SP Energy Networks

Troston Overhead Line Grid Connection

Biodiversity Net Gain Report

2481567

APRIL 2024

RSK biocensus
EXPERTS IN ECOLOGY

RSK GENERAL NOTES

Project No.: 2481567

Title: Troston Overhead Line Grid Connection – Biodiversity Net Gain Report

Client: SP Energy Networks

Date: April 2024

Office: Glasgow

Status: Rev 00

Author and project manager	Julia Richards	**Technical and quality reviewer**	Ruth Morton
Signature		Signature	
Date:	24/04/2024	Date:	26/04/2024

Switchboard: +44 (0)330 223 1074 Company contact: Enquiries@biocensus.co.uk

CONTENTS

1.0 INTRODUCTION

1.1 Purpose of this Report

The aim of this report is to present the results of a Biodiversity Net Gain (BNG) assessment of the planned Troston overhead line (OHL) grid connection in Dumfries and Galloway. The assessment compares the baseline biodiversity prior to development with the post-development biodiversity and makes recommendations for enhancement measures.

There are currently no detailed plans for biodiversity restoration or enhancement proposals for the project, however this report provide examples of options for restoration and enhancement measures.

1.2 Ecological Context

The proposed OHL route is located approximately 6.2 km north east of the village of St John's Town of Dalry in Dumfries and Galloway. The route stretches from the planned Troston wind farm to a proposed substation in Glenshimmeroch. The OHL route crosses the Black Water river and passes through upland pasture, forestry plantation and felled forestry.

1.3 Policy Context

The primary aims of BNG are to secure a measurable improvement in habitat for biodiversity, to minimise biodiversity losses and to help to restore ecological networks whilst streamlining development processes.

The Fourth National Planning Framework (NPF4) mandates a statutory requirement for developments to deliver BNG, primarily through Policy 3. This states:

- *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.*
- *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.*
- *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.*

- *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.*

2.0 BIODIVERSITY NET GAIN ASSESSMENT

2.1 Introduction

The SSE biodiversity metric V3 has designed to quantify the changes in biodiversity value of sites before and after development.

This study has been carried out as a desk-based exercise, using the results of field surveys carried out at the proposed OHL route by RSK Biocensus and a felling plan produced by RSK Environment. The primary documents consulted as part of this study include:

- Appendix 7.1 Troston Overhead Line Grid Connection NVC Report, Ref. 2481567 (RSK Biocensus, 2023)
- Figure 10.3 Troston OHL Felling Plan (RSK Environment, 2024)

2.2 Biodiversity Assessment Methods

2.2.1 Overview

To calculate biodiversity units for the site and assess any changes arising from the proposed development this study uses methods set out in Biodiversity Net Gain; Toolkit User Guide (SSE Renewables, 2022). Where guidance within the user guide is missing, guidance from the DEFRA biodiversity metric 3.1 user guides (Panks et al., 2022) has been used.

The biodiversity metric uses habitat area as its core measurement, except for linear features where it uses habitat length. Additionally, linear habitats are split into two types, terrestrial (e.g. hedgerows and lines of trees) and aquatic (e.g. rivers and streams). Therefore, a site can have three biodiversity unit values, one for habitat areas, one for terrestrial linear features, and one for aquatic linear features. They are assessed using the same metric but cannot be summed together.

Habitat area is multiplied by several factors that indicate its quality: distinctiveness, condition, strategic location and connectivity, and this gives its biodiversity unit value. This can be used for existing and future created habitats. This is shown in Image 1.

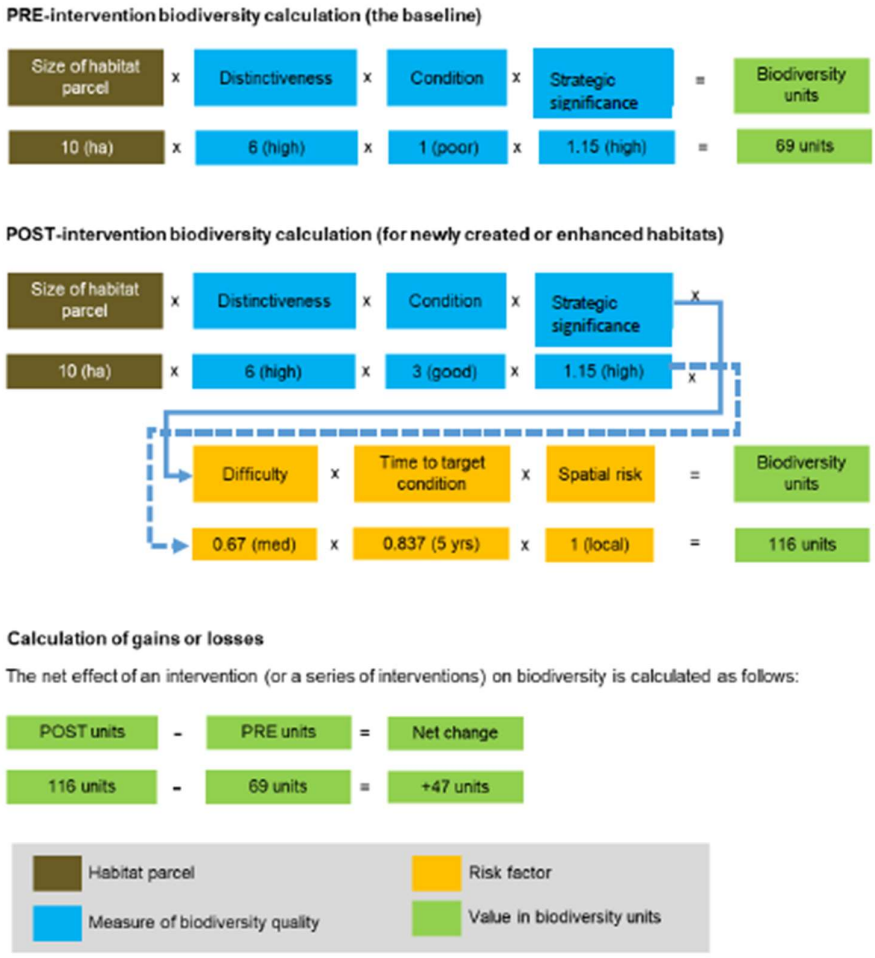


Image 1. Biodiversity Metric Calculation (Natural England, 2023)

2.2.2 Habitat Distinctiveness

Habitats are classified using the UK habitat classification system (Butcher et al., 2020).

The metric pre-assigns each habitat type to a distinctiveness band according to its distinguishing features, i.e. species richness, rarity (at local, regional, national and international scales), and the degree to which it supports species rarely found in other habitats.

2.2.3 Habitat Condition

Habitat condition measures the varying quality of similar habitats against what is perceived to be their optimal state. The SSE Biodiversity Toolkit uses Defra Metric 3.1 condition assessments. These can be found within the Defra biodiversity metric 3.1 technical supplement (Panks et al., 2022a). The condition sheets contain a habitat description, contextual information to aid the assessment, and the assessment criteria. The criteria describe what components need to be present for a habitat to be in good, moderate or poor condition.

2.2.4 Strategic Significance

Strategic significance follows the Defra 3.1 metric guidance and works at a landscape scale, allowing additional value to be added to located habitats within ecologically desirable areas or habitats formally identified within local plans. Habitats or areas formally identified within local plans receive a larger multiplier. Ecologically desirable areas are identified using desk based remote sensing national habitat networks / corridors and occasionally professional ecological judgment. Local formal plans vary across the country, common examples include; habitat action plans, biodiversity / conservation target areas and local green infrastructure plans.

2.2.5 Connectivity

Connectivity follows the Defra 3.1 metric guidance and aims to consider a habitat in relation to surrounding similar or associated habitats. The connectivity of a habitat is calculated by inputting GIS layers of habitats and the site boundary into the connectivity tool that then produces an output with the connectivity value. Full details of how the connectivity tool works can be found within the published guidance (Crosher et al., 2019b). Currently high and very high distinctiveness habitats should be processed through the biodiversity metric 3.1 connectivity tool, all other habitats are given a default low connectivity multiplier.

2.2.6 Difficulty of Creation and Restoration

The risks associated with creating new or enhancing existing habitats, are known as difficulty factors; for example, where habitats fail to establish owing to natural changes in local conditions, incorrect management or for unknown reasons. The SSE biodiversity metric does not contain any default values so the default values from the Defra 3.1 metric have been used. Occasionally, under exceptional circumstances, these values can be modified, but any deviation from the default value will be fully justified.

2.2.7 Time to Target Condition

There is often a lag between a habitat being removed and the new compensation habitats achieving their target condition. This gives reduced biodiversity value for a time. The SSE biodiversity metric does not contain any default values so the default values from the Defra 3.1 metric have been used. The Defra 3.1 metric preassigns the time to target condition based on good practice and typical conditions, and assigns a multiplier based on the number of years required to achieve it.

Using bespoke techniques under unique conditions, or creating compensation habitats prior to impacts taking place, the time to target condition can be adjusted. Any changes will again be fully justified.

2.2.8 Off-site Risk

Sometimes it is not possible to compensate adequately for loss of biodiversity within the site boundary, so off-site compensation is required. If the off-site compensation is a significant distance from the development site, then there will be a local loss of biodiversity and a multiplier is applied to any off-site compensation. The off-site risk multiplier can be avoided by using an approved off-site biodiversity units provider.

2.3 Biodiversity Baseline

The habitat survey data has been used to identify the eight different habitat types that the proposed OHL route and associated construction infrastructure pass through. The area used for the biodiversity calculations is based on the proposed OHL alignment and associated construction infrastructure (e.g. access tracks and construction compounds) along with a 250 m buffer area, which is based on the distance from the works where there is the potential for impacts on habitats. This area is defined in the NVC report (RSK, 2023). These habitats have been input into the SSE Biodiversity Metric V3 and indicate a total of 1,309.14 biodiversity area units. Screenshots of the results of the calculations are presented in Appendix A.

2.4 Change in Biodiversity Value During Construction

The proposed OHL development will result in negative change of – 33.58 biodiversity area units. The majority of these units will be lost through the felling of commercial forestry for the wayleave corridor. There will also be losses of areas of grassland, wetland and felled forestry habitat due to the construction of temporary access tracks and construction compounds.

2.5 Post-development Habitat Creation and Enhancement

SP Energy Networks, as a transmission licence holder for Central and Southern Scotland, formally obtain access rights to infrastructure and individual connections for operation and maintenance purposes but do not own or lease land in which OHLs or are placed. This therefore limits the implementation of compensatory planting near to a site where infrastructure is located and therefore it is likely that any compensatory planting will be located off-site.

The current use of the proposed OHL route area for livestock grazing and commercial forestry also limits the opportunities for habitat enhancement close to the site, as significant changes in the habitats may restrict these activities.

The access tracks and construction infrastructure that will result in the loss of 11.33 area units of grassland, wetland and felled forestry are expected to be removed following completion of the OHL. It is proposed that the areas of grassland and wetland will be reinstated and enhanced to moderate condition. With the assumption that it will not be possible to carry out compensatory planting on site, it is proposed that the areas of felled forestry lost will be offset by off-site habitat creation.

As well as the 0.58 biodiversity area units of felled forestry, there will be a loss of 22.56 biodiversity area units of conifer plantation. It is proposed that off-site habitat creation of 11 ha of native pine woodland and 1 ha of broadleaved woodland be carried out in order to offset these losses.

In addition, as the wayleave corridor must be kept free of trees throughout the lifespan of the proposed OHL, it is proposed that this area will be used for habitat creation of upland

acid grassland. This will result in the creation of 11.25 ha of moderate condition upland acid grassland habitat, which equates to a gain of +37.73 biodiversity area units.

The proposed enhancement, habitat creation and offset planting would result in an overall increase of 63.13 biodiversity area units and an 5% overall net gain in biodiversity.

3.0 CONCLUSIONS

This report provides the results of a BNG assessment of the proposed Troston OHL grid connection development.

The BNG assessment was carried out using the ecological conditions prior to development as the baseline, as assessed during habitat surveys carried out by RSK Biocensus in 2023. The SSE Biodiversity Metric V3 was used to carry out the BNG calculations.

Without habitat enhancement or creation measures, the proposed OHL development would result in negative change of – 33.58 biodiversity area units through the felling of commercial forestry for the wayleave corridor and losses of areas of grassland, wetland and felled forestry habitat due to the construction of temporary access tracks and construction compounds.

It is proposed that the areas of grassland and wetland lost during construction will be reinstated and enhanced to moderate condition. The areas of forestry felled for the wayleave corridor will also be used for the creation of moderate condition upland acid grassland.

With the assumption that it will not be possible to carry out compensatory tree planting on site, it is proposed that the areas of plantation and felled forestry lost will be offset by off-site habitat creation. It is proposed that off-site habitat creation of 11 ha of native pine woodland and 1 ha of broadleaved woodland be carried out in order to offset these losses.

With the proposed habitat enhancement and habitat creation measures there would be an overall increase of 63.13 biodiversity area units and a 5% net gain in biodiversity, in accordance with policy 3 of the NPF4.

Should it prove possible to carry out habitat creation in close proximity to the proposed OHL route, or should there be any changes to proposed habitat enhancement or creation measures, these will be run through the SSE Biodiversity Metric V3 again to ensure an overall net gain in biodiversity.

4.0 REFERENCES

Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020), *UK Habitat Classification – Habitat Definitions V1.1 at* http://ukhab.org.

Crosher, I., Gold, S, Heaver, M, Heydon, M., Moore, L., Panks, S., Scott, S., Stone, D. & White, N. (2019), *The Biodiversity Metric 2.0: auditing and accounting for biodiversity value. User guide (Beta Version, July 2019).* Natural England.

Crosher, I., Gold, S, Heaver, M, Heydon, M., Moore, L., Panks, S., Scott, S., Stone, D. & White, N. (2019a), *The Biodiversity Metric 2.0: Auditing and accounting for biodiversity value: technical supplement (Beta version, July 2019).* Natural England.

Crosher, I., Gold, S, Heaver, M, Heydon, M., Moore, L., Panks, S., Scott, S., Stone, D. & White, N. (2019b), *The Biodiversity Metric 2.0: Connectivity Tool Guidance (Beta version, December 2019)*. Natural England.

Panks, S., White, N., Newsome, A., Nash, M., Potter, J., Haydom, M., Mayhew, E., Alvarez, M., Russell, T., Cashon, C., Goddard, F., Scott, S J., Heaver, M., Scott, S H., Treweek, J., Butcher, B. & Stone, D. (2022), *The Biodiversity Metric 3.1: auditing and accounting for biodiversity value. User guide (April 2022).* Natural England.

Panks, S., White, N., Newsome, A., Nash, M., Potter, J., Haydom, M., Mayhew, E., Alvarez, M., Russell, T., Cashon, C., Goddard, F., Scott, S J., Heaver, M., Scott, S H., Treweek, J., Butcher, B. & Stone, D. (2022), *The Biodiversity Metric 3.1: auditing and accounting for biodiversity value. Technical Supplement (April 2022).* Natural England.

RSK Biocensus (2023) *Troston OHL NVC Report*.

SSE Renewables. (2022), *Biodiversity Net Gain: Toolkit User Guide. (November 2022)*. SSE Renewables.

APPENDIX A – METRIC TABLES – BASELINE

Before works (Baseline)										
Ref	Calculation Units (Area / Linear (H/W))	UK Habitats	Area or Length of Habitat (ha /km)	Distinctiveness Band	Condition Rating	Connectivity Rating	Strategic significance Rating	Units		
								Biodiversity (Area)	Linear (H)	Linear (W)
Project Total								**1309.14**	**0.00**	**0.00**
1	UKHab_Area	Woodland and forest - Felled	38.70	Low	Poor	Low	Low	77.40	-	-
2	UKHab_Area	Woodland and forest - Other coniferous woodland	93.38	Low	Poor	Low	Low	186.76	-	-
3	UKHab_Area	Woodland and forest - Other woodland; broadleaved	4.26	Medium	Poor	Low	High	19.60	-	-
4	UKHab_Area	Grassland - Upland acid grassland	44.71	High	Poor	Moderate	Medium	324.59	-	-
5	UKHab_Area	Wetland - Purple moor grass and rush pastures	67.51	High	Poor	Moderate	Medium	490.12	-	-
6	UKHab_Area	Grassland - Other neutral grassland	4.25	High	Poor	Moderate	Medium	30.86	-	-
7	UKHab_Area	Wetland - Blanket bog	18.93	High	Poor	Moderate	High	143.68	-	-
8	UKHab_Area	Wetland - Upland flushes, fens and swamps	4.76	High	Poor	Moderate	High	36.13	-	-

APPENDIX B – METRIC TABLES – POST-DEVELOPMENT

Action (During Works)								After work actions (Following Actions)										Post development			Net change		
Area or Length of Habitat		Biodiversity Units		Linear Units (H)		Linear Units (W)		After work action	UK Habitats	Area or Length of Habitat	Distinctiveness	Target Condition	Connectivity	Strategic significance	Difficulty	Time to target condition	Spatial	Post development units			Net change in units		
Retained	*Removed*	*Retained*	*Removed*	*Retained*	*Removed*	*Retained*	*Removed*			*(ha/km)*	*Band*	*Rating*	*Rating*	*Rating*		*(Years)*		Biodiversity (Area)	Linear (H)	Linear (W)	Biodiversity (Area)	Linear (H)	Linear (W)
263.45	**13.05**	**1275.25**	**33.88**	**0.00**	**0.00**	**0.00**	**0.00**	***Project Total***										**1372.27**	**0.00**	**0.00**	**63.13**	**0.00**	**0.00**
38.41	0.29	76.82	0.58	-	-	-	-	Creation	Woodland and forest - Other woodland; broadleaved	0.50	Medium	Good	Low	High	Low	30	[redacted]	79.18	-	-	1.79	-	-
82.10	11.28	164.20	22.56	-	-	-	-	Creation	Woodland and forest - Native pine woodlands	11.00	Medium	Good	Low	High	Low	30	[redacted]	216.27	-	-	29.51	-	-
4.26	0.00	13.60	0.00	-	-	-	-	Creation	Woodland and forest - Other woodland; broadleaved	0.50	Medium	Good	Low	High	Low	30	[redacted]	21.96	-	-	2.37	-	-
44.15	0.56	320.53	4.07	-	-	-	-	Enhancement	Grassland - Upland acid grassland	0.56	High	Moderate	Moderate	Medium	High	10	[redacted]	321.47	-	-	-3.13	-	-
66.59	0.32	483.44	6.68	-	-	-	-	Enhancement	Wetland - Purple moor grass and rush pastures	0.32	High	Moderate	Moderate	Medium	High	10	[redacted]	484.39	-	-	-5.14	-	-
4.25	0.00	30.86	0.00	-	-	-	-	Creation	Grassland - Upland acid grassland	11.25	High	Moderate	Moderate	Medium	High	10	[redacted]	68.58	-	-	37.73	-	-
18.93	0.00	143.68	0.00	-	-	-	-											143.68	-	-	0.00	-	-
4.76	0.00	36.13	0.00	-	-	-	-											36.13	-	-	0.00	-	-

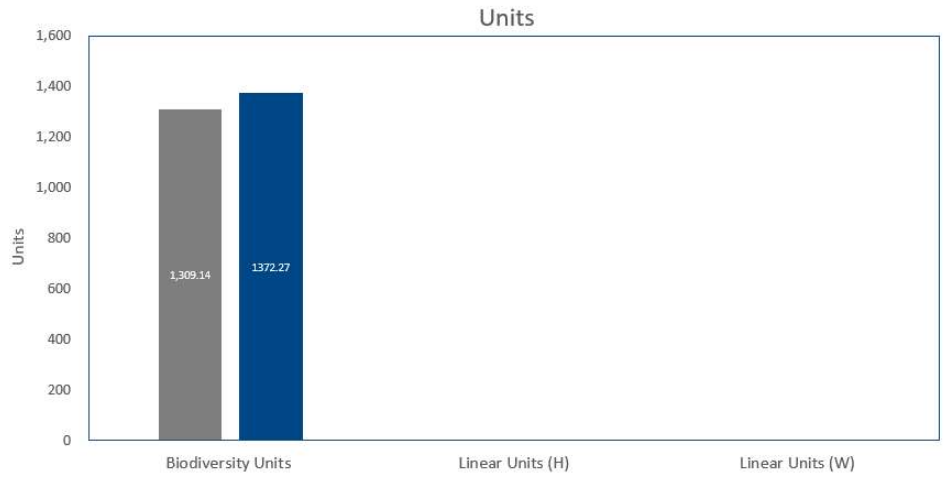
RSK biocensus
EXPERTS IN ECOLOGY

Biodiversity Project Toolkit

Scottish & Southern Electricity Networks

Summary outputs

Review the automatically updated biodiversity unit and linear habitat (hedgerow (H) and water courses (W)) results graphs to help the optioneering process and site selection.



% Change	
Biodiversity (Area)	5%
Linear Units (H)	-
Linear Units (W)	-

Before Works	Units
Biodiversity (Area)	1309.14
Linear Units (H)	0.00
Linear Units (W)	0.00

Post Development	Units
Biodiversity (Area)	1372.27
Linear Units (H)	0.00
Linear Units (W)	0.00

Net Change	Units
Biodiversity (Area)	63.13
Linear Units (H)	0.00
Linear Units (W)	0.00