



**Biodiversity Net Gain Assessment
Horn Crag Quarry, Silsden**

AD Calvert Architectural Stone Supplies

Report Reference: ER-5064-08E

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Written by: Olivia Benson BSc (Hons)
Assistant Ecologist

Technical Review: Peter Brooks BSc (Hons), MA, MCIEEM, CEnv
Managing Director

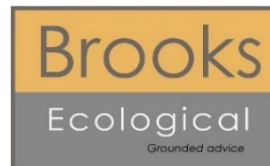
QA: Micah Duckworth BA MSc MCIEEM CSJK
Biodiversity Manager

Approved for Issue: Peter Brooks BSc (Hons), MA, MCIEEM, CEnv
Managing Director

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Update	Date	Author	TR	QA	Summary of changes
ER-5064-08B	14/11/2022	JAR	PJB	CH	Updated to DEFRA Metric 3.1; included discussion of 'snapshot' method
ER-5064-08C	16/11/2022	JAR	PJB	JSB	Additional 'snapshot' added at 42 years
ER-5064-08D	28/11/2022	JAR	N/A	CH	Update in response to new client comments
ER-5064-08E	30/11/2022	JAR	N/A	CH	Amended wording in para. 35

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Unit A, 1 Station Road, Guiseley,
Leeds, LS20 8BX
01943 884451
admin@brooks-ecological.co.uk
www.brooks-ecological.co.uk
Registered in England Number 5351418



Summary

This report explores two approaches to net gain: the 'standard' approach, where habitats pre- and post-development are compared directly; and the 'snapshot' approach, which assesses habitats at multiple time points as they approach their final condition.

The restoration plan presented has been drawn up in consultation with ecologists and represents a well-considered and readily implementable plan that should, in the long term, provide meaningful gains across a variety of habitats.

The standard approach indicates a net loss in biodiversity on-site. The snapshot approach, however, indicates that a net gain in biodiversity is achievable on-site, taking into account the phased approach and long timescale typical of a minerals project.

Introduction

1. Brooks Ecological was commissioned by AD Calvert Architectural Stone Supplies to complete a Biodiversity Net Gain (BNG) Assessment of the proposed development Site at Horn Crag Quarry, Silsden.
2. To inform the assessment, a Preliminary Ecological Appraisal was carried out in March 2021. So as to conform with DEFRA's Biodiversity Metric 2.0, habitats have been mapped in accordance with the UK Habitat Classification descriptions.
3. This assessment has since been updated to DEFRA's Biodiversity Metric 3.1, with the aid of a detailed vegetation survey conducted in summer 2022 (Brooks Ecological; ER-5064-09).
4. 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.
5. 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.
6. This report makes use of two approaches to Net Gain: the 'standard' approach in which post-development habitats are assessed once, at the close of development; and the 'snapshot' approach, which assesses habitats at multiple time points as they develop throughout the quarrying and restoration programme. Both make use of the same baseline assessment.
7. The snapshot approach is considered to be more appropriate for minerals projects, as it accounts for the long timescales, phased extraction and restoration plans, and extended aftercare period typical of such projects.
8. This view is based on information available in DEFRA's *Technical consultation on the biodiversity metric* (August 2022), outlining plans to "allow for multiple stages of metric submissions for minerals developments" in an upcoming release of the Metric.

Figure 1 Extent of BNG Assessment.



Pre-development Baseline

Habitats identified

9. The Site supports the following habitats:
 - g1b – Upland acid grassland
 - 11 – Scattered trees
 - 129 – Flush
 - 133 – Nutrient-enriched substrate
 - 1010 – Agricultural land
 - g1c – Bracken
 - h1b – Upland heathland
 - h3e – Gorse scrub
10. Each habitat is mapped in Figure 2 opposite.

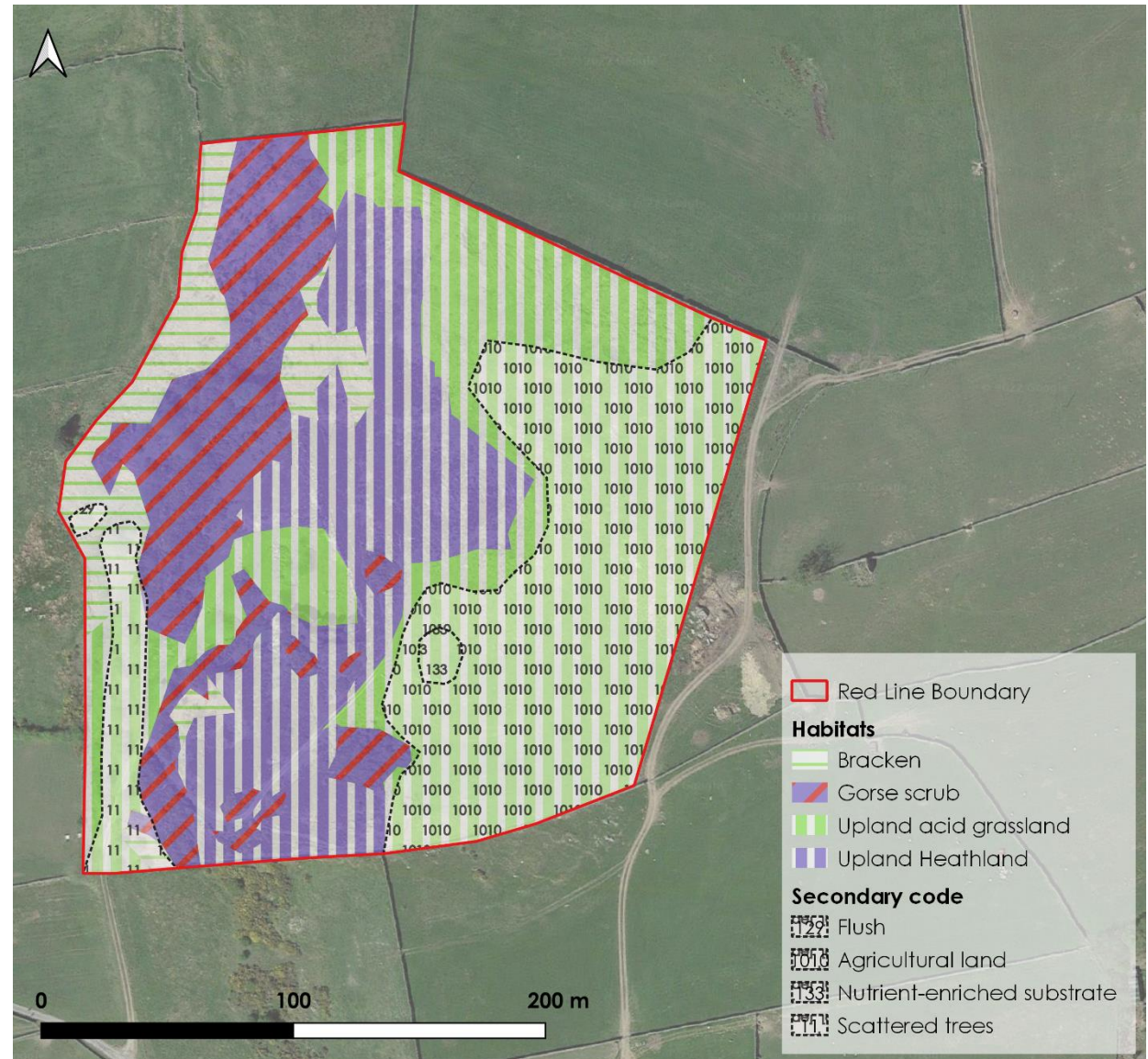
Condition Assessment

11. The condition assessment for each habitat is based on the available criteria set out in the Biodiversity Metric 3.1 Technical Supplement.
12. Condition assessments for baseline habitats are presented in Appendix I.

Habitat Score

13. The Site has been assessed as having a baseline score of 38.96 Habitat Units (see tables overleaf).

Figure 2 Habitat map – pre-development.



DEFRA Metric¹ (Baseline)

14. 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					
Habitats and areas				Distinctiveness	Condition	Strategic significance	Suggested action to address habitat losses	Ecological baseline
Ref	Broad Habitat	Habitat Type	Area (hectares)	Distinctiveness	Condition	Strategic significance		Total habitat units
1	Grassland	Bracken	0.5045	Low	Condition Assessment N/A	Formally identified in local strategy	Same distinctiveness or better habitat required ≥	1.16
2	Grassland	Upland acid grassland	3.018	Medium	Poor	Formally identified in local strategy	Same broad habitat or a higher distinctiveness habitat required	13.88
3	Heathland and shrub	Gorse scrub	1.0968	Medium	Poor	Formally identified in local strategy	Same broad habitat or a higher distinctiveness habitat required	5.05
4	Heathland and shrub	Upland Heathland	1.3675	High	Moderate	Formally identified in local strategy	Same habitat required =	18.87
5								
			Total habitat area	5.99				38.96

¹ Our report provides an estimate of the Site's 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 habitats

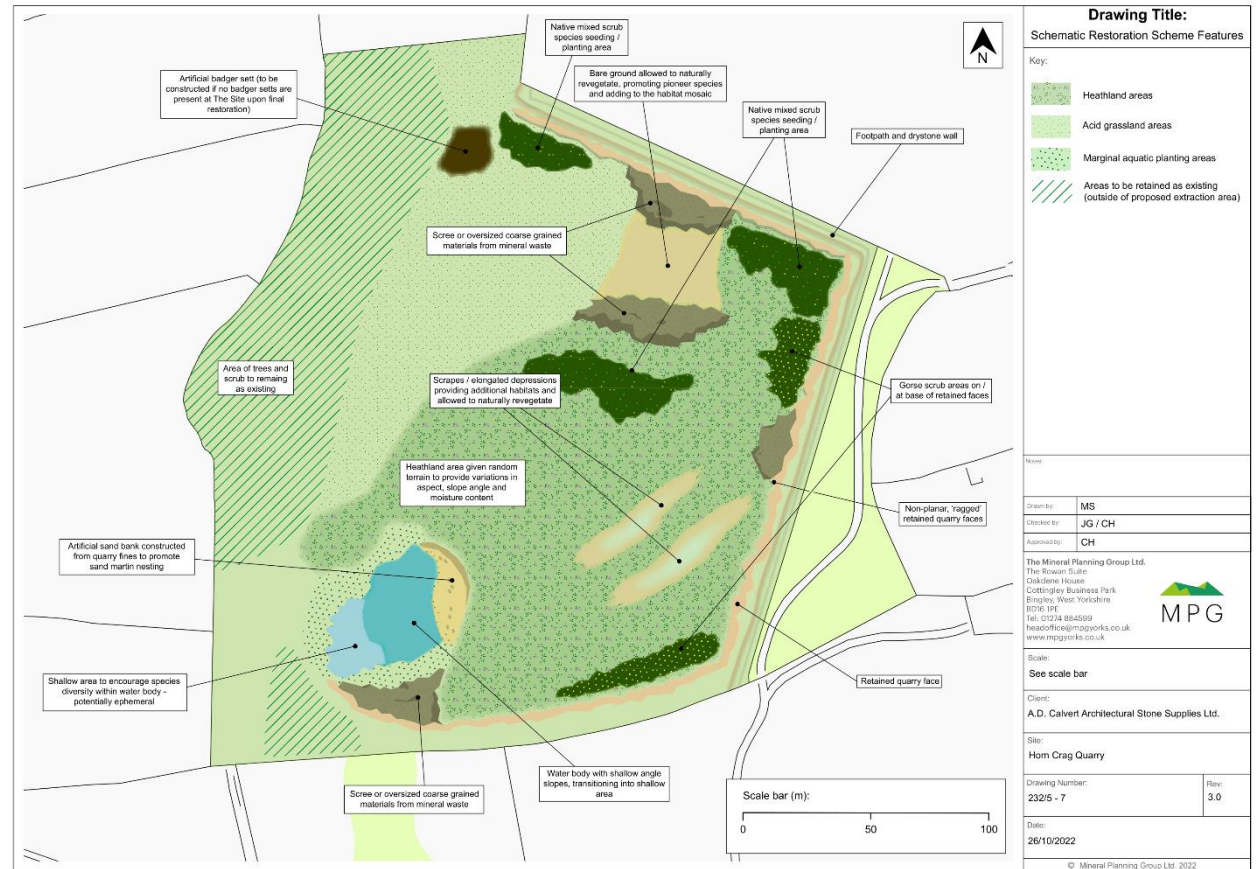
Proposed Habitats

15. Habitats present on-Site post-development have been based on the Schematic Restoration Scheme Features (Figure 3, opposite), dwg. 232/5 - 7 rev. 1.2, produced by The Mineral Planning Group Ltd. (October 2021). This plan represents the Site at the end of the aftercare period, after quarrying has ceased and the habitat restoration scheme has been implemented.
16. Planting types and restoration features specified in the scheme have been assigned a UK Habitat Classification description that best fits the target habitat.
17. Area measurements for each of the habitat types have been estimated through the use of GIS software.

Condition Assessment

18. The condition assessment for each proposed habitat is based on what is realistic and achievable for the Site, based on the management of the Site through a Biodiversity Management Plan (BMP).

Figure 3 Quarry Restoration Scheme Layout.

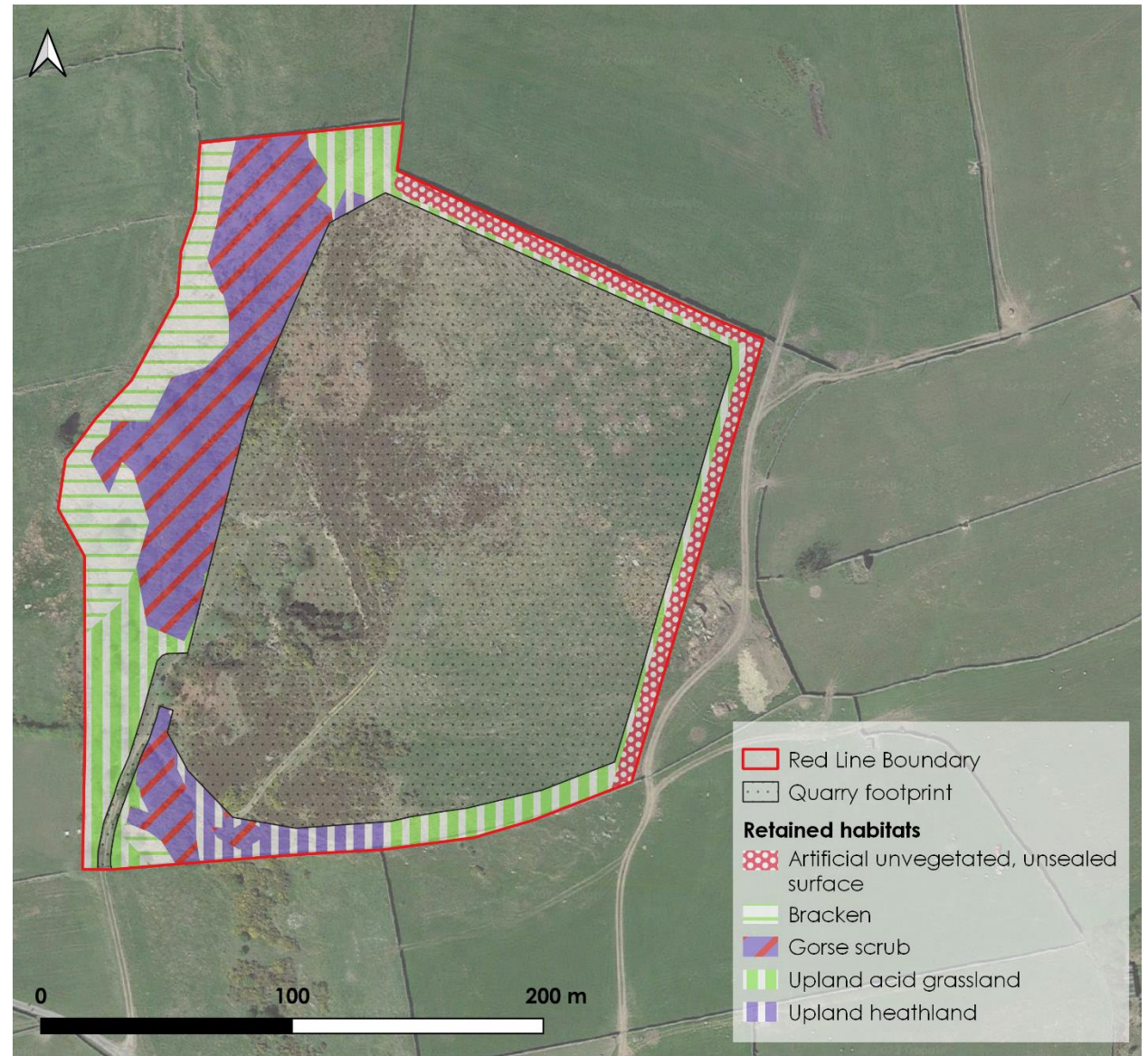


Standard approach

Retained Habitats

19. The Site has been assessed as having a post development score of 27.92 Habitat Units, 8.37 of which are retained from baseline habitats through the Site's development.
20. This score is based on the habitats outlined opposite being retained and suitably protected through the course of the Site works/development and restoration.
21. Land to the west of the Site will be retained as is. Land around the Site's peripheries will be retained to be used as a footpath.

Figure 4 Post-development retained habitats.

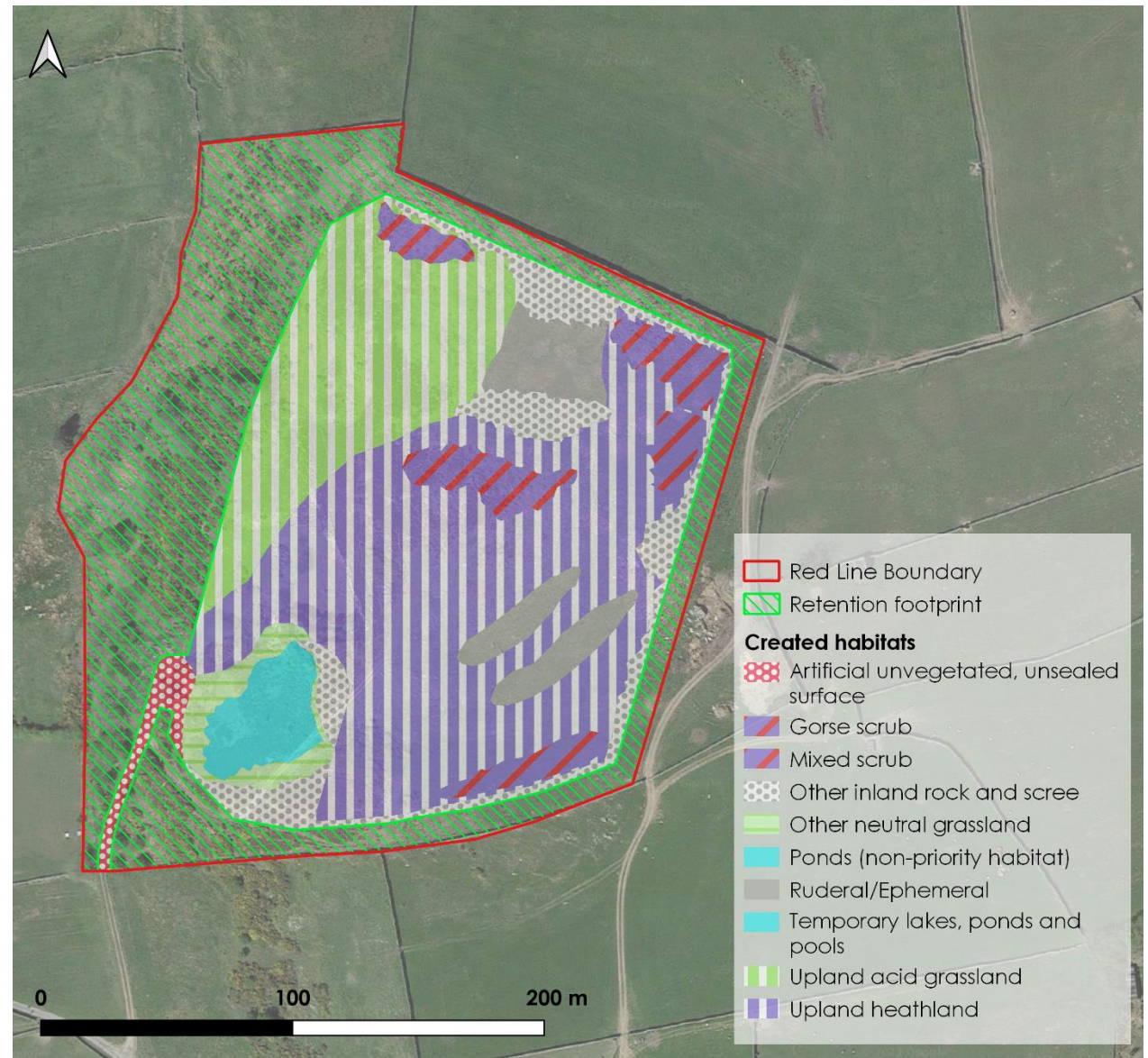


Standard approach

Created Habitats

- 22. The Site has been assessed as having a post development score of 27.92 Habitat Units – 19.55 of which are created through the Site's development.
- 23. This score is based on our interpretation of the Schematic Restoration Scheme as shown opposite.
- 24. Each habitat has been mapped out within GIS Software and an estimated area taken.
- 25. Land within the core of the Site will go through a series of phased quarry expansions, moving from the southwest to northeast of the Site over a period of ca. 20 years.
- 26. As new quarry sections are opened, existing ones will be retired and rehabilitated with a variety of upland habitats, including wet grassland, upland acid grassland, gorse scrub, mixed scrub, upland heathland, permanent and temporary ponds, inland rock and scree, and ruderal/ephemeral plant communities.

Figure 5 Post-development created habitats.



Standard approach – DEFRA Metric² (Post-development)

27. This metric sets out the predicted baseline for the Site following the completion of development. This is based on the landscape plans provided by the client.

Retained Habitat

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	Area retained
Ref	Broad Habitat	Habitat Type	Area (hectares)	Distinctiveness	Condition	Strategic significance		Total habitat units	
1	Grassland	Bracken	0.5045	Low	Condition Assessment N/A	Formally identified in local strategy	Same distinctiveness or better habitat required ≥	1.16	0.3702
2	Grassland	Upland acid grassland	3.018	Medium	Poor	Formally identified in local strategy	Same broad habitat or a higher distinctiveness habitat required	13.88	0.5139
3	Heathland and shrub	Gorse scrub	1.0968	Medium	Poor	Formally identified in local strategy	Same broad habitat or a higher distinctiveness habitat required	5.05	0.7894
4	Heathland and shrub	Upland Heathland	1.3675	High	Moderate	Formally identified in local strategy	Same habitat required =	18.87	0.1102
5	Total habitat area		5.99					38.96	1.78

² Our report provides an estimate of the Site's 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 associated 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.

Created Habitat

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	
			Distinctiveness	Condition	Strategic significance	Standard or adjusted time to target condition	Final time to target condition/years	Final difficulty of creation		
Grassland	Other neutral grassland	0.118	Medium	Moderate	Formally identified in local strategy	Standard time to target condition applied	5	Low	0.91	
Grassland	Upland acid grassland	0.0569	Medium	Poor	Formally identified in local strategy	Standard time to target condition applied	1	Low	0.25	
Grassland	Upland acid grassland	0.7911	Medium	Poor	Formally identified in local strategy	Standard time to target condition applied	1	Low	3.51	
Heathland and shrub	Corse scrub	0.0015	Medium	Moderate	Formally identified in local strategy	Standard time to target condition applied	5	Low	0.01	
Heathland and shrub	Corse scrub	0.0674	Medium	Moderate	Formally identified in local strategy	Standard time to target condition applied	5	Low	0.52	
Heathland and shrub	Corse scrub	0.0531	Medium	Moderate	Formally identified in local strategy	Standard time to target condition applied	5	Low	0.41	
Heathland and shrub	Mixed scrub	0.1048	Medium	Moderate	Formally identified in local strategy	Standard time to target condition applied	5	Low	0.81	
Heathland and shrub	Mixed scrub	0.1353	Medium	Moderate	Formally identified in local strategy	Standard time to target condition applied	5	Low	1.04	
Heathland and shrub	Upland Heathland	0.59	High	Moderate	Formally identified in local strategy	Standard time to target condition applied	20	Medium	2.68	

Cont. overleaf

Broad Habitat	Proposed habitat	Area (hectares)	Distinctiveness	Condition	Strategic significance	Temporal multiplier		Difficulty	Habitat units delivered
			Distinctiveness	Condition	Strategic significance	Standard or adjusted time to target condition	Final time to target condition/years	Final difficulty of creation	
Heathland and shrub	Upland Heathland	0.59	High	Moderate	Formally identified in local strategy	Standard time to target condition applied	20	Medium	2.68
Heathland and shrub	Upland Heathland	0.6881	High	Moderate	Formally identified in local strategy	Standard time to target condition applied	20	Medium	3.12
Heathland and shrub	Upland Heathland	0.4565	High	Moderate	Formally identified in local strategy	Standard time to target condition applied	20	Medium	2.07
Lakes	Ponds (Non-Priority Habitat)	0.1106	Medium	Moderate	Formally identified in local strategy	Standard time to target condition applied	3	Low	0.91
Lakes	Temporary lakes, ponds and pools	0.0502	High	Moderate	Formally identified in local strategy	Standard time to target condition applied	3	Medium	0.42
Sparsely vegetated land	Other inland rock and scree	0.0439	Medium	Moderate	Formally identified in local strategy	Standard time to target condition applied	10	Medium	0.19
Sparsely vegetated land	Other inland rock and scree	0.0676	Medium	Moderate	Formally identified in local strategy	Standard time to target condition applied	10	Medium	0.29
Sparsely vegetated land	Other inland rock and scree	0.2718	Medium	Moderate	Formally identified in local strategy	Standard time to target condition applied	10	Medium	1.17
Sparsely vegetated land	Other inland rock and scree	0.039	Medium	Poor	Formally identified in local strategy	Standard time to target condition applied	5	Medium	0.10
Sparsely vegetated land	Ruderal/Ephemeral	0.1185	Low	Moderate	Formally identified in local strategy	Standard time to target condition applied	3	Low	0.49
Sparsely vegetated land	Ruderal/Ephemeral	0.1336	Low	Moderate	Formally identified in local strategy	Standard time to target condition applied	3	Low	0.55
Urban	Artificial unvegetated, unsealed surface	0.2068	V.Low	N/A - Other	Formally identified in local strategy	Standard time to target condition applied	0	Low	0.00
Urban	Artificial unvegetated, unsealed surface	0.0755	V.Low	N/A - Other	Formally identified in local strategy	Standard time to target condition applied	0	Low	0.00
Total habitat area		4.20							19.55
Site Area (Excluding area of Urban trees and Green walls)		4.20							

Standard approach – Net Gain Assessment

28. The standard approach to net gain here identifies an overall Net Loss of 11.04 Habitat Units (-28.35%).³
29. Calculations for the change in Habitat Units have been based on the development footprint (3.996ha) being cleared of existing vegetation to facilitate quarry works, which results in the loss of 30.59 Habitat Units.
30. Post-development calculations include the creation of a mosaic of upland habitats including acid grassland, heathland, gorse and mixed scrub, ponds, scrapes, scree, and faunal features such as a sand martin nesting bank.

5064 - Horn Crag Quarry - Baseline		Return to results menu	
Headline Results			
On-site baseline	Habitat units	38.96	
	Hedgerow units	0.00	
	River units	0.00	
On-site post-intervention <small>(including habitat retention, creation & enhancement)</small>	Habitat units	27.92	
	Hedgerow units	0.00	
	River units	0.00	
On-site net % change <small>(including habitat retention, creation & enhancement)</small>	Habitat units	-28.35%	
	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 <small>(including habitat retention, creation & enhancement)</small>	Habitat units	0.00	
	Hedgerow units	0.00	
	River units	0.00	
Total net unit change <small>(including all on-site & off-site habitat retention, creation & enhancement)</small>	Habitat units	-11.04	
	Hedgerow units	0.00	
	River units	0.00	
Total on-site net % change plus off-site surplus <small>(including all on-site & off-site habitat retention, creation & enhancement)</small>	Habitat units	-28.35%	
	Hedgerow units	0.00%	
	River units	0.00%	

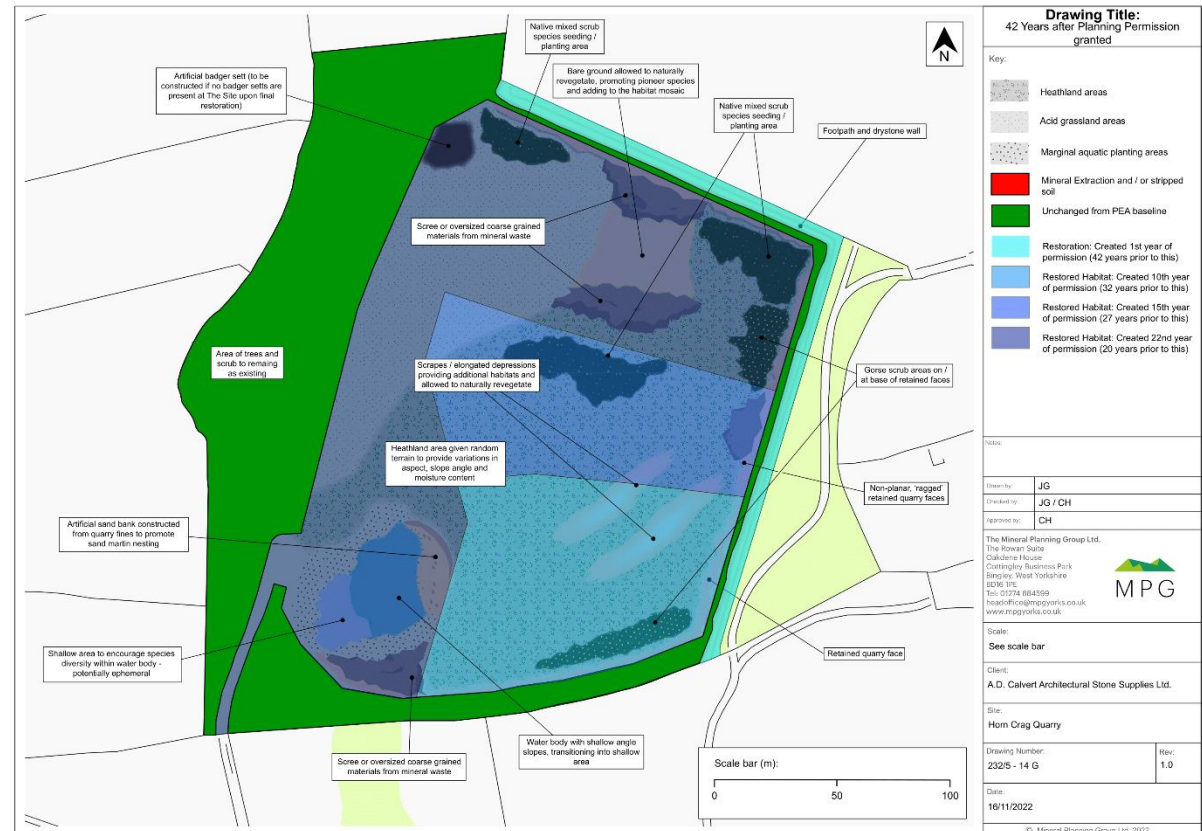
³ A copy of the Biodiversity Metric 3.1 Calculation Tool Excel spreadsheet is issued with this report.

Snapshot approach

Method

31. Following methodology used by BSG Ecology on other mineral extraction sites, the Metric was completed at multiple time points through to final restoration, each representing a 'snapshot' in time.
32. The pre-commencement baseline was used for each calculation, with the 'habitat created in advance' function used to 'age' habitats as time progressed through the series of snapshots.
33. For instance, habitat created in Year 0 would be created 5 years in advance in the Year 5 calculations, and 10 years in advance in the Year 10 calculations.
34. This approach allows for the consideration of temporary habitats, as are generated through the phased expansion and closure of the quarry, and shows how Habitat Units are accumulated throughout the restoration scheme.
35. To inform this approach, seven landscape plans were used (dwg.s 232/5 – 14 A to – 14 G), representing 5, 10, 15, 20, 22, 27, and 42 years after the recommencement of quarrying on-Site (Figure 6, opposite, as an example).

Figure 6 Quarry Restoration Scheme, Year 42.



Year 5

36. Within 5 years of planning permission being granted, proposals are to open a large section of the centre of the Site for quarrying. Significant areas of heathland, scrub, and acid grassland will be lost and replaced with actively-worked quarry.
37. Plans also include the establishment of a footpath along the eastern and northeastern boundaries within the first year of development.
38. Beyond this, the remainder of the Site will be retained in its current condition.

Figure 7 Landscape plan – Year 5.

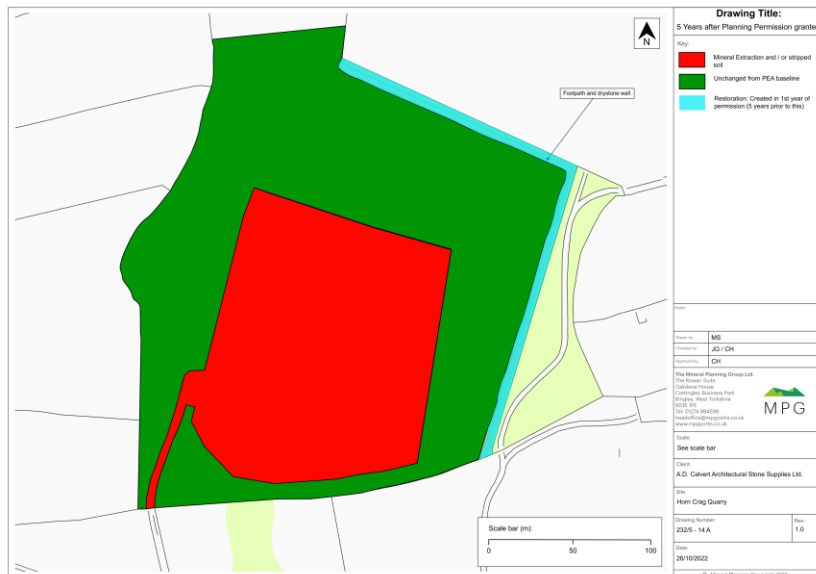


Figure 8 Habitats as mapped – Year 5.



Table 1 Summary of BNG in Year 5.

Habitat Units	
Baseline	38.96
Projected	22.46
<i>Retained</i>	19.18
<i>Created</i>	3.27
Net change	-16.50 Units (-42.36%)

Year 10

- 39. Between 5—10 years after granting of planning permission, the quarry will have been extended eastwards.
- 40. Following this, the southeastern corner of the quarry will be given over to habitat restoration in Year 10 – here to include upland heathland, gorse scrub, and retained quarry faces (mapped as ‘other inland rock’).

Figure 9 Landscape plan – Year 10.



Figure 10 Habitats as mapped – Year 10.



Table 2 Summary of BNG in Year 10.

Habitat Units	
Baseline	38.96
Projected	23.91
<i>Retained</i>	16.80
<i>Created</i>	7.11
Net change	-15.05 Units (-38.63%)

Year 15

41. Between 10—15 years after granting of planning permission, quarrying will have been extended northwards.
42. Following this, in Year 15 an area of quarry to the north of existing habitat restoration will also be given over to habitat restoration. This section will include heathland, acid grassland, native mixed scrub, and bare-ground scrapes allowed to naturally vegetate.

Figure 11 Landscape plan – Year 15.



Figure 12 Habitats as mapped – Year 15.



Table 3 Summary of BNG in Year 15.

Habitat Units	
Baseline	38.96
Projected	24.28
Retained	12.62
Created	11.66
Net change	-14.67 Units (-37.67%)

Year 20

43. Between 15—20 years after granting of planning permission, quarrying will have been extended further north, to the boundary of the footpath where it runs along the northeastern boundary. This is the maximum extent of quarrying planned for the Site.
44. No additional habitat creation will take place during this timeframe; the newly-created habitats south of active quarrying will continue to be managed.
45. Due to the extension of quarrying and lack of additional habitat creation, this snapshot represents a decrease in Site-wide Units from the previous timeframe.

Figure 13 Landscape plan – Year 20.



Figure 14 Habitats as mapped – Year 20.



Table 4 Summary of BNG in Year 20.

Habitat Units	
Baseline	38.96
Projected	22.70
Retained	8.37
Created	14.33
Net change	-16.26 Units (-41.73%)

Year 22

46. After Year 20 post-granting of planning permission, active quarrying on-Site will cease.
47. The majority of the active quarry will, in Year 22, be subject to habitat restoration, with heathland, acid and wet neutral grassland, mixed scrub, bare rock and scree habitats, sand banks, and temporary and permanent pools created.

Figure 15 Landscape plan – Year 22.

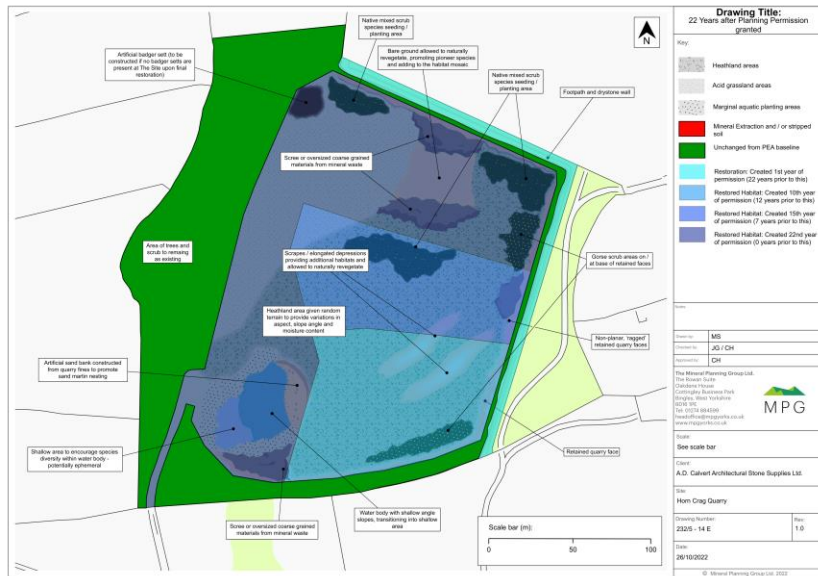


Figure 16 Habitats as mapped – Year 22.

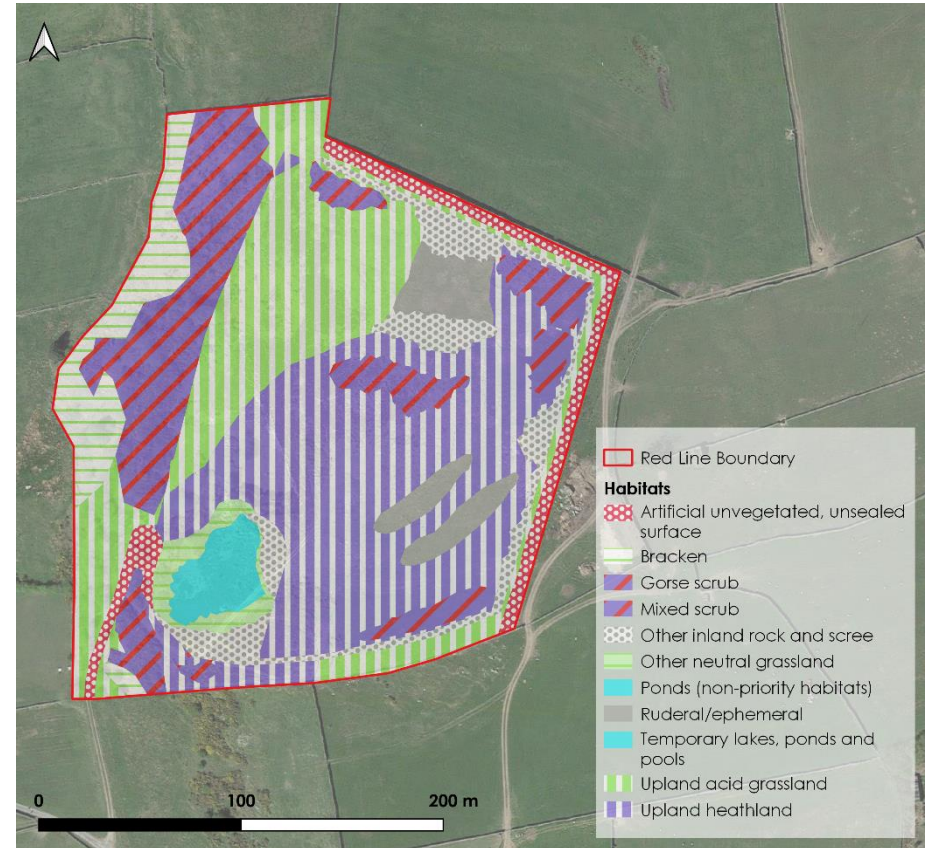


Table 5 Summary of BNG in Year 22.

Habitat Units	
Baseline	38.96
Projected	31.06
Retained	8.37
Created	22.69
Net change	-7.90 Units (-20.28%)

Years 27-42

48. No additional habitats will be created over the 5 years following the cessation of quarrying, although management will continue to bring existing habitats towards their final condition.
49. This process will be completed by Year 42, at which point the heathland created in Year 22 will reach moderate condition; this habitat will take the longest of any on-site to reach its target condition.

Figure 17 Landscape plan – Year 27.

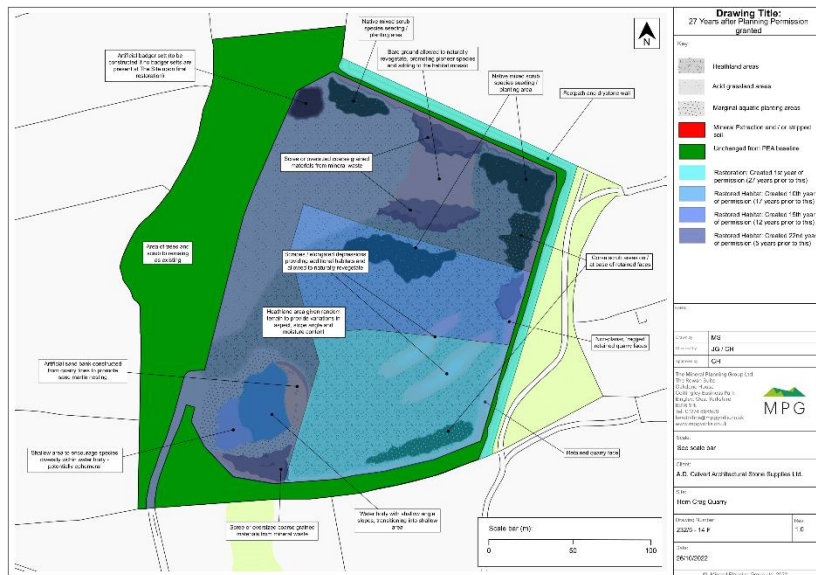


Figure 18 Habitats as mapped – Year 42. The layout of habitats is identical to that established in Year 22 (Figure 16).

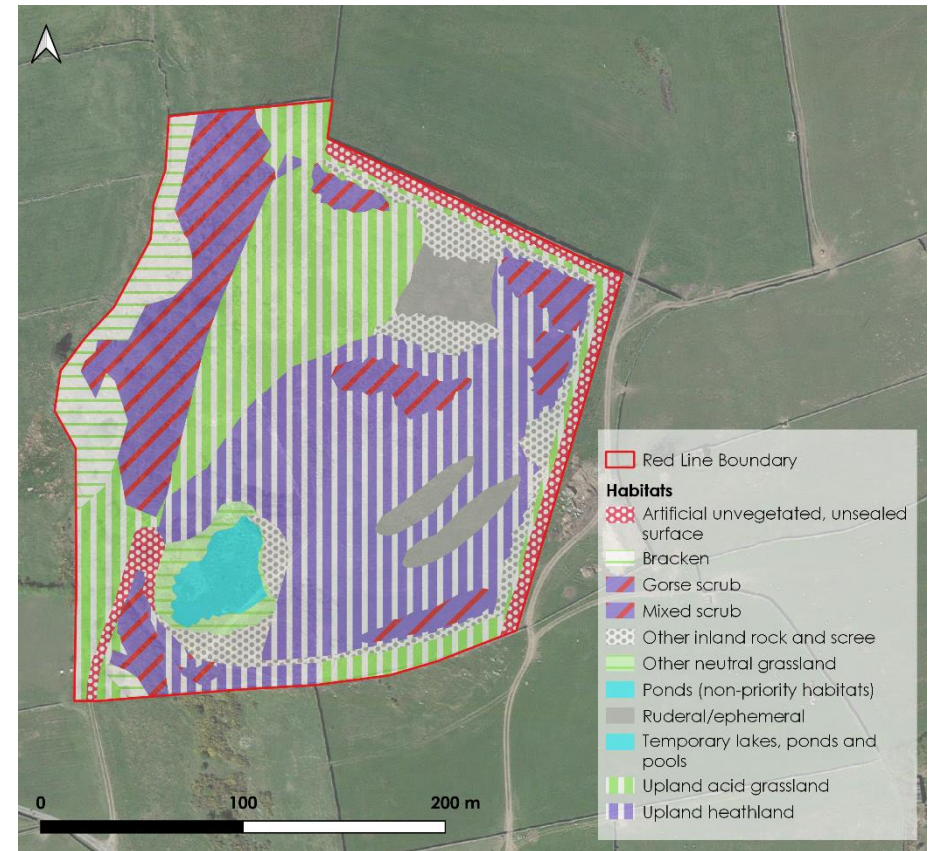


Table 6 Summary of BNG in Year 27.

Habitat Units	
Baseline	38.96
Projected	34.56
Retained	8.37
Created	26.19
Net change	-4.40 Units (-11.29%)

Table 7 Summary of BNG in Year 42.

Habitat Units	
Baseline	38.96
Projected	47.30
Retained	8.37
Created	38.93
Net change	+8.34 Units (+21.42%)

Snapshot approach – Net Gain Assessment

- 50. The snapshot approach to net gain here identifies an overall Net Gain, by Year 42 post-planning permission, of 8.34 Habitat Units (+21.42%).
- 51. Calculations for the change in Habitat Units have been based on a series of expansions to active quarry works, followed by rehabilitation of the quarried land with a variety of upland habitats, of the character present in the Site's baseline assessment, followed through until all habitats have achieved their target condition.
- 52. The snapshot approach results in a net gain, compared to the net loss generated by the standard approach, by accounting for the phased expansion of quarrying and extended periods of management which the standard BNG approach does not cover.

Trading Rules

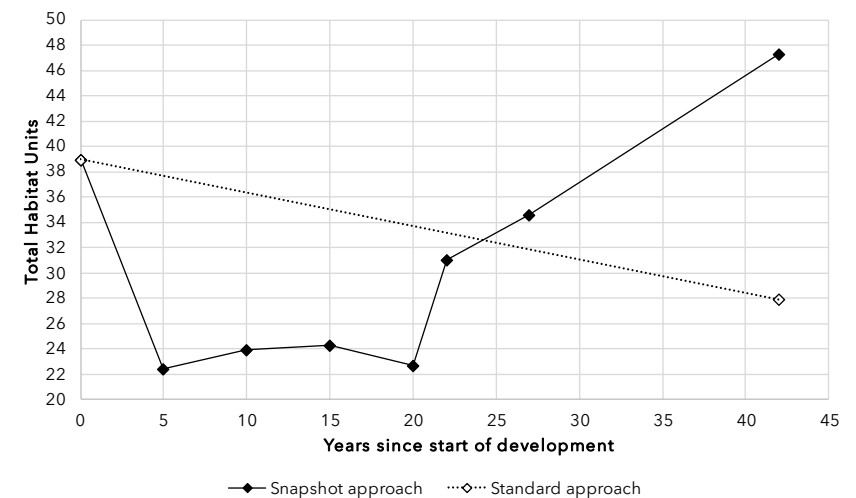
- 53. The snapshot approach indicates that a 10% net gain will be exceeded by the time the Site has aged into its final condition.
- 54. The snapshot proposals satisfy DEFRA's habitat trading rules, which specify like-for-like or like-for-better compensation of lost habitats. The standard approach, however, does not satisfy these rules, and would require an additional 9.49 Units of upland heathland and 7.75 Units of higher-distinctiveness grassland (i.e., not modified grassland or bracken) be generated on- or off-Site.

Biodiversity Conclusion

- 55. Despite the standard approach indicating a net loss in Biodiversity, this is ultimately temporary and quarrying where an ecologically led restoration scheme is in place has long been recognised as a positive for Biodiversity. Restoration can help create a wide variety of niches for fauna associated with disturbed and nutrient-impoverished habitats, with some of the best habitats in the country having developed on former quarries.
- 56. The restoration plan presented has been drawn up in consultation with ecologists and represents a well-considered and readily implementable plan that should, in the long-term, provide meaningful gains across a variety of habitats.
- 57. Habitats and species not accounted for in BNG calculations, such as badger setts and sand martin nesting banks, have been included in the restoration scheme, and will provide additional biodiversity benefits.

5064 - Horn Crag Quarry - Year 42		Return to results menu	
Headline Results			
On-site baseline	Habitat units	38.96	
	Hedgerow units	0.00	
	River units	0.00	
On-site post-intervention <small>(including habitat retention, creation & enhancement)</small>	Habitat units	47.30	
	Hedgerow units	0.00	
	River units	0.00	
On-site net % change <small>(including habitat retention, creation & enhancement)</small>	Habitat units	21.42%	
	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 <small>(including habitat retention, creation & enhancement)</small>	Habitat units	0.00	
	Hedgerow units	0.00	
	River units	0.00	
Total net unit change <small>(including all on-site & off-site habitat retention, creation & enhancement)</small>	Habitat units	8.34	
	Hedgerow units	0.00	
	River units	0.00	
Total on-site net % change plus off-site surplus <small>(including all on-site & off-site habitat retention, creation & enhancement)</small>	Habitat units	21.42%	
	Hedgerow units	0.00%	
	River units	0.00%	

Figure 19 Comparison of standard and snapshot approaches.



Appendix I – Condition Assessments

Upland acid grassland

Grassland (medium, high, very high distinctiveness)		
Condition Assessment Criteria	Meets criteria?	
	N/W	S
Appearance and composition of vegetation closely matches characteristic of specific grassland habitat type. Wildflowers, sedges, indicator species very clearly and easily visible throughout sward. NB essential for achieving moderate condition for non-acid types only	F	F
Sward height varied (at least 20% under 7cm, at least 20% over 7cm).	P	P
1-5% bare ground cover, including localised areas such as rabbit warrens.	F	F
Bracken cover <20% and scrub (including bramble) <5%	F	P
Absence of INNS; undesirable species and physical damage combined make up <5% of ground cover.	P	F
Additional (non acid types only) There are greater than 9 species per m2. NB essential for achieving good condition	N/A	N/A
	Poor	Poor
Acid grassland types: Good (5); Moderate (3-4); Poor (0-2) Non-acid grassland types: Good (5-6 inc C1); Moderate (3-4 inc C1); Poor (0-2, or 3-4 without C1&6)		
Notes		
Undesirable species include: Creeping thistle <i>Cirsium arvense</i> , spear thistle <i>Cirsium vulgare</i> , curled dock <i>Rumex crispus</i> , broad-leaved dock <i>Rumex obtusifolius</i> , common nettle <i>Urtica dioica</i> , creeping buttercup <i>Ranunculus repens</i> , greater plantain <i>Plantago major</i> , white clover <i>Trifolium repens</i> , cow parsley <i>Anthriscus sylvestris</i> .		

Gorse scrub

Scrub	
Condition Assessment Criteria	Meets criteria?
Habitat representative of UKHab description (in natural range). Min. 3 woody species, none comprising >75% of cover (except common juniper, sea buckthorn, box, allowed up to 100% cover).	F
Good age range: seedlings, young shrubs, and mature shrubs present.	F
Absence of INNS; sub-optimal condition species make up <5% ground cover.	P
Well-developed edge with scattered scrub and tall grassland / herbs.	F
Clearings, glades, or rides present, providing sheltered edges.	P
	Poor
Good (5); Moderate (3-4); Poor (0-2)	
Notes	
Sub-optimal condition species include: Tree-of-heaven <i>Ailanthus altissima</i> , holm oak <i>Quercus ilex</i> , Turkey oak <i>Quercus cerris</i> , Creeping thistle <i>Cirsium arvense</i> , common nettle <i>Urtica dioica</i> , cherry laurel <i>Prunus laurocerasus</i> , snowberry <i>Symphoricarpos</i> spp., buddleia <i>Buddleja</i> spp., cotoneaster <i>Cotoneaster</i> spp., Spanish bluebell <i>Hyacinthoides hispanica</i> (or hybrids).	

Upland heathland

Heathland	
Condition Assessment Criteria	Meets criteria?
Appearance and composition of vegetation closely matches characteristic of specific grassland habitat type. Indicator shrubs, grasses, herbs, and lower plants very clearly and easily visible. NB essential for good condition.	P
2+ dwarf shrub species frequent, covering: 25-75% (lowland), 50-75% (upland dry), >20% (upland wet). NB essential for good condition.	P
All age classes (pioneer, mature, degenerate) present, >10% pioneer in lowlands, >10% degenerate/mature in uplands. NB essential for good condition.	F
Unshaded bare ground between 1-10%. NB essential for good condition.	P
No signs of disturbance to sensitive areas, including managed burns.	P
Max. 33% of heather shoots grazed; flowering heather at least frequent in autumn.	F
Absence of INNS or shallon <i>Gaultheria shallon</i> . <5% bracken cover.	F
Scattered trees and/or scrub <20% cover in uplands, <15% in lowland dry, <10% in lowland wet.	P
No signs of damaging activities or contamination, e.g., artificial drains, peat extraction, silt, leachate, eutrophication.	P
	Moderate
Good (8-9, including 1, 2, 3, 4); Moderate (6-7, or 8 excluding one of 1, 2, 3, 4); Poor (0-5)	
Notes (Heathland)	
Sensitive areas:	
<ul style="list-style-type: none"> - Vegetation severely wind-clipped, mostly mats <10cm thick. - Soil thin and <5cm deep. - Hill slopes >26°, or sides of gullies. - Ground with abundant/continuous carpet of <i>Sphagnum</i>, bilberry, liverworts, and/or lichens. - Noticeably uneven structure at a m² scale or smaller. - Pools, wet hollows, hags, erosion gullies, areas within 10m of watercourses. 	
Bracken may exceed 5% cover where this is a biodiversity benefit.	
Total <i>Ulex</i> spp. Cover <50%, with common gorse <i>U. europaeus</i> <25% in lowlands.	
Damaging activities include:	
<ul style="list-style-type: none"> - Accidental / unmanaged fires; managed fires on wet heath; excessive poaching; damage from machinery; damaging levels of access resulting in trampling / litter. 	

Bracken is exempt from condition assessment, and is automatically assigned 'Condition Assessment N/A' in the Metric calculator.