages the operations will have a negative effect on local forest structure. Within the wider area significant areas of mature forest are still found. It is therefore expected that the effect of the operations will have a negligible impact on forest structure.
- 7.2.2 The felling of the OC for the development will create new green edges, but, considering the existing corridor to the north this will have no benefit for long term structure within this ownership.

### 7.3 Restocking

- 7.3.1 As set out in the Landscape chapter under the 'Landscape Replanting Proposals', restocking can potentially take place within the OC to mitigate the visual impact of the OC. Restocking within the OC will be carried out by the applicant. Detail shown in Figure 12.1.32c: Parcel 168 Proposed Planting Areas.
- 7.3.2 In case of management felling taking place there will be a restock obligation on the landowner.

## 8 Net Effect / Summary

8.1.1 **Tables 8.1 to 8.4** outline the operational requirements for forestry management within the OC between towers CB2-10 and CB2-13. They detail the areas designated for clear felling, both within the OC and additional recommended Management Felling outside the OC to address windthrow risks and forest design considerations.

Table 8.1: Woodland removal for Infrastructure, within OC

ltem	Woodland Type	Area (ha)
OC felling	Mixed conifer (90 m)	6.19
Access Track Felling	Mixed Conifer	0.37
Total area		6.56

Table 8.2: Compensatory Planting

ltem	Woodland Type	Area (ha)
Compensatory Planting Area	Mixed conifer	6.56
Total area	6.56	

Table 8.3: Woodland Removal Impact of Infrastructure

ltem	Area (ha)
Total Loss of Woodland Area	6.56
Total Compensatory Planting Area	6.56
Total Net Loss of Woodland Area	

Table 8.4: Woodland removal for Management Felling, outwith OC

ltem	Woodland Type	Area (ha)
Management Felling	Mixed conifer	3.36
Replanting / Restocking Opportunities	Mixed Conifer	3.36
Net Loss of Woodland Area		0.00



# 9 Compensatory Planting

- 9.1.1 Only areas directly impacted by the OC will be included in the compensatory planting total, in accordance with the Control of Woodland Removal Policy (CoWRP)<sup>11</sup>. 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 Proposed Development. See **Appendix 12.3 Compensatory Planting Management Strategy**.
- 9.1.2 Any additional felling outside the OC, such as areas cleared for windthrow management or forest design improvements, falls under the responsibility of the landowner and is not included in the compensatory planting requirements. Instead, these areas may be replanted under a forest plan revision or felling license at the landowner's discretion. This approach aligns with national forestry guidelines, balancing infrastructure development with sustainable woodland management.
- 9.1.3 The total amount of net felling requiring compensation under the CoWRP is 6.56 ha.
- 9.1.4 In order to provide a greater balance limiting long-term impacts on forestry interests it is proposed that the majority of this woodland loss is compensated via off-site compensatory planting within the same local authority area. It is proposed that full details of the areas subject to this off-site compensatory planting is notified to Scottish Forestry prior to energising the OHL.

 $<sup>^{11}</sup>$  Forestry Commission Scotland (2009). Control of Woodland Removal Policy. Available at:  $\frac{\text{https://www.forestry.gov.scot/publications/285-the-scottish-government-s-policy-on-control-of-woodland-removal/viewdocument/285}$ 





