

Biodiversity Net Gain Assessment

Bar Lane to Lee Lane Dismantled Railway & Smithies Lane Access

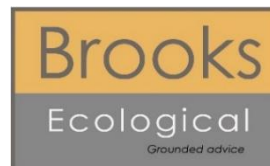
Barnsley Metropolitan Borough Council

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Report Title:	Biodiversity Net Gain Assessment Bar Lane to Lee Lane Dismantled Railway & Smithies Lane Access
Report Reference:	ER-5922-02
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Introduction

1. Brooks Ecological was commissioned by Barnsley Metropolitan Borough Council to complete a Biodiversity Net Gain (BNG) Assessment of the proposed development Site at the Bar Lane to Lee Lane dismantled railway and Smithies Lane access point. The assessment applies to the parcel of land shown in Figures 1 and 2 opposite, which is being submitted as a reserved matters application for a new cycle route and footpath.
2. The assessment is informed by a Preliminary Ecological Appraisal carried out by Brooks Ecological in January 2022. To conform with DEFRA's Biodiversity Metric 3.0, habitats have been mapped in accordance with the UK Habitats Classification.
3. Biodiversity Accounting metrics are used to quantify the value of a Site in Biodiversity Units - which helps in assessing the ecological impacts of the proposed development on the Site.
4. Biodiversity Units can help to inform avoidance, or on-site mitigation levels required; or as a last resort can translate to a direct monetary value where compensation (off-site) is required.

Figure 1 Extent of BNG Assessment (red-line) – new access point



Figure 2 Extent of BNG Assessment (red-line) – disused railway section



Pre-development Baseline

Habitats identified

5. The Site supports the following habitats:
 - g4 – Modified grassland
 - g3c – Other neutral grassland
 - u1c – Artificial unvegetated, unsealed surface
 - u1b – Developed land; sealed surface
 - w1g – Other woodland; broadleaved
 - h3h – Mixed scrub
 - h3d – Bramble scrub
 - h3a – Blackthorn scrub
 - h3f – Hawthorn scrub
6. Each habitat is mapped in the figures opposite and overleaf.

Condition Assessment

7. The condition assessment for each habitat is based on the available criteria set out in the DEFRA (2021) Biodiversity Metric 3.0 Technical Supplement.

Habitat Score

8. The Site has been assessed as having a baseline score of 28.21 Habitat Units.

Figure 3 Habitat map – pre-development – Smithies Lane access point.



Figure 4 Habitat map – pre-development – Bar Lane to Lee Lane disused railway.



DEFRA Metric¹ (Baseline)

9. This metric sets out the baseline for the Site. Proposals should seek to achieve at least a 'no net loss' situation through **Avoiding** areas of higher value, **Mitigating** any loss on-site through retention and enhancement, or habitat creation. The Local Planning Authority may require you to **Compensate** any residual loss elsewhere - either through direct works or an off-setting contribution.

A-1 Site Habitat Baseline													
Condense / Show Columns				Condense / Show Rows				Main Menu				Instructions	
Ref	Habitats and areas			Distinctiveness		Condition		Strategic significance			Suggested action to address habitat losses	Ecological baseline	
	Broad habitat	Habitat type	Area (hectares)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic Significance multiplier		Total habitat units	
1	Grassland	Modified grassland	0.1299	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required	0.26	
2	Grassland	Other neutral grassland	0.0461	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required	0.37	
3	Grassland	Other neutral grassland	0.1203	Medium	4	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required	0.48	
4	Heathland and shrub	Blackthorn scrub	0.0201	Medium	4	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required	0.08	
5	Heathland and shrub	Bramble scrub	0.147	Medium	4	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required	0.59	
6	Heathland and shrub	Hawthorn scrub	0.006	Medium	4	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required	0.02	
7	Heathland and shrub	Mixed scrub	0.0771	Medium	4	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required	0.31	
8	Urban	Artificial unvegetated, unsealed surface	0.0346	V.Low	0	N/A - Other	0	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Compensation Not Required	0.00	
9	Urban	Developed land; sealed surface	0.0197	V.Low	0	N/A - Other	0	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Compensation Not Required	0.00	
10	Woodland and forest	Other woodland; broadleaved	3.2128	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required	25.70	
11	Woodland and forest	Other woodland; broadleaved	0.0991	Medium	4	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required	0.40	
			3.91										28.21

¹ Our report provides an estimate of the sites value in Biodiversity Units. This is based on thorough assessment at the time of survey and using the information available at this time. In this assessment we have used the latest version of DEFRA's Biodiversity Metric Tool, the UK Habitats Classification and relevant guidance. This assessment requires subjective judgments to be made in terms of habitat type and condition and could be open to other interpretations. Reliance on the Unit Score, or conversion of this into a monetary value, would be at the developer's own risk. Where conversion to monetary value is required, it is always advisable to get calculations checked independently.

Post-development Baseline

Proposed Habitats

10. Habitats present on-site post-development have been based on the General Arrangement Plans for the scheme, as well as Working Area maps, which provide detail on whether habitat will be permanently lost through the creation of the cycle path or cleared to allow for plant access.
11. Habitats assigned are shown in Figures 5 and 6 overleaf.

Condition Assessment

12. The condition assessment for each proposed habitat is based on what is realistic and achievable for the Site, based on the Landscape Masterplan.

Habitat Score

13. The Site has been assessed as having a post development score of 21.82 Habitat Units (see tables overleaf).

Post-development Habitats

Habitat Score

14. The Site has been assessed as having a post development score of 21.82 Habitat Units.
15. The footprint of the proposed cycle route has been mapped as developed land; sealed surface.
16. For areas around the cycle route at the Smithies Lane access point within the working area, it has been assumed that the land will be cleared to allow access for construction, creating bare ground.
17. A drainage swale along the disused railway has been classified as a sustainable urban drainage feature. This habitat is only expected to hold water in extreme circumstances.
18. Areas around the cycle route that will not be impacted have been mapped as retaining their current condition.

Figure 5 Post Development Habitats as Mapped



Figure 6 Post Development Habitats as Mapped



DEFRA Metric² (Post-development)

19. This metric sets out the predicted baseline for the Site following the completion of development. This is based on the Site Layout and Landscape Masterplan – provided by the client.

Bar Lane to Lee Lane Dismantled Railway & Smithies Lane Access

A-1 Site Habitat Baseline

Condense / Show Columns

Condense / Show Rows

Main Menu

Instructions

Habitats and areas												Distinctiveness		Condition		Strategic significance			Suggested action to address habitat losses	Ecological baseline
Ref	Broad habitat	Habitat type	Area (hectares)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic Significance multiplier	Total habitat units									
1	Grassland	Modified grassland	0.1299	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required	0.26								
2	Grassland	Other neutral grassland	0.0461	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required	0.37								
3	Grassland	Other neutral grassland	0.1205	Medium	4	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required	0.48								
4	Heathland and shrub	Blackthorn scrub	0.0201	Medium	4	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required	0.08								
5	Heathland and shrub	Bramble scrub	0.147	Medium	4	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required	0.59								
			3.91									28.21								

Retention category biodiversity value						
Area retained	Area enhanced	Baseline units retained	Baseline units enhanced	Area lost	Units lost	
0.0211	0	0.04	0.00	0.11	0.22	
0.0306	0	0.24	0.00	0.02	0.12	
0.0754	0	0.30	0.00	0.05	0.18	
0.0201	0	0.08	0.00	0.00	0.00	
0.1068	0	0.43	0.00	0.04	0.16	
2.90	0.00	21.70	0.00	1.01	6.51	

² Our report provides an estimate of the sites value in Biodiversity Units. This is based on thorough assessment at the time of survey and using the information available at this time. In this assessment we have used the latest version of DEFRA's Biodiversity Metric Tool, the UK Habitats Classification and relevant guidance. This assessment requires subjective judgments to be made in terms of habitat type and condition and could be open to other interpretations. Reliance on the Unit Score, or conversion of this into a monetary value, would be at the developer's own risk. Where conversion to monetary value is required, it is always advisable to get calculations checked independently.

Bar Lane to Lee Lane Dismantled Railway & Smithies Lane Access A-2 Site Habitat Creation											
Condense / Show Columns				Condense / Show Rows							
Main Menu				Instructions							
Post development/ post intervention habitats											
Broad Habitat	Proposed habitat	Area (hectares)	Distinctiveness	Condition	Strategic significance	Temporal multiplier	Difficulty		Habitat units delivered	Comments	
			Distinctiveness	Condition	Strategic significance	Standard or adjusted time to target condition	Final time to target condition/years	Final difficulty of creation		Assessor comments	Reviewer comments
Grassland	Other neutral grassland	0.0018	Medium	Poor	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	2	Low	0.01		
Urban	Artificial unvegetated, unsealed surface	0.0304	V.Low	N/A - Other	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	0	Low	0.00		
Urban	Artificial unvegetated, unsealed surface	0.129	V.Low	N/A - Other	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	0	Low	0.00		
Urban	Developed land, sealed surface	0.7611	V.Low	N/A - Other	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	0	Medium	0.00		
Urban	Sustainable urban drainage feature	0.0863	Low	Poor	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	1	Medium	0.11		
Total area		1.01							0.12		

Net Gain Assessment

20. This exercise identifies an overall Net Loss of 6.39 Habitat Units (-22.66%).
21. Calculations for the change in Habitat Units has been based on the proposed cycle route being cleared of vegetation and replaced with a tarmac (or similar) surface.
22. No habitat units are gained through the development of the Site, though some areas will be retained in their current condition on either side of the cycle route.
23. Some on-site habitats could be improved, leading to a gain in Biodiversity Units for these locations. Areas of bramble scrub could be thinned to create a more diverse mix of scrub species and areas of grassland that are currently species poor could be sown with a native seed mix
24. The client has been provided with a copy of the Biodiversity Metric 3.0 Calculation Tool excel spreadsheet. This can be made available for review if required.

Bar Lane to Lee Lane Dismantled Railway & Headline Results		Return to results menu
On-site baseline	Habitat units	28.21
	Hedgerow units	0.00
	River units	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	21.82
	Hedgerow units	0.00
	River units	0.00
On-site net % change (Including habitat retention, creation & enhancement)	Habitat units	-22.66%
	Hedgerow units	0.00%
	River units	0.00%
Off-site baseline	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	-6.39
	Hedgerow units	0.00
	River units	0.00
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	-22.66%
	Hedgerow units	0.00%
	River units	0.00%
Trading rules Satisfied?	No - Check Trading Summary	

References

DEFRA (2021) Biodiversity Metric 3.0 Auditing and accounting for biodiversity Calculation tool

DEFRA (2021) Biodiversity Metric 3.0 Technical Supplement

DEFRA (2021) Biodiversity Metric 3.0 User Guide