

Scottish Power Energy Networks

Scoop Hill 132kV Connection Project Environmental Report

Appendix 5.2: Biodiversity Net Gain Report

Final report

Prepared by LUC

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Chapter 1

Introduction

Project Background

1.1 LUC has prepared this Biodiversity Net Gain (BNG) report on behalf of SP Energy Networks (SPEN) in support of an application to the Scottish Government Energy Consents Unit (ECU) for consent under Section 37 of the Electricity Act 1989 (as amended) ('the Electricity Act') and deemed planning permission under Section 57(2) of the Town and Country Planning (Scotland) Act 1997 (as amended), to install and keep installed a new twin 132 kilovolt (kV) overhead line (OHL) grid connection for the proposed Scoop Hill Community Wind Farm in Dumfries and Galloway (hereafter referred to as the 'Scoop Hill 132kV Connection Project').

1.2 This report presents the results of a Biodiversity Net Gain (BNG) Assessment, informed by the project description and baseline data presented in Chapter 5: Ecology of the Environmental Report for the project¹.

Purpose of Assessment

1.3 SPEN is committed to achieving No Net Loss (NNL) of biodiversity across all of its projects at a business-wide level and to achieving Biodiversity Net Gain (BNG) based on the relevant legislation and policy under which projects are delivered across its license areas in Scotland, England and Wales. In order to deliver this commitment, in 2022, SPEN reached agreement with Scottish and Southern Energy Networks (SSEN) to use the latter's Optioneering and Biodiversity Toolkits for projects being brought forward within the SPT license area.

1.4 SPEN considers its commitment to BNG (NNL) addresses emerging National Planning Policy Framework 4(NPF4)² requirements, in the absence of statutory guidance, particularly:

- **Policy 1** is relevant to all developments: *When considering all development proposals significant weight will be given to the global climate and nature crises.*
- **Policy 3 Biodiversity** seeks to protect biodiversity, reverse biodiversity loss, deliver positive effects from development and strengthen nature networks. It states:

¹ LUC (2023). Scoop Hill 132kV Connection Project Environmental Report.

² Scottish Government (2023) Scottish Planning Policy. Available at: <https://www.gov.scot/publications/scottish-planning-policy/pages/2/> [Accessed October 2023]

- a. Development proposals will contribute to the enhancement of biodiversity, including where relevant, restoring degraded habitats and building and strengthening nature networks and the connections between them. Proposals should also integrate nature-based solutions, where possible.
- b. Development proposals for national or major development, or for development that requires an Environmental Impact Assessment will only be supported where it can be demonstrated that the proposal will conserve, restore and enhance biodiversity, including nature networks so they are in a demonstrably better state than without intervention. This will include future management. To inform this, best practice assessment methods should be used.
- c. Proposals for local development will include appropriate measures to conserve, restore and enhance biodiversity, in accordance with national and local guidance. Measures should be proportionate to the nature and scale of development.
- d. Any potential adverse impacts, including cumulative impacts, of development proposals on biodiversity, nature networks and the natural environment will be minimised through careful planning and design. This will take into account the need to reverse biodiversity loss, safeguard the ecosystem services that the natural environment provides, and build resilience by enhancing nature networks and maximising the potential for restoration.

Proposals

1.5 A new twin 132kV grid connection is required to connect the proposed Scoop Hill Community Wind Farm to the existing substation at Moffat (Bearholm)³. The connection will comprise of twin 132kV OHLs which will run in parallel for the duration of the route and will be supported on double wood poles, with circa 30 double poles on each OHL. The twin OHLs will be approximately 2.4 km in length (4.8 km in total). A short section of underground cables (UGCs) will also be required to connect the OHLs to the Moffat substation and will be approximately 310 m in length.

1.6 A land right (wayleave) will be sought from each landowner for a corridor, typically 120m (comprising 50m either side of the centre of each OHL and a 20m space

between the twin OHLs), to protect the OHLs from future development and from falling trees.

1.7 An overview of the project is provided in **Chapter 3** of the Environmental Report¹ which also includes figures showing the proposed alignment. The proposed alignment extends from the proposed Scoop Hill Community Wind Farm substation, to the south of the minor summit of The Dod, travels north-west dropping in elevation over the north-western flank of the hill. The proposed OHL alignment then crosses the forested Beldcraig Burn valley at a similar point to an existing 400kV OHL. The proposed alignment then broadly parallels the existing 400kV OHL as it drops down the valley side to the east of the River Annan, passing over a minor road, crossing the River Annan and passing through low lying farmland before crossing under the 400kV OHL into the northern side of Moffat substation.

1.8 The landscape surrounding the proposed OHLs largely comprises the lower lying and more settled agricultural valley of the River Annan and the western valley sides. However, the landscape to the east is characterised by more elevated land, featuring smooth rounded hills. The elevation range across the study area is between approximately 80m Above Ordnance Datum (AOD) in the lower southern reaches of the valley floor, while the hill summits to the east include high points of 479m AOD at Craig Fell.

³ Should consent not be granted for Scoop Hill Community Wind Farm, then there will be no requirement for the Scoop Hill 132kV OHL

Grid Connection, and any Section 37 consent granted will not be implemented.

Chapter 2

Methodology

A Metric Approach to BNG

2.1 The Biodiversity Metric (version 4.0)⁴ has been developed by the Department for Environment Food and Rural Affairs (Defra) for Biodiversity Net Gain, and is now widely used in England ahead of its mandatory adoption in 2024. Although BNG has not formally been adopted in Scotland, SSEN has reviewed and adapted earlier versions of the Defra metric to enable it to be used for its development projects in Scotland. The SSEN toolkit yields the biodiversity *units* that a site's land is 'worth', based on the type, distinctiveness, extent, and condition of the habitats within it. The toolkit approach can compare the pre-development baseline against the project proposals, accounting for any habitat losses, gains, impacts and enhancements.

2.2 Calculations have been carried out in cognisance of Biodiversity Net Gain: Good Practice Principles for Development guidance⁵ and the British Standards Institute^{6,7}. Full calculations were undertaken through the SSEN Biodiversity Project Toolkit⁸ and condition sheets associated with the Biodiversity Metric 4.0⁴.

2.3 While the SSEN toolkit is the approach taken by SPEN to calculate BNG, it should not be considered a complete tool in assessing BNG, and therefore professional judgement has been used where appropriate. Where professional judgement has been used, this is outlined in the text and additional references, where required, are provided.

2.4 The BNG assessment has been undertaken by Katherine Watson BSc (Hons), a Qualifying Member of CIEEM and overseen by Steve Jackson-Matthews CEnv MCIEEM MEECW.

Baseline Calculation

2.5 The Study Area⁹ was subject to an Extended Phase 1 Habitat Survey which included detailed mapping of habitats within the Site and condition assessments. The survey was

⁴ Natural England (2023) The Biodiversity Metric 4.0. Available at: <https://publications.naturalengland.org.uk/publication/6049804846366720>. [Accessed October 2023]

⁵ Biodiversity Net Gain (2019) Good practice principles for development. A Practical Guide. CIEEM, CIRIA, IEMA.

⁶ BSI (2021). BS 8683:2021, Process for designing and implementing Biodiversity Net Gain – Specification. British Standards Institute,

London.

⁷ BSI (2013). Biodiversity – code of practice for planning and development, BS 42020:2013. British Standards Institution, Bristol.

⁸ Scottish & Southern Electricity Networks (2023). Biodiversity Net Gain Project Toolkit User Guide. V3.1.

⁹ Ecological Study Areas are defined in Chapter 5: Ecology of the Environmental Report.

completed on 10th August 2023 by Katherine Watson. Weather conditions were mild and dry.

2.6 To calculate the ecological baseline units for the Study Area the following data and assessments were collated:

- Phase 1 Habitat classifications used to classify habitats within the Study Area and these were assigned a pre-set distinctiveness value, indicative of the inherent 'value' of these habitats.
- The area (hectares) of each habitat and length of linear habitats (km) within the application boundary was calculated from Phase 1 Habitat mapping using ESRI ArcMap. The Extended Phase 1 Habitat Map, is presented in **Appendix A, Figure A.1**.
- Habitats were subject to a 'Condition Assessment', undertaken in the field. The condition of a habitat is considered to be a measure of its quality and measures its 'working-order' against the optimal potential for the habitat type. Assessment criteria cover broad habitat types, therefore further clarification is provided and professional judgement used to assign condition where appropriate, using Defra condition sheets and associated guidance⁴.
- Each habitat was subject to a 'Strategic Significance' assessment based on its position within the landscape. This includes consideration of local plans, Supplementary Planning Documents and Guidance and local partnership publications to identify local priorities for targeting biodiversity. The documents referred to are detailed in the Environmental Report¹.
- Baseline inputs (as detailed above) were entered into the SSEN toolkit to calculate baseline 'biodiversity units' for the Site.

Proposed Development

2.7 The same process was repeated for the final proposals, as detailed below:

- The loss of baseline habitats (both polygon and linear data) was calculated by overlaying the footprint of the proposals onto the Phase 1 Habitat Mapping using ESRI ArcMap. Using this method, the area of loss to each habitat block was determined.

2.8 There are currently no detailed biodiversity restoration or enhancement proposals for the project, however later chapters of this report provide examples of options for restoration & enhancement measures. Post-development proposals will be drawn up and entered into the toolkit following consent.

Data Summary and Discussion

2.9 The results of the SSEN Biodiversity Project Toolkit are presented as a summary of the resultant biodiversity unit change, separated by habitat type.

2.10 It is important to note that the process of BNG should consider habitat types in isolation, and any unit losses or gains must be considered in detail on a like-for-like basis for each habitat group / priority habitat type. This is referred to as "trading rules", which set minimum habitat creation and enhancement requirements to compensate for specific habitat losses.

Chapter 3

Biodiversity Net Gain Calculations

Baseline Assessment Inputs

3.1 The Study Area is comprised predominantly of improved grassland which account for the majority of its enclosed fields. Habitats present to a lesser extent include semi-natural broadleaved woodland, semi-improved neutral grassland, scattered trees, scattered scrub, tree lines and hedgerows and hardstanding associated with the existing substation.

3.2 **Table 3.1** provides a summary of the pre-development baseline assessment inputs for area-based and linear habitats. Full condition assessment proformas are provided in **Appendix B**

Table 3.1: Summary Of Pre-Development Baseline Assessment Inputs

JNCC Phase 1 Classification	Condition	Area (Ha) / Length (km)
A1.1.1 Broadleaved woodland (semi-natural).	Moderate	10.10
A1.1.1 Broadleaved woodland (semi-natural) mosaic	Moderate	1.04
A1.1.2 Broadleaved woodland (plantation).	Fairly poor	2.23
A1.2.2 Coniferous Woodland (plantation).	Poor	4.46
B2.1 Neutral grassland (unimproved) with A3.1 Scattered trees	Fairly poor	2.35
B2.2 Neutral grassland (semi-improved)	Moderate	30.20
B2.2 Neutral grassland (semi-improved)	Fairly poor	6.33
B2.2 Neutral grassland (semi-improved)	Poor	19.6
B4 Improved grassland	Fairly poor	1.79
B4 Improved grassland	Poor	58.5
C1.1 Bracken (continuous)	N/A	0.60
G1 Standing water	Fairly poor	0.05
HS Hardstanding	N/A	4.26
J1.1 Arable	N/A	6.26

JNCC Phase 1 Classification	Condition	Area (Ha) / Length (km)
G2.3 : Running water	Moderate	0.52
G2.3 : Running water	Moderate	0.47
G2.3 : Running water	Moderate	0.58
J2.1.2 : Boundaries : Hedges - Intact - species-poor	Moderate	0.33
J2.1.2 : Boundaries : Hedges - Intact - species-poor	Fairly poor	0.13
J2.3.2 : Boundaries : Hedges - With trees - species-poor (Low)	Moderate	0.19
J2.3.2 : Boundaries : Hedges - With trees - species-poor (Low)	Moderate	0.13

Proposed Development Assessment Inputs

3.3 Table 3.2 below provides a summary for retained area-based and linear habitats (i.e. those habitats unaffected by the Proposed Development).

Table 3.2: Retained Area & Linear Habitats

Habitat Type (Phase 1 Habitat)	Condition	Baseline (ha/km)	Retained (ha/km)	% Retained
A1.1.1 Broadleaved woodland (semi-natural)	Moderate	10.1	9.04	92
A1.1.1 Broadleaved woodland (semi-natural) mosaic	Moderate	1.04	1.04	100
A1.1.2 Broadleaved woodland (plantation)	Fairly poor	2.23	1.85	86
A1.2.2 Coniferous woodland (plantation)	Poor	4.46	3.26	76
B2.1 Neutral grassland (unimproved)	Fairly poor	2.35	2.27	98
B2.2 Neutral grassland (semi-improved)	Moderate	30.2	27.00	98
B2.2 Neutral grassland (semi-improved)	Fairly poor	6.33	6.13	94
B2.2 Neutral grassland (semi-improved)	Poor	19.6	18.20	96
B4 Improved grassland	Fairly poor	1.79	1.79	100
B4 Improved grassland	Poor	58.5	52.9	95
C1.1 Bracken (continuous)	Condition Assessment N/A	0.6	0.60	100
G1 Standing water	Fairly poor	0.05	0.05	100

Habitat Type (Phase 1 Habitat)	Condition	Baseline (ha/km)	Retained (ha/km)	% Retained
HS Hard standing	Condition Assessment N/A	4.26	4.25	100
J1.1 Arable	Condition Assessment N/A	6.26	5.74	92

Change in Biodiversity Units

biodiversity units of combined area-based and linear habitat. **Table 3.3** provides a summary of the toolkit output.

3.4 The Proposed Development, in the absence of compensation and enhancement, will result in a loss of **45.05**

Phase 1 Habitat	Total Area (ha)	Condition	Permanent Works Area (ha)	Temporary Works Area (ha)	Biodiversity Units – Retained	Biodiversity Units – Removed
A1.1.1 Broadleaved woodland (semi-natural)	10.09	Moderate	0.82	0.23	137.23	15.90
A1.1.1 Broadleaved woodland (semi-natural) mosaic	1.04	Moderate	0	0	10.52	0
A1.1.2 Broadleaved woodland (plantation)	2.23	Fairly Poor	0.31	0.07	12.77	2.62
A1.2.2 Coniferous woodland (plantation)	4.46	Poor	1.01	0.19	7.50	2.76
B2.1 Neutral grassland (unimproved)	2.35	Fairly Poor	0.04	0.04	23.49	0.41
B2.2 Neutral grassland (semi-improved)	30.23	Fairly Poor	1.60	0	186.51	11.04
B2.2 Neutral grassland (semi-improved)	6.33	Moderate	0.10	0	56.40	0.92
B2.2 Neutral grassland (semi-improved)	19.57	Poor	0.75	0	83.72	3.45

Phase 1 Habitat	Total Area (ha)	Condition	Permanent Works Area (ha)	Temporary Works Area (ha)	Biodiversity Units – Retained	Biodiversity Units – Removed
B4 Improved grassland	1.79	Fairly Poor	0	0	7.16	0
B4 Improved grassland	58.49	Poor	2.80	0	105.80	5.60
C1.1 Bracken (continuous)	0.6	Poor	0	0	1.20	0
G1 Standing water	0.05	Fairly Poor	0	0	0.30	0
HS Hard standing	4.26	N/A - No biodiversity value	0	0.01	0	0
J1.1 Arable	6.26	N/A - Agriculture	0	0.52	11.48	1.04
Phase 1 Habitat	Total Area (km)	Condition	Permanent Works Area (km)	Temporary Works Area (km)	Linear Units – Retained	Linear Units – Removed
G2.3 : Running water	0.52	Moderate	0	0	10.30	0
G2.3 : Running water	0.47	Moderate	0	0	9.31	0
G2.3 : Running water	0.58	Moderate	0	0	11.48	0
J2.1.2 : Boundaries : Hedges - Intact - species-poor	0.33	Moderate	0	0	3.73	0
J2.1.2 : Boundaries : Hedges - Intact - species-poor	0.13	Fairly poor	0	0.06	3.73	0.83
J2.3.2 : Boundaries : Hedges - With trees - species-poor (Low)	0.19	Moderate	0.6	0	1.04	0.48
J2.3.2 : Boundaries : Hedges - With trees - species-poor (Low)	0.130	Moderate	0	0	0.52	0

Chapter 4

Results and Interpretation

Biodiversity Net Gain Results

4.1 The Study Area comprises of large areas of low value habitats, dominated by improved grassland. Several areas of higher distinctiveness habitats are also present within the Study Area including semi-natural broadleaved woodland and semi-improved neutral grassland.

4.2 The Proposed Development is focussed on habitats of low value, including improved grassland, and the majority of habitats of ecological value, including broadleaved woodland, will be retained. However, the Proposed Development will unavoidably result in the loss of a small area of semi-natural broadleaved woodland.

4.3 The preliminary outcome of the BNG assessment of the outline proposals is summarised below:

- In the absence of mitigation, the Proposed Development has the potential to result in a loss of **43.74 habitat units**, which is a decrease of 6.2% from the baseline value of the Site.
- In addition, the Proposed Development has the potential to result in a loss of **1.31 linear units**, which is a decrease of 3.4% from the baseline value of the Site.
- To achieve No Net Loss (NNL), habitat restoration and enhancement proposals are required which will deliver **43.74 habitat units and 1.31 linear units**.

Achieving No Net Loss

4.4 To ensure that the Proposed Development achieves SPEN's internal NNL policy, and therefore NPF4's requirements for biodiversity enhancement, it will be necessary to deliver habitat creation and enhancement measures, either on or off-site, via a detailed Biodiversity Enhancement Plan (BEP).

4.5 The BEP will be prescribed to ensure that newly created, retained and enhanced habitats continue to benefit the habitats and species and provide connectivity to the wider landscape long into the future.

4.6 Using the SSEN Toolkit as a guide, the following potential interventions would aid SPEN in achieving NNL:

- Woodland planting of 8 Ha of native broadleaf woodland would be equivalent to 45.38 biodiversity units.

- Creation of 6 Ha of neutral grassland would be equivalent to 37.57 biodiversity units.

4.7 The final level of commitment provided through the BEP will require to be proportionate to the impact of the proposals.

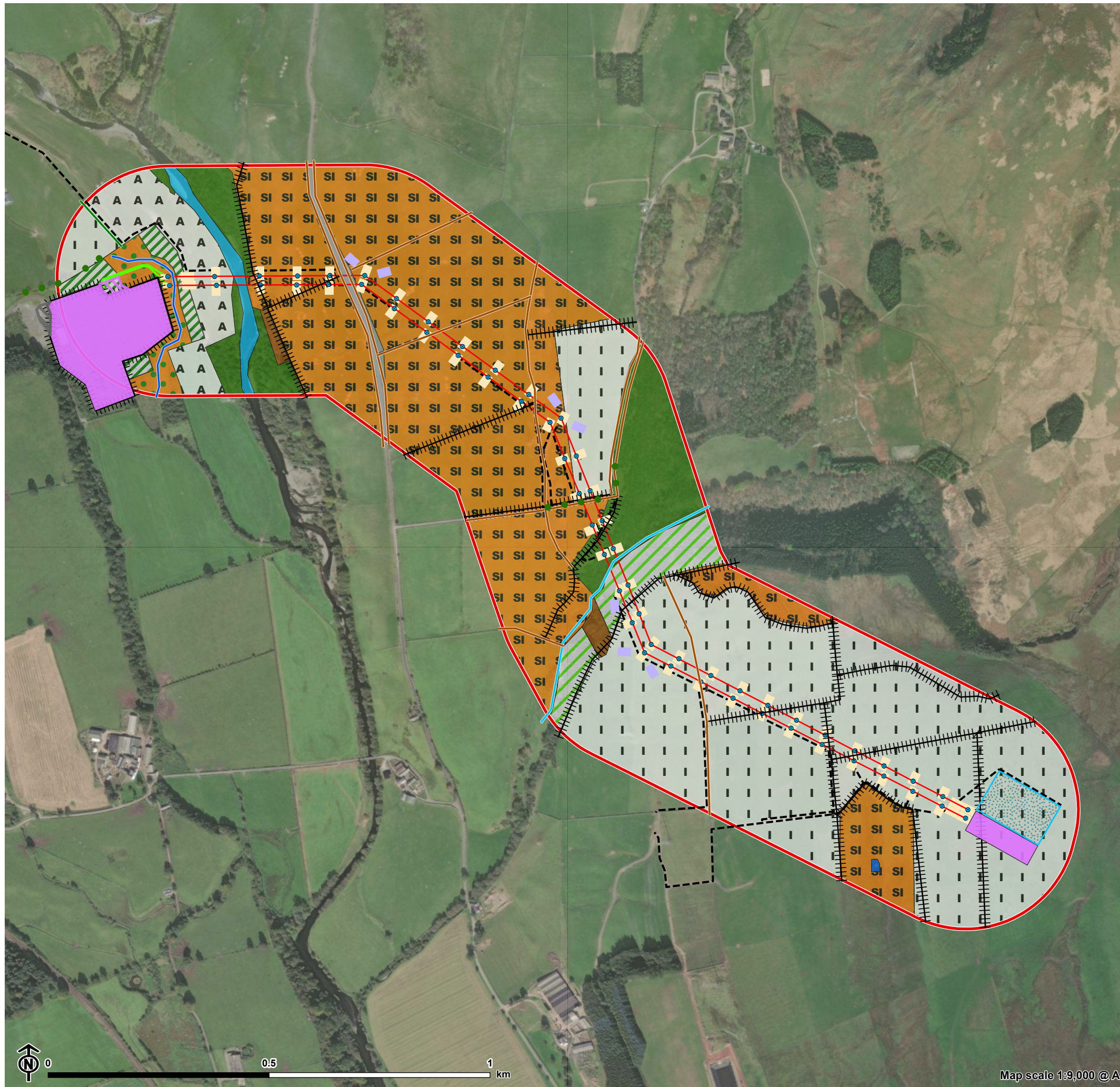
4.8 Crucially, the existing levels of protection afforded to protected species and habitat are not changed by use of this or any other metric. Statutory obligations will still need to be satisfied.

Appendix A

Figures

Figure A.1: Proposed OHL Alignment

Figure A.1: Phase 1 Habitat Map



- 250m Survey Area
 - Wood H Pole
 - 132kV Underground Cable (UGC)
 - Proposed 132 kV overhead line (OHL)
 - Substation Compound
 - Moffat Substation Extension - not part of Scoop Hill 132kV Connection Project
 - Additional Moffat Substation Extension - not part of Scoop Hill 132kV Connection Project
 - Scoop Hill Wind Farm Energy Storage Facility
 - Pulling Area
 - Working Area
 - Proposed Access Route
- Linear Feature**
- G1 Standing Water
 - G2 Running Water
 - J2.1.2 Intact Hedge (Species-Poor)
 - J2.4 Fence
 - J2.5 Wall
 - • TL Tree Line
- Phase 1 Habitat**
- A1.1.1 Broadleaved Woodland (Semi-Natural)
 - A1.1.2 Broadleaved Woodland (Plantation)
 - A1.2.2 Coniferous Woodland (Plantation)
 - B2.1 Neutral Grassland (Unimproved)/ A3.1 Broadleaved Scattered Trees
 - B2.2 Neutral Grassland (Semi-Improved)
 - B4 Improved Grassland
 - C1.1 Bracken (Continuous)
 - G1 Standing Water
 - G2 Running Water
 - HS Hard Standing
 - A J1.1 Arable



Map scale 1:9,000 @ A3

Appendix B
Baseline Condition
Assessments

On Site Baseline Area Condition Assessments

Table B.1: Broadleaf Woodland

Condition Sheet: WOODLAND Habitat Type						
Phase 1 Habitat Type						
Broadleaved woodland (semi-natural) A1.1.1						
Habitat Description						
<p>Two stands of broadleaved plantation woodland were identified within the Study Area. The Beldcraig Wood (LEPO) is located approximately 150m from the centre of the Proposed Route. Part of the woodland is designated as upland birchwood and associated with the confluence of the Breconside Burn and Beldcraig Burn which connects the woodland to the wider landscape. This woodland included a diverse canopy dominated by birch, oak and rowan with abundant beech. The shrub layer included abundant hawthorn and hazel. The ground layer included abundant greater woodrush and wood sorrel, with frequent dogs mercury and bracken, and occasional nettle, wild garlic, hedge woundwort and marsh bedstraw were also recorded. Standing and fallen deadwood was also recorded within the woodland.</p> <p>The second area of broad-leaved woodland was recorded at the west of the Study Area. This woodland forms part of the riparian corridor associated with the River Annan and connects the woodland to the wider landscape. This area is comprised of mature broadleaved woodland including a diverse canopy of alder, ash, beech, birch, oak, rowan, sycamore, willow, and wild cherry. The shrub layer included hawthorn and hazel, with bracken recorded frequently in this area. Himalayan balsam was also recorded along the banks of the River Annan.</p> <p>There are three blocks of mature broadleaved woodland recorded surrounding the existing substation to west of the Study Area. Alder, birch, hawthorn, hazel, oak, rowan, and wild cherry were frequently recorded in these areas.</p>						
Limitations (if applicable)		N/A	Habitat size (ha)		11.14	
Condition Assessment Criteria						
Indicator		Good (3 points)	Moderate (2 points)	Poor (1 point)	Score per indicator	Notes (such as justification)
A	Age distribution of trees	Three age-classes present.	Two age-classes present.	One age-class present.	2	Predominantly intermediate and mature trees present.
B	Wild, domestic and feral herbivore damage	No significant browsing damage evident in woodland.	Evidence of significant browsing pressure is present in 40% or less of whole woodland.	Evidence of significant browsing pressure is present in 40% or more of whole woodland.	3	Little evidence of browsing damage.

C	Invasive plant species	No invasive species present in woodland.	Rhododendron <i>Rhododendron ponticum</i> or cherry laurel <i>Prunus laurocerasus</i> not present, other invasive species <10% cover.	Rhododendron or cherry laurel present, or other invasive species >10% cover.	3	No invasive species present.
D	Number of native tree species	Five or more native tree or shrub species found across woodland parcel.	Three to four native tree or shrub species found across woodland parcel.	Two or less native tree or shrub species across woodland parcel.	2	Native tree and shrub species included silver birch, oak, rowan and beech.
E	Cover of native tree and shrub species	>80% of canopy trees and >80% of understory shrubs are native.	50 - 80% of canopy trees and 50 - 80% of understory shrubs are native.	<50% of canopy trees and <50% of understory shrubs are native.	2	Occasional native trees were present in the canopy, but this did not amount to more than 50%.
F	Open space within woodland	10 - 20% of woodland has areas of temporary open space. Unless woodland is <10ha, in which case 0 - 20% temporary open space is permitted.	21 - 40% of woodland has areas of temporary open space.	<10% or >40% of woodland has areas of temporary open space. But if woodland <10ha has <10% temporary open space, please see Good category.	3	No open space was noted.
G	Woodland regeneration	All three classes present in woodland; trees 4 - 7 cm Diameter at Breast Height (DBH), saplings and seedlings or advanced coppice regrowth.	One or two classes only present in woodland.	No classes or coppice regrowth present in woodland.	2	

H	Tree health	Tree mortality less than 10%, no pests or diseases and no crown dieback.	11% to 25% mortality and/or crown dieback or low-risk pest or disease present ⁹ .	Greater than 25% tree mortality and or any high-risk pest or disease present ⁹ .	3	Little evidence of tree mortality present.
I	Vegetation and ground flora	Recognisable NVC plant community at ground layer present, strongly characterised by ancient woodland flora specialists.	Recognisable woodland NVC plant community ¹⁰ at ground layer present.	No recognisable woodland NVC plant community at ground layer present.	-	-
J	Woodland vertical structure	Three or more storeys across all survey plots or a complex woodland.	Two storeys across all survey plots.	One or less storey across all survey plots.	2	Upper canopy layer and shrub layer noted.
K	Veteran trees	Two or more veteran trees per hectare.	One veteran tree per hectare.	No veteran trees present in woodland.	1	-
L	Amount of deadwood	50% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, branch stubs and stumps, or an abundance of small cavities.	Between 25% and 50% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities.	Less than 25% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities.	2	-

M	Woodland disturbance	No nutrient enrichment or damaged ground evident.	Less than 1 hectare in total of nutrient enrichment across woodland area and or less than 20% of woodland area has damaged ground.	More than 1 hectare of nutrient enrichment and or more than 20% of woodland area has damaged ground ¹⁴ .	3	-
Total Score (out of a possible 39)					28	
Condition Assessment Result				Condition Assessment Score	Result Achieved	
Total score >32 (33 to 39)				Good (3)	Moderate	
Total score 26 to 32				Moderate (2)		
Total score <26 (13 to 25)				Poor (1)		
Suggested enhancement interventions to improve condition score						

Table B.2: Broadleaf Woodland

Condition Sheet: WOODLAND Habitat Type						
Phase 1 Habitat Type						
Broadleaved woodland (plantation) A1.1.2						
Habitat Description						
There are three blocks of mature broadleaved woodland recorded surrounding the existing substation to west of the Study Area. Alder, birch, hawthorn, hazel, oak, rowan, and wild cherry were frequently recorded in these areas.						
Limitations (if applicable)	N/A	Habitat size (ha)	2.23			
Condition Assessment Criteria						
Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	Score per indicator	Notes (such as justification)	
A	Age distribution of trees	Three age-classes present.	Two age-classes present.	One age-class present.	1	Predominantly intermediate trees present.

B	Wild, domestic and feral herbivore damage	No significant browsing damage evident in woodland.	Evidence of significant browsing pressure is present in 40% or less of whole woodland.	Evidence of significant browsing pressure is present in 40% or more of whole woodland.	3	Little evidence of browsing damage.
C	Invasive plant species	No invasive species present in woodland.	Rhododendron <i>Rhododendron ponticum</i> or cherry laurel <i>Prunus laurocerasus</i> not present, other invasive species <10% cover.	Rhododendron or cherry laurel present, or other invasive species >10% cover.	3	No invasive species present.
D	Number of native tree species	Five or more native tree or shrub species found across woodland parcel.	Three to four native tree or shrub species found across woodland parcel.	Two or less native tree or shrub species across woodland parcel.	2	Native tree and shrub species included alder, birch, ash, beech, oak, rowan, willow and cherry.
E	Cover of native tree and shrub species	>80% of canopy trees and >80% of understory shrubs are native.	50 - 80% of canopy trees and 50 - 80% of understory shrubs are native.	<50% of canopy trees and <50% of understory shrubs are native.	2	Occasional native trees were present in the canopy, but this did not amount to more than 50%.
F	Open space within woodland	10 - 20% of woodland has areas of temporary open space. Unless woodland is <10ha, in which case 0 - 20% temporary open space is permitted.	21 - 40% of woodland has areas of temporary open space.	<10% or >40% of woodland has areas of temporary open space. But if woodland <10ha has <10% temporary open space, please see Good category.	3	No open space was noted.

G	Woodland regeneration	All three classes present in woodland; trees 4 - 7 cm Diameter at Breast Height (DBH), saplings and seedlings or advanced coppice regrowth.	One or two classes only present in woodland.	No classes or coppice regrowth present in woodland.	2	
H	Tree health	Tree mortality less than 10%, no pests or diseases and no crown dieback.	11% to 25% mortality and/or crown dieback or low-risk pest or disease present ⁹ .	Greater than 25% tree mortality and or any high-risk pest or disease present ⁹ .	3	Little evidence of tree mortality present.
I	Vegetation and ground flora	Recognisable NVC plant community at ground layer present, strongly characterised by ancient woodland flora specialists.	Recognisable woodland NVC plant community ¹⁰ at ground layer present.	No recognisable woodland NVC plant community at ground layer present.	-	-
J	Woodland vertical structure	Three or more storeys across all survey plots or a complex woodland.	Two storeys across all survey plots.	One or less storey across all survey plots.	1	-
K	Veteran trees	Two or more veteran trees per hectare.	One veteran tree per hectare.	No veteran trees present in woodland.	1	-

L	Amount of deadwood	50% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, branch stubs and stumps, or an abundance of small cavities.	Between 25% and 50% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities.	Less than 25% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities.	1	-
M	Woodland disturbance	No nutrient enrichment or damaged ground evident.	Less than 1 hectare in total of nutrient enrichment across woodland area and or less than 20% of woodland area has damaged ground.	More than 1 hectare of nutrient enrichment and or more than 20% of woodland area has damaged ground ¹⁴ .	3	-
Total Score (out of a possible 39)					25	
Condition Assessment Result				Condition Assessment Score	Result Achieved	
Total score >32 (33 to 39)				Good (3)	Poor	
Total score 26 to 32				Moderate (2)		
Total score <26 (13 to 25)				Poor (1)		
Suggested enhancement interventions to improve condition score						

Table B.3: Coniferous woodland

Condition Sheet: WOODLAND Habitat Type
Phase 1 Habitat Type(s)
Coniferous woodland (plantation) A1.2.2
Habitat Description
A block of mature coniferous Sitka spruce woodland was recorded in the centre of the Study Area immediately to the south of the Beldcraig Wood LEPO. This plantation was associated with the Beldcraig Burn which connects the woodland to the wider landscape.

Limitations (if applicable)		N/A	Habitat size (ha)	4.46		
Condition Assessment Criteria						
Indicator		Good (3 points)	Moderate (2 points)	Poor (1 point)	Score per indicator	Notes (such as justification)
A	Age distribution of trees	Three age-classes present.	Two age-classes present.	One age-class present.	1	Predominantly mature trees present.
B	Wild, domestic and feral herbivore damage	No significant browsing damage evident in woodland.	Evidence of significant browsing pressure is present in 40% or less of whole woodland.	Evidence of significant browsing pressure is present in 40% or more of whole woodland.	3	Little evidence of browsing damage.
C	Invasive plant species	No invasive species present in woodland.	Rhododendron <i>Rhododendron ponticum</i> or cherry laurel <i>Prunus laurocerasus</i> not present, other invasive species <10% cover.	Rhododendron or cherry laurel present, or other invasive species >10% cover.	3	No invasive species present.
D	Number of native tree species	Five or more native tree or shrub species found across woodland parcel.	Three to four native tree or shrub species found across woodland parcel.	Two or less native tree or shrub species across woodland parcel.	1	
E	Cover of native tree and shrub species	>80% of canopy trees and >80% of understory shrubs are native.	50 - 80% of canopy trees and 50 - 80% of understory shrubs are native.	<50% of canopy trees and <50% of understory shrubs are native.	1	The canopy was dominated by non-native Sitka trees.

F	Open space within woodland	10 - 20% of woodland has areas of temporary open space. Unless woodland is <10ha, in which case 0 - 20% temporary open space is permitted.	21 - 40% of woodland has areas of temporary open space.	<10% or >40% of woodland has areas of temporary open space. But if woodland <10ha has <10% temporary open space, please see Good category.	3	No open space was noted.
G	Woodland regeneration	All three classes present in woodland; trees 4 - 7 cm Diameter at Breast Height (DBH), saplings and seedlings or advanced coppice regrowth.	One or two classes only present in woodland.	No classes or coppice regrowth present in woodland.	1	No evidence of regrowth was observed.
H	Tree health	Tree mortality less than 10%, no pests or diseases and no crown dieback.	11% to 25% mortality and/or crown dieback or low-risk pest or disease present ⁹ .	Greater than 25% tree mortality and or any high-risk pest or disease present ⁹ .	3	Little evidence of tree mortality present.
I	Vegetation and ground flora	Recognisable NVC plant community at ground layer present, strongly characterised by ancient woodland flora specialists.	Recognisable woodland NVC plant community ¹⁰ at ground layer present.	No recognisable woodland NVC plant community at ground layer present.	1	Few ground layer species observed.
J	Woodland vertical structure	Three or more storeys across all survey plots or a complex woodland.	Two storeys across all survey plots.	One or less storey across all survey plots.	1	-

K	Veteran trees	Two or more veteran trees per hectare.	One veteran tree per hectare.	No veteran trees present in woodland.	1	-
L	Amount of deadwood	50% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, branch stubs and stumps, or an abundance of small cavities.	Between 25% and 50% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities.	Less than 25% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities.	2	-
M	Woodland disturbance	No nutrient enrichment or damaged ground evident.	Less than 1 hectare in total of nutrient enrichment across woodland area and or less than 20% of woodland area has damaged ground.	More than 1 hectare of nutrient enrichment and or more than 20% of woodland area has damaged ground ¹⁴ .	3	-
Total Score (out of a possible 39)					24	
Condition Assessment Result				Condition Assessment Score	Result Achieved	
Total score >32 (33 to 39)				Good (3)	Poor	
Total score 26 to 32				Moderate (2)		
Total score <26 (13 to 25)				Poor (1)		
Suggested enhancement interventions to improve condition score						

Table B.4: Neutral Grassland

Condition Sheet: GRASSLAND Habitat Type (medium, high and very high distinctiveness)
Phase 1 Habitat Type(s)

Neutral grassland (unimproved) B2.1			
Habitat Description			
<p>Un-improved neutral grassland was recorded to the north and east of Moffat substation. This appeared to be an un-managed field which has been left to provide a buffer zone around the drainage ditch that runs through it.</p> <p>Scattered alder trees were recorded in this area. The grassland species recorded were dominated by false oat-grass, and creeping thistle, cleavers were abundant. Buttercup species, common nettle and Yorkshire fog were frequent, with occasional meadowsweet and marsh woundwort and ragwort were recorded rarely in this area. In addition, in proximity to the drainage ditch, soft rush was locally dominant..</p>			
Limitations (if applicable)	N/A	Habitat size (ha)	2.35
Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	<p>The grassland is a good representation of the habitat type it has been identified as, based on its Phase1 description – the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type. Indicator species listed by Phase1 for the specific grassland habitat type are consistently present.</p> <p>Note – this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.</p>	Yes	The species present are indicative of neutral grassland, and these species are consistently present throughout.
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	Yes	-
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.	Yes	-
D	Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus</i> agg.) is less than 5%.	Yes	-

E	<p>Combine cover of species indicative of sub-optimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.</p> <p>If any invasive non-native plant species (as listed on Schedule 9 of WCA) are present, this criterion is automatically failed.</p>	No	
Additional Criterion – must be assessed for all non-acid grassland types			
F	<p>There are 10 or more vascular plant species per m² present, including forbs that are characteristic of the habitat type (species referenced in Footnote 2 and 4 cannot contribute towards this count).</p> <p>Note – this criterion is essential for achieving Good condition for non-acid grassland types only.</p>	No	The grassland was unmanaged, allowing tussocky grass to dominate, resulting in a low species diversity per m ² .
Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)		No	
Number of criteria passed		4	
Condition Assessment Result (out of 6 criteria)	Condition Assessment Score	Score Achieved x/√	
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)		
Passes 3 – 5 criteria, including essential criterion A.	Moderate (2)		
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)	Noted as Fairly Poor	

Suggested enhancement interventions to improve condition score

Table B.5: Neutral Grassland

Condition Sheet: GRASSLAND Habitat Type (medium, high and very high distinctiveness)			
Phase 1 Habitat Type(s)			
Neutral grassland (semi-improved) B2.2			
Habitat Description			
Semi-improved neutral grassland was the dominant habitat present in the central third of the Study Area, with two smaller areas present to the south of the Study Area. This habitat was comprised of a number of fields that appears to have been left un-managed. These fields have been fenced off and at the time of the survey showed little/ no signs of grazing by livestock. The sward height was varied and a number of herb species were present. Yorkshire fog curly dock and white clover dominates this habitat, with abundant tufted hair grass, crested dogstail, dandelion and sweet vernal grass. Buttercup, common bent, common nettle, curly dock, marsh thistle, perennial rye grass and spear thistle were frequently recorded. Compact rush, birds foot trefoil, bull thistle, foxglove, harebell, meadowsweet, mouse ear, raspberry, ragwort, selfheal, sharp flowered rush, sorrel, were occasionally recorded and birds foot trefoil was rare within the habitat. In addition, scattered willow saplings were also present in low numbers.			
Limitations (if applicable)	N/A	Habitat size (ha)	56.13
Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	The grassland is a good representation of the habitat type it has been identified as, based on its Phase1 description – the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type. Indicator species listed by Phase1 for the specific grassland habitat type are consistently present. Note – this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.	Yes	The species present are indicative of neutral grassland, and these species are consistently present throughout.

B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	Yes	-
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.	Yes	
D	Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus</i> agg.) is less than 5%.	Yes	-
E	Combine cover of species indicative of sub-optimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species (as listed on Schedule 9 of WCA) are present, this criterion is automatically failed.	No	
Additional Criterion – must be assessed for all non-acid grassland types			
F	There are 10 or more vascular plant species per m ² present, including	No	The grassland was unmanaged, allowing tussocky grass to dominate, resulting in a low species diversity per m ² .

	forbs that are characteristic of the habitat type (species referenced in Footnote 2 and 4 cannot contribute towards this count). Note – this criterion is essential for achieving Good condition for non-acid grassland types only.		
Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)		No	
Number of criteria passed		3	
Condition Assessment Result (out of 6 criteria)	Condition Assessment Score	Score Achieved x/√	
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)		
Passes 3 – 5 criteria, including essential criterion A.	Moderate (2)	√	
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)		
Suggested enhancement interventions to improve condition score			

N.B. Other conditions were noted across the Site including Fairly poor and Poor

Table B.6: Improved Grassland

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)
Phase 1 Habitat Type(s)
Improved grassland B4
Habitat Description

Improved grassland was recorded predominantly in the southern half of the Study Area. This area appears to be either lightly grazed or grown as silage. Ryegrass, Yorkshire fog and sweet vernal grass dominated this habitat. Daisy and white clover were abundant with frequent dandelion and buttercup. Mouse ear and spear thistle were rarely recorded in this habitat.			
Limitations (if applicable)	N/A	Habitat size (ha)	
		60.29	
Condition Assessment Criteria		Criterion passed (Yes or No)	
		Notes (such as justification)	
A	There must be 6-8 species per m ² . If a grassland has 9 or more species per m ² it should be classified as a medium distinctiveness grassland habitat type. NB - this criterion is essential for achieving moderate condition	No	
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	No	-
C	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	No	
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Yes	-

E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	Yes	
F	Cover of bracken is less than 20%.	Yes	
G	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).	Yes	
Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)		No	
Number of criteria passed		3	
Condition Assessment Result (out of 6 criteria)	Condition Assessment Score	Score Achieved x/✓	
Passes 6 or 7 of 7 criteria including passing essential criterion 1.	Good (3)		
Passes 3 – 5 Passes 4 or 5 of 7 criteria including passing essential criterion 1.	Moderate (2)		
Passes 0, 1, 2 or 3 of 7 criteria; OR 4, 5 or 6 of criteria (but failing criterion 1)	Poor (1)	Noted as Fairly poor	
Suggested enhancement interventions to improve condition score			

N.B. Other conditions were noted on site as Poor

On Site Baseline Linear Condition Assessments

Table C.7: Line of Trees

Condition Sheet: LINE OF TREES Habitat Type					
Habitat Type(s)					
Line of trees					
Habitat Description					
Tree lines on Site are listed below:					
<ul style="list-style-type: none"> ■ TL 1 – A line of mature oak, beech hawthorn and ash trees were present along the northern boundary near Moffat substation. ■ TL 2 - A tree line of mature sycamore bordered a minor road east of the Site, adjacent to the broadleaf woodland. ■ TL3 – A tree line of bordered a minor road east of the Site, connecting to the broadleaf woodland. Species included elder, beech, and hawthorn. 					
Limitations (if applicable)	N/A	Tree Line Number			
		TL1	TL2	TL3	
Condition Assessment Criteria					
		Criterion passed (Yes or No)			
A	At least 70% of trees are native species.	Yes	Yes	Yes	A large majority of the trees consisted of oaks, with frequent beech, sycamore and hawthorn.
B	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Y	Y	Y	The majority of the tree lines had a continuous canopy.
C	One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark.	N	N	N	

D	There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are present, root protection areas should follow standing advice ² .	N	N	N	
E	At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	Y	Y	Y	The majority of trees appeared to be in healthy condition.
Number of criteria passed		3	3	3	
Condition Assessment Result (out of 5 criteria)	Condition Assessment Score	Score Achieved x/√			
Passes 5 criteria	Good (3)				
Passes 3 or 4 criteria	Moderate (2)	√	√	√	
Passes 2 or fewer criteria	Poor (1)				
Suggested enhancement interventions to improve condition score					
N/A					

No condition assessment required for bracken, hard standing and arable. Condition fixed at Poor.