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Biodiversity Net Gain Assessment

Yeorton Wind Ltd

23 January 2026



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1.0	23/01/2026	Draft for Client Review	JW	IM
1.1	22/03/2026	Inclusion of hedgerow planting	JW	DW
1.2	14/04/2026	Inclusion of monitoring schedule and condition assessment sheets	JW	DW



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1. Introduction

Locogen Consulting Ltd. was commissioned by Yeorton Wind Ltd. ('the Client') to produce an Biodiversity Net Gain Assessment (BNGA) to discharge pre-commencement Condition 4 (see below) for planning permission reference 4/24/2057/0F1 granted by Cumberland Council on 20 February 2025. Condition 4 of the permission states:

"The site shall provide for a minimum of 10% Biodiversity Net Gain, details of how this is to be achieved shall be submitted to and approved in writing by the Local Planning Authority before any development commences. The development shall be carried out in accordance with the approved scheme and maintained in perpetuity thereafter. "

Reason

"To ensure that a minimum of 10% Biodiversity Net Gain is achieved for the site in accordance with Policy N3 of the Copeland Local Plan 2021-2029."

This report has been prepared by Jake Walker BSc (Hons) Principal Ecological Consultant.

The objectives of this report are to:

- Establish baseline conditions on-site for area and linear habitats;
- Provide Statutory Biodiversity Metric baseline and proposed calculations;
- Provide a baseline and proposed habitat plans; and
- Provide an outline habitat creation and management scheme to be implemented.

1.1 Site overview

The site is a parcel of agricultural land directly adjacent to the Energy Coast Business Park, approximately 2km south of Egremont, Cumbria. The site location and area subject to this BNGA is shown below in Figure 1. The development will use existing access roads during construction, as such these are already developed and will have a negligible impact on BNG baseline or proposed score, therefore site access has been omitted from the BNGA.



Figure 1: Site area subject to BNGA.

1.2 The development

The development, is for the repowering of the existing turbine within the site, replacing the current 46.5m turbine to a 77m blade tip wind turbine. This will require the construction of a new pad and turbine foundation.

2. Biodiversity Net Gain Requirement

2.1 Legislative Background

The requirement for BNG is set out in the Environment Act 2021¹. The Act mandates that developments must result in a measurable biodiversity improvement, with a minimum of 10% net gain in biodiversity, to be achieved across the lifespan of the development.

Under the Environment Act 2021, the Statutory Biodiversity Metric is used to assess and quantify biodiversity losses and gains. The aim is to ensure that development projects contribute positively to the natural environment, enhancing habitats, and promoting ecological resilience. BNG must be achieved through the creation, restoration, or enhancement of habitats on site or via off-site measures, such as biodiversity credits, to offset any residual impacts.

¹ UK GOV (2021) *Environment Act 2021*. Available online: [Environment Act 2021](#)



2.2 Purpose of Biodiversity Net Gain

BNG is required to:

- Contribute to halting the decline of biodiversity in the UK.
- Provide long-term ecological benefits and resilience against climate change.
- Offset the negative impacts of development on ecosystems and wildlife.
- Comply with legal and planning policy requirements, aligning development projects with national and local environmental priorities.

This report aims to demonstrate how the development complies with the BNG requirements, using the Biodiversity Metric to quantify baseline and proposed habitats and showing how the project will achieve a net gain.

3. Methodology

3.1 Desktop study

DEFRA's interactive MAGIC map was used for a baseline assessment of available environmental information of over 300 datasets including Priority Habitats & Species inventories, Designations, Environmental & Historic Landscape Agreements, SSSI impact zones, and Wildlife Licenses.

3.2 Field survey, Mapping, and Metric Calculations

Baseline habitat surveys were undertaken in 2023 by Jake Walker who is a Principal Ecological Consultant for Locogen Consulting Ltd. He holds a Class Survey Licence WLM-A34 (Bat Survey Level 1) registration number 2021-51430-CLS-CLS; and a Level 1 Class Survey Great Crested Newt Licence 2022-10177-CL08-GCN. Jake is also a Level 4 FISC surveyor and has over five years' experience in professional ecological consultancy and has provided specialist advice on a range of projects, both within residential and industrial development. He has extensive experience in protected species surveys and has provided ECoW services for a variety of projects.

Baseline surveys were undertaken in October 2023 as part of the initial Preliminary Ecological Appraisal (PEA). Due to the modified habitats on-site and land management practices it is considered that this still provided an accurate representation of the habitat type and condition. An updated ecological walkover on 22 January 2026 confirmed this.

UK HAB's habitat survey of the site was conducted following standard published guidelines². This involved a walkover of the site, mapping all habitats present which fell into the appropriate Minimum Mapping Units (MMU). MMU's were decided upon pre-survey. Large scale MMU were adopted due to the size of the site. All habitats that met the following criteria were mapped. Area 400m², Linear feature 20m.

Spatially accurate digital baseline and proposed habitat maps were created using QGIS3. Adapted UK HAB symbology was used to show habitat types, and linear features within the site.

The Statutory Biodiversity Metric (the Metric)³, user guide⁴ and condition assessment sheets⁵ were used to determine baseline and proposed development biodiversity scores. UKHAB version 2.0 was used to determine habitats present.

² UKHab Ltd (2023). *UK Habitat Classification Version 2.0* (at <https://www.ukhab.org>)

³ DEFRA (2024) *The Statutory Biodiversity Metric*

⁴ DEFRA (2024) *The Statutory Biodiversity Metric User Guide*. Available online: https://assets.publishing.service.gov.uk/media/669e45fba3c2a28abb50d426/The_Statutory_Biodiversity_Metric_-_User_Guide__23.07.24_.pdf

⁵ DEFRA (2024) *The Statutory Biodiversity Metric – Technical Annex 1: Condition Assessment Sheets and Methodology*.



3.3 Limitations

There were no limitations or constraints regarding the BNGA.

4. Baseline habitat Assessment

4.1 Description of existing habitats and condition

The Site is predominantly comprised of species modified grassland, with a small parcel of other neutral grassland in the entrance of the field where agricultural improvement has not been as intensive – however, this is currently heavily poached and subject to regular disturbance. The small parcel of other neutral grassland is not a good representation of UK HAB classification, as such it does not achieve Criterion A and is poor condition.

The existing turbine has a small footprint, below the designated MMU. The existing crane pad is in-situ however, it has been colonised by grasses, this has resulted in an area that is grass dominant but some localised areas of bare ground. However, for the purpose of the PEA and BNGA the crane pad has been classed as modified grassland.

Modified grassland is the dominant habitat within the site. The grassland is indicative of grassland that has been subject to nutrient enrichment, it has thick sward which is generally homogenous in height and species poor; the grass is managed through sheep and cattle grazing. Grass species are restricted to a low number of fast-growing palatable grasses, with cocks' foot (*Dactylis glomerata*) and perennial ryegrass (*Lolium perenne*) dominant. Forb species are restricted to creeping buttercup (*Ranunculus repens*), creeping thistle (*Cirsium arvense*), mouse eared chickweed (*Cerastium fontanum*) and curled dock (*Rumex crispus*). The site is bounded by stock fencing along the east, south and west boundaries. The grassland does not support 6-8 species per m² as such it is classed as poor condition in the metric.

A native hedgerow bounds the western boundary of the site. However, it is generally species-poor with hawthorn (*Crataegus monogyna*) the dominant species. The hedgerow is lined with stock fencing along both aspects which has enabled dense bracken (*Pteridium aquilinum*) to dominate the understory. The hedgerow does not appear to be regularly managed and is beginning to develop into a line of trees, particularly towards the southern boundary of the site. The hedgerow achieved a good condition within the metric.

Tables 1 and 2 provide a detailed overview of the baseline area habitats, conditions and biodiversity score.



Table 1: Baseline area habitat calculations

Existing area habitats					Distinctiveness	Condition	Strategic significance	Required Action to Meet Trading Rules	Ecological baseline
Ref	Broad Habitat	Habitat Type	Irreplaceable habitat	Area (hectares)	Distinctiveness	Condition	Strategic significance		Total habitat units
1	Grassland	Modified grassland	No	2.462	Low	Poor	Area/compensation not in local strategy/ no local strategy	Same distinctiveness or better habitat required \geq	4.92
2	Grassland	Other neutral grassland	No	0.008	Medium	Poor	Area/compensation not in local strategy/ no local strategy	Same broad habitat or a higher distinctiveness habitat required (\geq)	0.03
		Total habitat area		2.47					4.96
		Site Area (Excluding area of individual trees, green walls, intertidal hard structures)		2.47					



Table 2: Baseline hedgerow calculations.

Ref	Existing hedgerow habitats			Distinctiveness	Condition	Strategic significance	Required Action to Meet Trading Rules	Ecological baseline
	Hedge number	Habitat type	Length (km)	Distinctiveness	Condition	Strategic significance		Total hedgerow units
1	H1	Native hedgerow	0.202	Low	Good	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	1.21
			0.20					1.21



5. Proposed development and habitat strategy

Due to the scale and type of development, much of the existing habitat will be retained, and overall habitat loss will be minimal. As discussed, no new access roads will be required to facilitate construction, the only source of habitat loss will be installation of a new crane pad, and turbine foundation. The crane pad will result in the loss of 0.105-ha of modified grassland from the site. The remainder of the grassland will be retained, and whilst there is potential that this may be disturbed during construction (vehicle movements, storage etc.) the wider grassland will be restored post-construction and continue agricultural use. The existing grassland is of poor condition, this grassland has a time to target condition of one year, as such following guidance it can be classed as retained within the metric as restoration will achieve baseline condition within two years post construction.

There will be no loss of hedgerow from the proposed development, and the parcel of other neutral grassland will be subject to similar levels of disturbance, as such it has been classed as retained.

To enable the development to achieve a 10% net gain from baseline condition, it is proposed that 0.16-ha of moderate condition other neutral grassland will be created within the site. This is proposed to be sited along the western boundary adjacent to the existing hedgerow. This area will be fenced off from the wider site to preclude intensive grazing and seeded with a suitable meadow mix such as EM1 Basic General-Purpose Meadow Mixture.

To ensure that the Development achieves a 10% net gain in area and linear habitats, 40m (0.04km) of native species hedgerow will be planted within the Site. It is proposed that this is planted alongside the proposed other neutral grassland. The hedgerow will consist of native species, with hawthorn the dominant shrub type. Potential species composition is shown below in Table 3.

Table 3: Hedgerow species composition.

Species	Density (%)	Form
Hawthorn (<i>Crataegus monogyna</i>)	70	Bare root transplant
Blackthorn (<i>Prunus spinosa</i>)	20	Bare root transplant
Hazel (<i>Corylus avellana</i>)	5	Bare root transplant
Elder (<i>Sambucus nigra</i>)	5	Bare root transplant



Tables 4 below show the proposed habitat creation for development.

Table 4: Proposed area habitat creation.

Broad Habitat	Proposed habitat	Area (hectares)	Distinctiveness	Condition	Final time to target condition (years)	Difficulty multipliers Final difficulty of creation	Habitat units delivered
Urban	Developed land; sealed surface	0.105	V. Low	N/A - Other	0	Low	0.00
Grassland	Other neutral grassland	0.16	Medium	Moderate	5	Low	1.07

Table 5: Proposed linear feature creation.

Proposed habitat	Length (km)	Distinctiveness	Condition	Final time to target condition (years)	Difficulty multipliers Final difficulty of creation	Habitat units delivered
Native hedgerow	0.04km	Low	Moderate	5	Low	0.13



6. Biodiversity Net Gain Calculation

The results of the biodiversity net gain calculation show that if the proposed habitat strategies detailed above are implemented and achieved, the proposed development will have a +10.92% gain in area units, and a +11.05% in linear units. Overall, there will be an increase in 0.54 area habitats units comparative to the baseline calculation. Figure 2 below details the headline results.

FINAL RESULTS		
Total net unit change <small>(Including all on-site & off-site habitat retention, creation & enhancement)</small>	<i>Area habitat units</i>	0.54
	<i>Hedgerow units</i>	0.13
	<i>Watercourse units</i>	0.00
Total net % change <small>(Including all on-site & off-site habitat retention, creation & enhancement)</small>	<i>Area habitat units</i>	10.92%
	<i>Hedgerow units</i>	11.05%
	<i>Watercourse units</i>	0.00%
Trading rules satisfied?	Yes ✓	

Figure 2: Headline results.



7. Habitat creation and management plan

7.1 Other neutral grassland creation

Creation of the area of other neutral grassland should be undertaken in line with the following measures.

- To create areas of bare ground and a suitable seedbed, the existing grassland should be cut to a low height of (2.5-5cm) to reduce competition. The sward should then be scarified using either a power harrow or chain harrow aiming to create 30% to 50% bare ground.
- The seed mix will be directly sown using a surface broadcaster. Seed should be sown at the supplier recommended rate for the proposed seed mix.
- The area should be rolled immediately after to improve seed/soil contact.
- Sowing of the seed will take place within the first planting season post construction. Sowing should normally be undertaken between March-April or September-November. Sowing or ground preparation should not be undertaken in wet/waterlogged conditions or during periods of frost.

7.2 Other neutral grassland establishment and management

Management of the grassland will be undertaken through mechanical means and following standard meadow management techniques. It is anticipated that the landowner will take on management responsibilities. The following measures should be adopted.

Establishment

Initially, in the first year following sowing, checks should be made to assess and control annual weeds. These will be managed by topping and mowing prior to setting seed which will encourage lateral development of the grasses, or by carefully targeted applications of a suitable selective non-residual herbicide by way of spot spraying with a knapsack or weed wiping. Any topping of weeds (i.e. creeping thistle, curled dock) undertaken between April and August should be no lower than 200mm to prevent harm to any ground nesting birds.

Management

Following establishment, two cuts will be taken per year: an early cut in February, if necessary, to manage regrowth and a second later in the season between August and September (each cut reducing sward height to approximately 150mm). Cutting will not take place throughout the summer to allow the seeds of the later flowering species to fall prior to the cut.

The management will take a flexible approach, and the exact dates will be dependent upon weather conditions.

Cuttings will remain on-site for three to five days following the cut to allow seeds to disperse and then be removed from the Site in order to remove nutrients and promote the development of a species-rich sward. It is **essential** that cuttings are removed from the Site to prevent increased nutrient input and vigorous grass growth.

7.3 Native hedgerow

Planting specification

- Hedgerows will be planted between November-March when plants are dormant. Planting between November and before the end of January is preferred as this will enable newly planted whips to establish a network of feeder roots prior to spring. Planting will be undertaken under frost-free conditions and during a relatively dry period to avoid waterlogged soil.
- A 600 mm wide trench will be excavated, and topsoil cultivated to 450 mm depth prior to planting. The existing soil should be improved by digging in well rotten Farmyard Manure or other soil improver added.



- Alternatively, plants could be slot-planted; if slot planting existing vegetation should be removed prior to planting either through cultivation, herbicide use, or turf stripping.
- Bare rooted whips 60-90cm in length will be used, these will be sourced from a local provider.
- Hedgerows will be planted in double staggered rows, with at least 40cm between each row. Whips will be planted in densities of 6 per metre, with species grouped in groups of five.
- The bases of a new hedge whips will be protected from grazing via the installation of tree guards. Where possible biodegradable tree guards will be used. Non-biodegradable guards will be removed once the shrubs have sufficiently established.
- Whips will be supported with canes.
- A layer of mulch will be spread at the base of the new planted hedgerows. This will reduce weed competition and help retain moisture during establishment. The mulch layer will be applied immediately after planting. The use of herbicides in weed control should be avoided were possible.
- Immediately following planting, hedgerows should be trimmed to encourage bushy growth.

Establishment

Following planting, the hedgerow should enter into a five year after programme to ensure successful establishment. This is outlined below in Table 6.

Table 6: Five-year aftercare programme.

Operation	Target	Frequency per annum	Season	Y1	Y2	Y3	Y4	Y5	Y6 onwards
Hedgerows			-						
Check of stock for failure/damage		1	September	✓	✓	✓	✓	✓	
Replacement of dead stock	December immediately following inspection of stock	1	December	✓	✓	✓	✓	✓	
Maintain mulch layer (75mm)	Maintain mulch zone to suppress weed growth and reduce competition	Biennially	-		✓		✓		
The planted hedgerows should be inspected during periods of warm weather and drought. If it is considered that the ground conditions are too dry, the planted shrubs and trees should be watered on a regular basis until weather conditions are considered suitable for watering to cease	As necessary	Throughout growing season	March - August	✓	✓	✓	✓	✓	
Removal of guards	As necessary	1	-	✓	✓	✓	✓	✓	
Reduce hedgerow height by a third immediately post planting		1	-	✓					
Light pruning to encourage bushy growth and achieve required hedge height and form; removing half of the previous year's growth.	To achieve the required height and form	1	Jan-Feb: late winter cuts allowing for seed to be available throughout winter		✓				



Shape the plants by trimming both lateral and lead branches reducing the seasons growth by 50%. Newly planted hedgerows should be trimmed using hand-held machinery (not flail cutters) for the first three years until established.	To achieve required height and form	1	Jan-Feb: late winter cuts allowing for seed to be available throughout winter			✓	✓	✓	
Hedgerows to enter into the wider hedgerow management schedule. Cut on a 2-3 year rotational basis, maintained at a height of 3m.		1	Jan-Feb: late winter cuts allowing for seed to be available throughout winter						✓

Management

Following establishment, the hedgerow should enter into the same management routine as the current hedgerow within the Site, this is expected to consist of the following:

- Hedgerows will be cut on a two-year rotational basis (due to dominant hawthorn)
- Hedgerows will be cut between late September and February January – February. Hedgerows should be cut on different sides each year. This will provide a varied structure for the benefit of wildlife and to allow plants to flower and set seed/fruit.
- Hedgerows will be allowed to grow to minimum 3m in height and be managed to this height throughout the operational period.

8. Monitoring strategy and schedule

To ensure successful implementation of the proposed habitats and therefore, achieving the target biodiversity uplifts of 10.9% uplift in area habitat units and 11.05% hedgerow units a monitoring schedule will be followed and implemented for a 30-year period. Table 7 below details the proposed monitoring strategy and schedule.



Table 7: Proposed monitoring strategy and schedule.

Monitoring strategy		
Habitat	Strategy	
Native hedgerow	Five-year after care programme following by timed monitoring visits.	
Other neutral grassland	Grassland condition assessments of the proposed areas of other neutral grassland. The baseline should be from the 2023 ecological assessment. The photo below is indicative of the sward predevelopment and should be used as a reference during the monitoring period.	
Monitoring Methods		
Habitats	Methods	Frequency
Other neutral grassland	<p>Establishment monitoring: Should focus on:</p> <ul style="list-style-type: none"> - Amount of bare ground - Species densities for species indicative of other neutral grassland - Densities of undesirable species present (species listed in Footnote 2 of the Statutory Metric Technical Appendix - condition assessment sheets). - Consider the needs for re-seeding / supplementary seeding or weed control. - In Year 5, grassland should meet Criteria A of the condition sheet (Appendix C) and meet three of the four criteria for other neutral grassland in UK Habi V2 Methodology (Appendix B). <p>Long term Monitoring: Monitoring should consider the following:</p> <ul style="list-style-type: none"> - Walkover of the grassland collecting a full species list and comparing against target species (see below) and UK HAB criteria. - Use of fixed 1x1m quadrats - providing species list within the quadrat and relative abundance (DOMIN scale). 	<p>Establishment programme: Years 1 – 5</p> <p>Long term monitoring: five-yearly following establishment.</p> <ul style="list-style-type: none"> - Year 10 - Year 15 - Year 20 - Year 25 - Year 30



- Provide a species list of species present indicative of other neutral grassland (see below)
- Estimate cover of bare ground, bramble and bracken
- Notes on sward condition principally focused on height.
- Combined cover of undesirable species.
- Aiming to achieve a minimum of 3/6 criteria including essential Criteria A.

Grasses	Herbs
Common Bent — <i>Agrostis capillaris</i>	Yarrow — <i>Achillea millefolium</i>
False Oat-grass — <i>Arrhenatherum elatius</i>	Ribwort Plantain — <i>Plantago lanceolata</i>
Yorkshire-fog — <i>Holcus lanatus</i>	Creeping Thistle — <i>Cirsium arvense</i>
Perennial Rye-grass — <i>Lolium perenne</i>	White Clover — <i>Trifolium repens</i>
Crested Dog's-tail — <i>Cynosurus cristatus</i>	Red Clover — <i>Trifolium pratense</i>
Rough Meadow-grass — <i>Poa trivialis</i>	Meadow Buttercup — <i>Ranunculus acris</i>
Cock's-foot — <i>Dactylis glomerata</i>	Creeping Buttercup — <i>Ranunculus repens</i>
Velvet Bent — <i>Agrostis canina</i>	Common Nettle — <i>Urtica dioica</i>
Creeping Bent — <i>Agrostis stolonifera</i>	Hogweed — <i>Heracleum sphondylium</i>
Marsh Foxtail — <i>Alopecurus geniculatus</i>	Daisy — <i>Bellis perennis</i>
	Silverweed — <i>Potentilla anserina</i>
	Wild Angelica — <i>Angelica sylvestris</i>
	Fleabane — <i>Pulicaria dysenterica</i>



<p>Native hedgerow</p>	<p>Establishment monitoring</p> <p>See Table 6 above.</p> <p>Long term monitoring</p> <p>Once established monitoring should focus on the condition of the hedgerows, identifying where these are either being under or overmanaged and determine the status of the hedgerow in accordance with Statutory Biodiversity Metric condition assessment sheet. Monitoring should be undertaken in 30m sections identified as per guidance⁶. Surveys should be undertaken on the newly planted hedgerow and include the following information:</p> <ul style="list-style-type: none"> - The date and monitoring year. - The grid reference of the mid-point of the whole hedgerow or survey section using either letter codes for the 100km square, i.e. SE, or the grid numbers. - The hedgerow reference number and suffix if necessary. - The name of the surveyor(s). - The side surveyed (N, E, W, S or both sides). - Hedgerow length. - Hedgerow dimensions (average height and width). - Hedgerow composition - Adjacent land use (i.e. adjacent land use) - Sub-optimal species - Hedge base gap - Notes on damage 	<p>Tree establishment programme: Years 1 – 5</p> <p>Long term monitoring: five-yearly following establishment.</p> <ul style="list-style-type: none"> - Year 10 - Year 15 - Year 20 - Year 25 - Year 30
<p>Reporting and adaptive management</p>		

⁶ Defra (2007) Hedgerow Survey Handbook. A standard procedure for local surveys in the UK. Defra, London.



Reporting requirements

Establishment:

Technical note on establishment of hedgerow and other neutral grassland will be produced and submitted to the LPA in years 1 and 3.

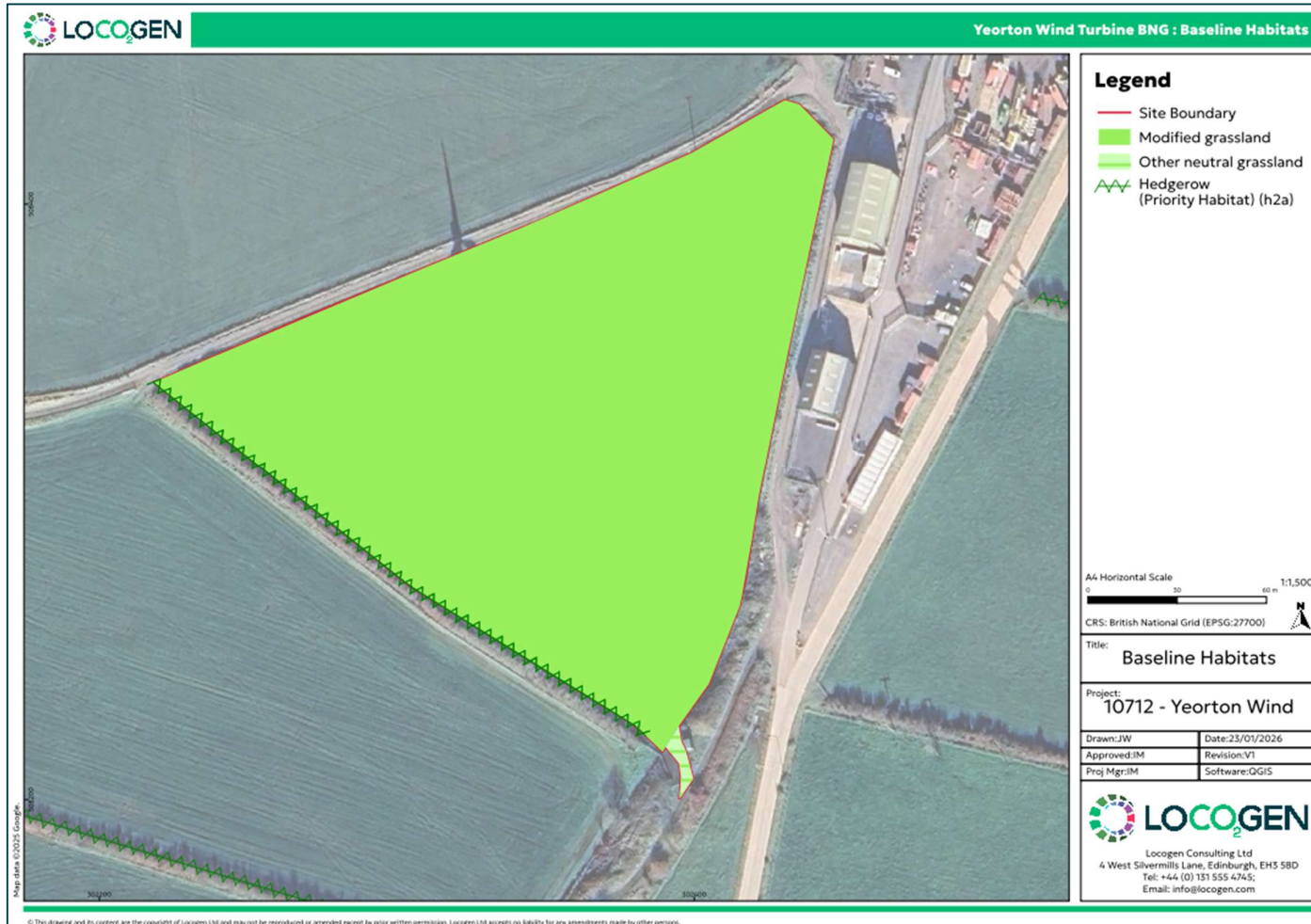
Long term:

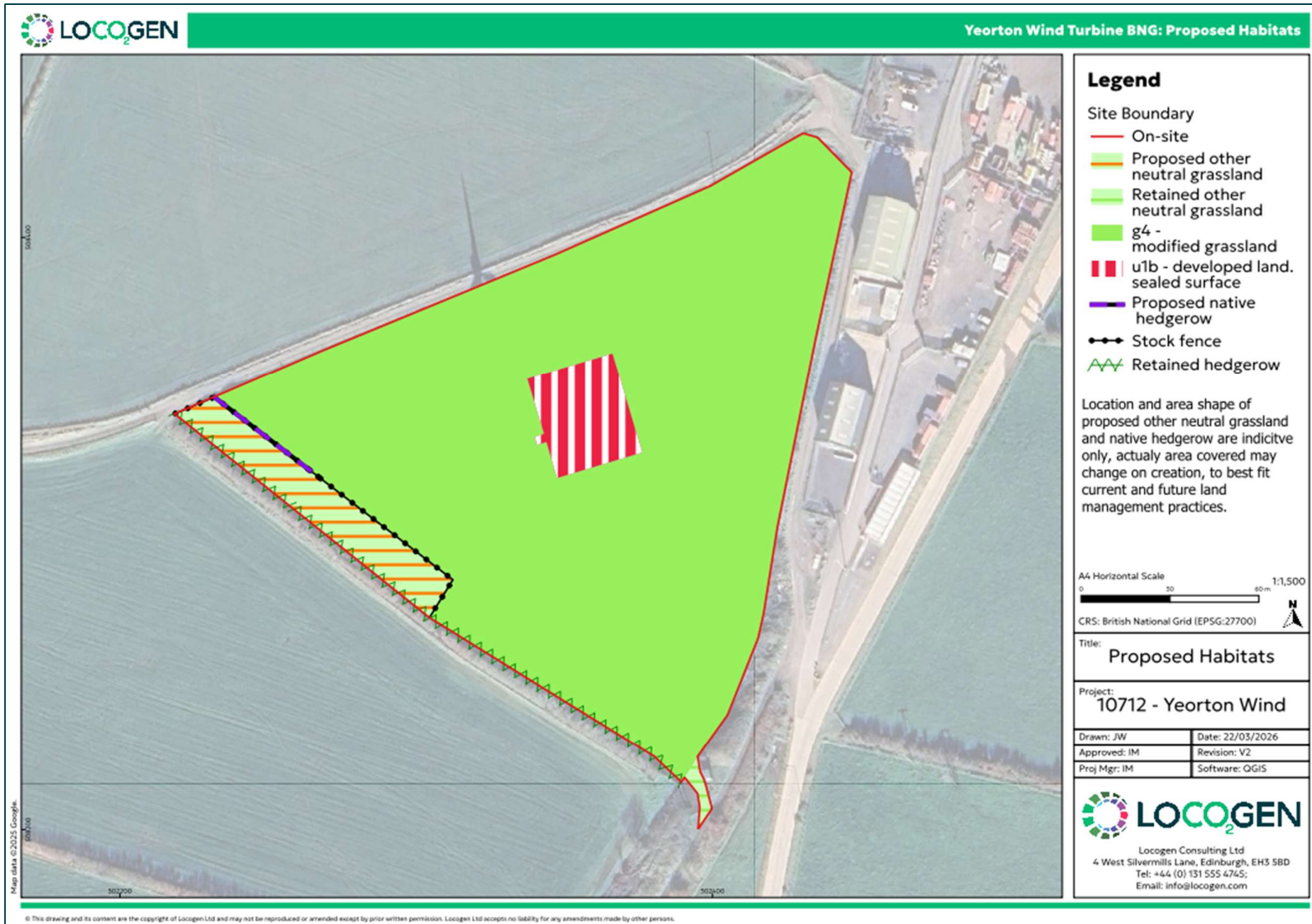
Completed condition assessments for other neutral grassland and native hedgerow will be produced and submitted to the LPA in Years 5, 10, 15, 20, 25 and 30.

Alongside the condition assessment a short technical note will produced, this will provide further detail on the habitats present, and if required will detail required adaptive management to meet the proposed condition for each habitat type.



APPENDIX A: BASELINE AND PROPOSED HABITATS







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 UKHab description - the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type. Indicator species listed by UKHab 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>		
B	<p>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.</p>		
C	<p>Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens¹.</p>		



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%.		
E	<p>Combined cover of species indicative of sub-optimal condition² 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 species³ (as listed on Schedule 9 of WCA⁴) are present, this criterion is automatically failed.</p>		
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>		
Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)			



Number of criteria passed			
Condition Assessment Result	Condition Assessment Score	Score Achieved x/√	
Acid Grassland Types (Result out of 5 criteria)			
Passes 5 criteria	Good (3)		
Passes 3 or 4 criteria	Moderate (2)		
Passes 2 or fewer criteria	Poor (1)		
Non-acid grassland Types (Result out of 6 criteria)			
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			
Notes			



Footnote 1 – For example, this could include small, scattered areas of bare ground allowing for plant colonisation, or localised patches not exceeding 5% cover.

Footnote 2 - Species indicative of sub-optimal condition for this habitat type include: creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, curled dock *Rumex crispus*, broad-leaved dock *Rumex obtusifolius*, common nettle *Urtica dioica*, creeping buttercup *Ranunculus repens*, greater plantain *Plantago major*, white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris*. There may be additional relevant species local to the region and or site.

Footnote 3 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, by applying professional judgement.

Footnote 4 – Wildlife and Countryside Act 1981 (as amended).

Native hedgerow Condition assessment sheet

See the Statutory Biodiversity Metric User Guide Section 9.

Each attribute is assigned to one of five functional groups (A – E) and the condition of a hedgerow is assessed according to the number of attributes from these functional groups which pass or fail the ‘favourable condition’ criteria.

Site name and location		On-site or off-site	
------------------------	--	---------------------	--



Limitations (if applicable)			Survey reference (if relating to a wider survey)		
Grid reference			Habitat parcel reference		
Condition Assessment Criteria					
<p>A series of ten attributes, representing key physical characteristics are used for this assessment. This assessment is based on the Hedgerow Survey Handbook¹ and Favourable Conservation Status document². For further clarification please refer to the Hedgerow Survey Handbook. Each attribute is assigned to one of five functional groups (A – E) and the condition of a hedgerow is assessed according to the number of attributes from these functional groups which pass or fail the ‘favourable condition’ criteria.</p>					
Hedgerow favourable condition attributes					
Attributes and functional groupings (A, B, C, D and E)		Criteria - the minimum requirements for ‘favourable condition’	Description	Criterion passed (Yes or No)	Notes (such as justification)
Core groups - applicable to all hedgerow types					
A1.	Height	>1.5 m average along length	<p>The average height of woody growth estimated from base of stem to the top of the shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees.</p> <p>Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).</p> <p>A newly planted hedgerow does not pass this criterion (unless it is >1.5 m height).</p>		



A2.	Width	>1.5 m average along length	<p>The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees.</p> <p>Outgrowths (such as blackthorn <i>Prunus spinosa</i> suckers) are only included in the width estimate when they are >0.5 m in height.</p> <p>Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).</p>		
B1.	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length	<p>This is the vertical 'gappiness' of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth.</p> <p>Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook).</p>		
B2.	Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5 m	<p>This is the horizontal 'gappiness' of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small).</p> <p>Access points and gates contribute to the overall 'gappiness' but are not subject to the >5 m criterion (as this is the typical size of a gate).</p>		



C1.	Undisturbed ground and perennial vegetation	<p>>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length:</p> <ul style="list-style-type: none"> · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least). 	<p>This is the level of disturbance (excluding wildlife disturbance) at the base of the hedgerow.</p> <p>Undisturbed ground is present for at least 90% of the hedgerow length, greater than 1 m in width and must be present along at least one side of the hedgerow.</p> <p>This criterion recognises the value of the hedgerow base as a boundary habitat with the capacity to support a wide range of species. Cultivation, heavily trodden footpaths, poached ground etc. can limit available habitat niches.</p>		
C2.	Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	The indicator species used are nettles <i>Urtica</i> spp., cleavers <i>Galium aparine</i> and docks <i>Rumex</i> spp. Their presence, either singly or together, does not exceed the 20% cover threshold.		
D1	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA ³) and recently introduced species.	Recently introduced species refer to plants that have naturalised in the UK since AD 1500 (neophytes). Archaeophytes count as natives. For information on archaeophytes and neophytes see the JNCC website ⁴ , as well as the BSBI website ⁵ where the 'Online Atlas of the British and Irish Flora' ⁶ contains an up-to-date list of the status of species. For information on invasive non-native species see the GB Non-Native Secretariat website ⁷ .		
D2	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	<p>This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes.</p> <p>This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (e.g., excessive hedgerow cutting).</p>		



Additional group - applicable to hedgerows with trees only					
E1.	Tree class	There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient ⁸), and there is on average at least one mature, ancient or veteran tree present per 20 - 50m of hedgerow.	This criterion addresses if there are a range of age-classes or morphologies which allow for replacement of trees and provide opportunities for different species.		
E2.	Tree health	At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). 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.	This criterion identifies if the trees are subject to damage which compromises the survival and health of the individual specimens.		

The hedgerow condition assessment generates a weighting (score) ranging from 1 - 3, which is used within the metric. The scores for each are set out in the tables below.

Condition categories for hedgerows without trees		
Category	Category Requirements	Metric Score
Good	No more than 2 failures in total; AND No more than 1 failure in any functional group.	3
Moderate	No more than 4 failures in total; AND <u>Does not fail both attributes</u> in more than one functional group (e.g. fails attributes A1, A2, B1 and C2 = Moderate condition).	2



Poor	Fails a total of more than 4 attributes; OR Fails <u>both attributes</u> in more than one functional group (e.g. fails attributes A1, A2, B1 and B2 = Poor condition).	1	
Score achieved:			
Condition categories for hedgerows with trees			
Category	Category Requirements	Metric score	
Good	No more than 2 failures in total; AND No more than 1 failure in any functional group.	3	
Moderate	No more than 5 failures in total; AND <u>Does not fail both attributes</u> in more than one functional group (e.g., fails attributes A1, A2, B1, C2 and E1 = Moderate condition).	2	
Poor	Fails a total of more than 5 attributes; OR Fails <u>both attributes</u> in more than one functional group (e.g. fails attributes A1, A2, B1 and B2 = Poor condition).	1	
Score achieved:			
Suggested enhancement interventions to improve condition score			



Footnotes

Footnote 1 – DEFRA (2007) *Hedgerow Survey Handbook. A standard procedure for local surveys in the UK.* [online] Available on: [layout \(hedgelink.org.uk\)](http://hedgelink.org.uk) -

Footnote 2 – STALEY, J.T. ET AL. (2020) *Definition of Favourable Conservation Status for Hedgerows.* [online] Available on: [Definition of Favourable Conservation Status for Hedgerows - RP2943 \(naturalengland.org.uk\)](http://naturalengland.org.uk) -

Footnote 3 – Wildlife and Countryside Act 1981 (as amended).

Footnote 4 – CHEFFINGS, C. M. et al. (2005) *The Vascular Plant Red Data List for Great Britain.* Species Status 7: 1-116. [online] Available on: [The Vascular Plant Red Data List for Great Britain \(Species Status No. 7\) | JNCC Resource Hub](http://jncc.gov.uk) -

Footnote 5 – BOTANICAL SOCIETY OF BRITAIN AND IRELAND (BSBI). *Definitions: wild, native or alien?* [online] Available on: [Definitions: wild, native or alien? – Botanical Society of Britain & Ireland \(bsbi.org\)](http://bsbi.org) -

Footnote 6 – BSBI and Biological Records Centre (BRC) (2022) *Online Atlas of the British and Irish Flora.* [online] Available on: [Acknowledgements | Online Atlas of the British and Irish Flora \(brc.ac.uk\)](http://brc.ac.uk) -

Footnote 7 – GB NON-NATIVE SPECIES SECRETARIAT (GBNNS) (2022) Available on: [Home » NNS \(nonnativespecies.org\)](http://nonnativespecies.org) -

Footnote 8 – See gov.uk standing advice on ancient and veteran trees. Available from:

[Keepers of time: ancient and native woodland and trees policy in England \(publishing.service.gov.uk\)](http://publishing.service.gov.uk) -

and

[Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK \(www.gov.uk\)](http://www.gov.uk) -



APPENDIX C: UK HAB OTHER NEUTRAL GRASSLAND DESCRIPTION

Code and Name

g3c Other neutral grassland

Category Type

Primary Level 4

Spatial Feature Type

Area

Definition

A neutral grassland that does not meet the definition of either g3a or g3b AND that meets at least three of these four criteria:

1. >20% cover of broadleaved herbs and sedges;
2. >8 species per m² (including forbs, grasses, sedges and rushes, and excluding bryophytes);
3. ≥1 grass species that is not generally sown for intensive agricultural production (ie. Rye-grasses *Lolium spp.*, Timothy *Phleum pratense*, Cock's-foot *Dactylis glomerata*, Meadow fescue *Festuca pratensis*) is at least abundant;
4. Cover of Rye-grasses *Lolium spp.* and White Clover *Trifolium repens*, where present, is <30%.

Separately from the criteria above, a neutral grassland that meets the criteria for waxcap grassland (see 130).

Landscape and ecological context

This is a widespread and commonly encountered grassland of the lowlands that occurs on farmland and in built-up areas. Low input pastures, many verges of roads, paths, tracks, rivers and railways, and the edges of fields are likely to be this grassland. Land that is not farmed but is cut or mown annually often becomes this habitat.

Inclusions

Many of the more species-rich swards that in previous classifications were included within 'semi-improved neutral grassland'. Species-rich swards

can be characterised using 18 – Species-rich grassland).

Unmanaged swards on neutral soils, where species richness may be lower.

Surveyors may wish to add detail to this category. (e.g. 60 – long-continuity habitat, 519 – 'abandoned', 521 – 'unmanaged', 501 – 'mesic', 502 – 'seasonally wet', 503 – 'wet', 128 – 'sward type mosaic', 129 – 'tall or tussocky sward').

Exclusions

Species-poor swards that in previous classifications were included within 'semi-improved neutral grassland' (see g4).

Grasslands <2 years old on land formerly cropped (see c~).

Species

Grasses may include Common Bent *Agrostis capillaris*, False Oat-grass *Arrhenatherum elatius*, Yorkshire-fog *Holcus lanatus*, Perennial Rye-grass *Lolium perenne*, Common Bent *Agrostis capillaris*, Crested Dog's-tail *Cynosurus cristatus*, Rough Meadow-grass *Poa trivialis* and Cock's-foot *Dactylis glomerata*. On wetter sites, Velvet Bent *Agrostis canina*, Creeping Bent *Agrostis stolonifera* and Marsh Foxtail *Alopecurus geniculatus* may be frequent, and rushes such as Soft Rush *Juncus effusus* and Hard Rush *Juncus inflexus* are likely to be present.

Herbs commonly found include Yarrow *Achillea millefolium*, Ribwort Plantain *Plantago lanceolata*, Creeping Thistle *Cirsium arvense*, White Clover *Trifolium repens*, Red Clover *Trifolium pratense*, Meadow Buttercup *Ranunculus acris*, Creeping Buttercup *Ranunculus repens*, Common Nettle *Urtica dioica*, Hogweed *Heracleum sphondylium* and Daisy *Bellis perennis*. On wetter sites, herbs commonly found including Silverweed *Potentilla anserina*, Wild Angelica *Angelica sylvestris* and Fleabane *Pulicaria dysenterica*.

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