



14 Appendix A. Mapping Methodology

14.1 Baseline Habitat Maps

Existing habitat data sets (Table 1) were collated and reviewed using QGIS and Anaconda Python to form an aggregated habitat inventory. The inventory was created by merging all existing habitat data into a single digital file, using OS Master Map as a base and sorting datasets based on their reliability. For each land parcel, any overlapping layers that covered at least 40% of the parcel were compared using a dataset hierarchy, based on the general reliability and dataset age. See Table 1 below for overview of reliability, the lower the score the higher the relative reliability.

Data Source	Reliability Score
Ancient Woodland Inventory	11
Countryside Stewardship Options	9 ¹
Environmental Stewardship Options	0 ¹
Land Cover Map	10
National Forest Inventory	7
National Trust Phase 1 Data	2
Peak District National Park Phase 1 Data	2
DWT Phase 1 Data	8
Priority Habitat Index	5
Wood Pasture and Parkland Index	6
Traditional Orchard Inventory	3
Master Map	0 ²
LWS Habitat Data	1

Table 1. Reliability of Datasets Used in Creating a Baseline Habitat Layer

14.2 Habitat Distinctiveness

Habitat distinctiveness was mapped using QGIS, based on the final habitat layer, as described in the above section. Each of the three key ecological networks (open, woodland and wet) have important, core habitats that comprise the central part of the networks and are of the highest value to their associated species. These core habitats can act as a population source for species, from which further habitat creation and network expansion

¹ Certain data within these datasets had different reliability scores for different codes.

² OS MasterMap habitats of interest are applied after the hierarchical assignment of habitats, so will take precedence over all other datasets (as they are deemed the most reliable observations).



will allow these species to disperse across the landscape. See Table 2 for broad categories of core habitats for the three networks.

Network	Core Habitats
Open	BAP / Section 41 priority grassland and heathland habitats
Woodland	All ancient and semi-natural woodland
Wetland	All BAP priority and non-priority wetland habitats

Table 2. Identification of Core Habitats

14.3 Nature Recovery Network Modelling

The NRN was created by using baseline and core habitat data files and assigning every habitat a permeability score for the three networks, *i.e.* an estimated cost of movement to a generic species; the higher the score, the less permeable the habitat is for the representative species. The habitats are scored on a scale of 1 (core habitat) to 50 (major barrier, impermeable habitat). See Table 3 for breakdown of permeability scores for each of the three networks.

Network	Permeability	Habitat description	Score	
Open	Full	Core Habitat	1	
	High	Semi-improved grasslands: high floristic richness, relatively unmodified with strong vertical structure.	1	
		Medium	Semi-natural habitats: little modification with some vertical structure, lower floral species richness, narrow species rich strips, or open treed habitats	5
			Little modification but with limited vertical structure, wet conditions, or heavy shading	7
	Low	Moderate modification, limited structure and limited floral species richness, heavy shading	10	
		Heavily modified habitats with very little structure	20	
	Artificial and hostile habitats	50		
Wood	Full	Core habitat	1	
	High	Secondary woodland and woodland-like habitats: relatively unmodified with strong vertical structure.	1	
		Medium	Unimproved semi-natural habitats: little modification or vertical structure	3
			Unimproved semi-natural habitats: little modification but with limited vertical structure	5
	Low	Semi-improved habitats: moderate modification	10	
		Heavily modified habitats with very little structure	20	
	Artificial and hostile habitats	50		
Wet	Full	Core habitat	1	
	High	Secondary woodland and woodland-like habitats: relatively unmodified with strong vertical structure.	1	
		Medium	Unimproved semi-natural habitats: little modification, some vertical structure	5



		Unimproved semi-natural habitats: little modification but with limited vertical structure	7
		Semi-improved habitats: moderate modification	10
	Low	Heavily modified habitats with very little structure	20
		Artificial and hostile habitats	50

Table 3. Permeability Scores Assigned to Habitats for Ecological Networks

At this stage, further input datasets were required to identify key ecological and physical factors to create opportunities and constraints layers. This includes:

- OS Terrain 50 (Digital Elevation Model);
- Agricultural Land Classification;
- EA Flood Zones (1-3);
- Soil Drainage; and,
- Heritage sites / Historical Environmental records.

The model included figures on the standard dispersal distances for species representative of open, wetland and woodland habitats. Using the original Forest Research methodology (Watts, *et al.*, 2010), the standard dispersal distance for each of these network types was set at 500m. This methodology is based on using generic focal species. A generic focal species is described in Eycott *et al.* (2007) as '*a conceptual species, whose profile consists of a set of ecological requirements reflecting the likely needs of real species should encompass the needs of most (but not all) real species that need to be considered in the landscape plan or evaluation*'. Further, the standard dispersal distances were then combined with an opportunity buffer around the core habitats. For the open and woodland networks, land within a certain distance of a core habitat was considered higher opportunity for expansion. For open networks this was set at 500m and woodland was set to 1000m.

The habitat data was ranked by its relative opportunity or constraint and was input into a python script alongside the above parameters. This created raster files of all available opportunity and constraint data for each network. Finally, these outputs were input into a final python script which added all opportunity rasters together, multiplying the result by each constraint raster in turn for all three networks. For the open and woodland network opportunity rasters, each is split into three categories, high, medium, and low opportunity for expansion, for the wetland network, the opportunity raster is split by threshold values to give high priority opportunities.

15 Appendix B. Criteria Assessment Methodology for HPBC A Plan for Nature

15.1 Overview

The following criteria will be used to assess councils Land in Public Ownership, provided by High Peak Borough Council (HPBC). The criteria combines the assessment of the NRN modelling, undertaken by Derbyshire Wildlife Trust with opportunity mapping and other datasets, including additional opportunity mapping layers from external organisations. The aim of this assessment is to identify which sites are of the highest strategic significance for becoming bank sites for Biodiversity Net Gain (BNG), based on their current location in the



landscape. This aims to use the RSWT Draft Principles for BNG to identify low quality sites that are in a strategic location for connectivity, shortlisting which sites are to be considered for a field based assessment.

15.2 A working methodology to identify key opportunities

15.2.1 Initial sift

Prior to assessing the sites, an initial quality control sift of the shapefiles was undertaken. This included:

- Deleting duplicate shapefiles to remove any unnecessary data; and,
- Using QGIS data processing tool ‘check validity’ and subsequently fix any awry polygons.

Additionally, a search occurred to remove all sites that:

- Are sports and recreation facilities;
- Are entirely covered by an existing designated site;
- Are entirely covered by existing priority or high-quality habitats *i.e.* woodland; and,
- Where the entirety of the site is identified within the NRN core habitat network.

15.2.2 Criteria Weighting

Each criterion was scored between **No Impact** through to **Major Positive**, identified through numerical values of 0 to 3, see Table 1 for overview of the scoring system. The sites were then sorted based on score and those that received the highest scores were considered to be sites of the highest strategic significance for habitat creation. Those sites of the highest strategic significance were then assessed through professional judgement and consultation with HPBC to identify which sites are to be subject to ground truthing and ecological assessment, including a BNG condition assessment to indicate suitability, as per the DEFRA guidelines.

The level of positive impact is split into three levels, minor, moderate and major, this phasing was done to reflect the suitability of an area for connectivity, therefore identifying areas of the highest strategic significance. For example, using the Lawton Principles of Bigger, Better and More Joined Up, we know that creating new habitat that is directly adjacent to an existing site will have the highest ecological impact. Creating standalone sites that are not immediately connected to one another are still ecologically valuable as steppingstone sites, however, due to dispersal distances of species, the likelihood of species being able to travel between sites decreases as the distance increases, reducing the level of positive impact had. Thereby meaning, more weight is provided to those sites that play a strategic part in the creation of a local NRN, including those in close proximity to priority habitats and core sites.

Weighting	Description
0	No Impact
1	Minor Positive Impact
2	Moderate Positive Impact
3	Major Positive Impact

Table 1. Overview of Weighting System



One of the criteria each site is assessed against is Derbyshire Wildlife Trust's NRN modelling. This dataset integrates the assessment of a broad range of environmental and ecological criteria including drainage opportunities, soil type, topography and existing core networks to identify areas of high, medium and low priority for habitat creation. For more information on the NRN modelling and assessment please refer to Appendix A.

As well as scoring based on location, the assessment also provides an indication of whether a specific core habitat type (woodland, wetland or open) is strategically significant. For example, sites that fall into the Environment Agency Working With Natural Processes to Reduce Flood Risk (WWNP) dataset are identified as priority areas for Natural Flood Management, such as woodland and wetland creation and restoration of floodplains.

The sites of the highest strategic significance for BNG are those that are both of low ecological value in their current condition and contribute towards the creation of an NRN due to close proximity to existing sites, meaning that their overall net gain in biodiversity will be high.

Table 2 outlines the criteria used to assess the sites. This table is split into three key sections: weighting on if the sites intersect with key datasets, weighting based on the relative distance between the sites and specific data and criteria based on the size of the site. The section based on intersecting data is focused on existing Opportunity maps including DWTs NRN, Natural England's Habitat Network map and Environment Agency WWNP map, these are not assessed based on distance as they have already been subject internal assessment and are therefore identified by overlap.



Criteria		Weighting		Notes
Layer	Specific Attribute	Numerical	Specific Habitat	
Touch / Overlap				
NRN Opportunity Map (open and woodland layer)	Low Priority	1	Woodland and open	The NRN layer identifies priority creation areas for the two broad habitats of woodland and open.
	Medium Priority	2		
	High Priority	3		
NRN Opportunity Map Wetland Layer	Covered by the Wet Network Threshold layer	3	Wetland / wet woodlands	Layer to be used in conjunction with open and woodland layer.
	Not covered by the Wet Network Threshold Layer	0		
Natural England Habitat Network Map	Fragmentation Action Zone	3		
	Network Enhancement Zone 1	3		
	Network Enhancement Zone 2	2		
	Network Expansion Zone	2		
Flood Risk 2 & Flood Risk 3	Does not intersect with either flood zone	0	Woodland / wet woodland and wetland creation.	Increasing surface roughness and tree planting will serve as natural flood management.
	Intersects with flood zone 2	2		
	Intersects with flood zone 3	3		
Risk of flooding from surface water	High (1 in 30)	3	Woodland / wet woodland and wetland creation.	Increasing surface roughness and tree planting will serve as natural flood management.
	Medium (1 in 100)	2		
	Low and very low (1 in 1000 and below)	1		
Environment Agency dataset WWNP	Intersects Riparian Woodland potential	3	Tree Planting	Increasing surface roughness and tree planting will serve as natural flood management.
	Intersects Wider Catchment Woodland Potential	3		
	Intersects Floodplain Woodland potential	3		
	Intersects Floodplain Reconnection potential	3	Wetland	WWNP dataset designed to use natural processes to reduce flood risk and improve water quality.



Distance				
Statutory and Non-Statutory Designated Sites	Intersects/touches or is within 50m	3	Expansion of existing network if possible	Bigger, Better and More Joined Up.
	50-250m	2		
	250-500m	1		
	>500m	0		
Priority Habitats	Intersects/touches or is within 50m	3	Expansion of existing network if possible	Bigger, Better and More Joined Up.
	50-250m	2		
	250-500m	1		
	>500m	0		
Ancient Woodland Inventory	Intersects/touches or is within 50m	3	Woodland	Bigger, Better and More Joined Up.
	50-250m	2		
	250-500m	1		
	>500m	0		
Site Size				
Site Size (ha)	<1ha	1		Larger sites will have a greater impact and will provide more habitats
	1-5ha	2		
	>5ha	3		

Table 2. Criteria to Assess Strategic Significance



16 Appendix C. National Character Areas

NCA	Overview	Environmental Opportunities			
Dark Peak	<p>The Dark Peak is a landscape of sweeping moorlands, in-bye pastures and drystone walls. Approximately 46% of the areas is designated as an SPA, SAC or SSSI. It supports internationally important mosaics of habitats including blanket bog, upland heathland, upland oak woodland and hay meadows. The predominately peat soils also provide significant benefits, when in good condition by storing carbon and water. Its high rainfall and impervious rock means the area is of high importance to the local water supply.</p>	<p>Safeguard, manage, restore and enhance the large areas of open, expansive moorland and the internationally important habitats and species that they support, protecting both soils and water resources.</p>	<p>Manage and enhance the moorland fringes and valleys, with their mosaics of pastures and meadows, and their strong field patterns defined by drystone walls, to improve ecological networks and strengthen landscape character.</p>	<p>Improve opportunities for the enjoyment and understanding of the National Park landscape, and to experience the sense of escapism and inspiration offered by the wide, open moorlands, while also conserving the qualities of the landscape and its valuable historic, geological and wildlife features.</p>	<p>Increase the extent of native woodland, scrub and trees, and manage existing tree cover to provide a range of benefits including helping to assimilate new infrastructure, restore lost habitats and landscape features, store carbon, reduce run-off and provide fuel, shelter and recreational opportunities.</p>
The White Peak	<p>A raised, undulating limestone plateau with steep sided limestone valleys. The dales are of significant wildlife value, particularly due to their flower-rich</p>	<p>Protect and enhance the area's clear limestone rivers, streams and springs, limestone aquifer and dramatic karst</p>	<p>Safeguard the unique character and tranquillity of the limestone dales, and enhance their limestone</p>	<p>Maintain and enhance the limestone plateau's pastoral landscape with its distinctive pattern of drystone walls, dew</p>	<p>Maintain and enhance opportunities for enjoyment and understanding of the White Peak's distinctive limestone</p>



	<p>limestone grasslands and ash woodlands. The area is particularly important for the provision of cultural services, sense of place, sense of history, recreation, biodiversity and geodiversity.</p>	<p>geology, to provide a source of clean water, support strong populations of fish and other wildlife, enhance recreational and educational opportunities and contribute to the White Peak's strong sense of place and history</p>	<p>grasslands, woodlands and scrub of European importance, to protect sense of place, water quality, biodiversity and recreational opportunities.</p>	<p>ponds, archaeology and habitats such as hay meadows and limestone heaths, to allow a viable and sustainable farming industry that produces high-quality food and supports thriving rural communities.</p>	<p>features and historical, cultural and natural heritage by providing recreational opportunities for a wide range of users and ensuring that new development makes a positive contribution to biodiversity, sense of place, sense of history, tranquillity and quality of life for local people and visitors</p>
<p>South West Peak</p>	<p>An area of upland and associated foothills in the Pennines. It is an upland landscape characterised by carboniferous age millstone grit and coal measures and is often scenically and distinctly diverse. The area has an open moorland core, the fringes of which fall away to gentle slopes, dissected by steep wooded cloughs and fast-flowing streams. It contains a working landscape dominated by livestock</p>	<p>Protect, manage and enhance the open, expansive moorlands of the South West Peak and internationally important habitats and species that they support, protecting both soil and water resources.</p>	<p>Protect, manage and enhance the moorland fringes and valleys, with their mosaics of habitats including moorland, heathland, woodland, meadows and pastures, strong field boundary patterns defined by drystone walls and hedgerows, and small, dispersed settlements, to safeguard water</p>	<p>Protect and manage the South West Peak's Upper Mersey, Weaver and Trent catchments, watercourses and reservoirs to maintain their high water quality and significance to water supply and flood risk mitigation, to enhance their nature conservation interest, and to strengthen their contribution to landscape character,</p>	<p>Protect and manage the geological, cultural and historical features of the South West Peak, including The Roaches, Leek Moors, Errwood and Tittesworth reservoirs, and Lyme Park, to reinforce the strong relationship between the landscape, its history of land use, wildlife, and natural, archaeological and cultural heritage, by</p>



	<p>farming and traditional farmsteads. Habitats of international importance amount to 12% of the area which is designated as a SPA or SAC. It supports internationally important mosaics of habitats including heath and blanket mire, rush pasture and hay meadows.</p>		<p>quality, enhance biodiversity and ecological networks and strengthen the distinctive historic landscape character of the South West Peak.</p>	<p>and the recreational opportunities that they provide for public enjoyment.</p>	<p>encouraging interpretation, understanding, access and recreational opportunities which would increase public enjoyment and understanding of this tranquil upland working landscape.</p>
<p>Manchester Pennine Fringe</p>	<p>A transitional zone between the open moorlands of the Dark Peak and Southern Pennines. It runs along the edge of millstone grit and is underlain by carboniferous millstone grit and Pennine coal measures. Much of the countryside is influenced by recreational use from adjacent urban areas and diversification of farmland.</p>	<p>Manage, enhance and expand the network of green infrastructure (such as rivers, woodlands, restored industrial sites, parklands and canal routes) within the urban areas, to increase biodiversity, strengthen access and recreational use, and increase understanding of the area's rich industrial heritage, natural heritage and geodiversity.</p>	<p>Sustainably manage and enhance the distinctive features of the Pennine fringe landscape, including the predominantly pastoral agricultural land use, the mosaic of farmland and upland fringe habitats, the clough woodland, the drystone walling and the gritstone buildings, to strengthen the landscape character, and improve habitat condition and</p>	<p>Manage and continue to enhance Manchester Pennine Fringe's characteristic watercourses, such as the fast-flowing rivers and restored canals; conserve and extend the associated riparian habitats, to strengthen their role, extend and link habitats, manage flood risk, improve water quality and reduce soil run-off, and provide opportunities for recreation.</p>	<p>Manage existing woodlands and community forests, and extend broadleaved woodland cover in appropriate locations, to help mitigate the effects of climate change, improve biodiversity, reduce the impact of new development, and provide access to nature and green infrastructure links into urban areas.</p>



			connectivity, bringing benefits for water quality and reduced soil erosion.		
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17 Appendix D. Summary of Local Wildlife Sites

Ref	Name	Area (ha)	Ecological Feature	Secondary Features	Survey	Condition	Damage
HP001	Scar Wood and Todd Brook	11.1692	Ancient semi-natural oak/birch woodland and wet woodland		2018	Unfavourable - recovering	
HP003	Chew Wood	4.2996	Ancient semi-natural oak woodland		2008	Unfavourable - maintained	
HP004	Warrastfold Bridge Complex	6.2228	Unimproved acid and neutral grassland	Habitat mosaic	2005	Favourable	
HP005	Tom Wood	21.0201	Ancient semi-natural woodland - mixed deciduous	Secondary broad-leaved wet woodland and semi improved neutral grassland / wet grassland	2016	Unfavourable - recovering	
HP009	Brierlow Grange Meadow Site	0.0855	Unimproved calcareous grassland		2003	Unfavourable - maintained	
HP010	Morland Complex	0.7358	Habitat mosaic		2016	Unfavourable - declining	
HP014	Long Lane	1.5774	Heather moorland	Unimproved acid grassland	2017	Favourable	
HP015	Cadster Reservoir	1.2266	Unimproved acid grassland		2017	Unfavourable - declining	
HP018	Cowlow Lane Pond #2	0.1036	Lowland swamp		2000	Unknown	
HP033	River Goyt at Gowhole	1.8542	Secondary broad-leaved wet woodland	Wet grassland and marginal vegetation	1991	Unknown	
HP036	Ollersett Reservoir	6.7716	Upland mire	Heather moorland and unimproved acid grassland	2004	Unfavourable - maintained	
HP039	Phoside Farm	4.9508	Secondary broad-leaved woodland	Unimproved neutral grassland	2006	Favourable	
HP050	Shire Hill (woodland)	7.2335	Ancient semi-natural oak/birch woodland		2005	Unfavourable - recovering	
HP052	Greatlow Field Pond	0.4237	Standing open water - pond	Lowland swamp and rush pasture	2004	Unfavourable - declining	
HP053	Dowlow Green Lane	0.9406	Unimproved calcareous grassland	Unimproved neutral grassland - rough	2017	Favourable	
HP062	Buxton Youth Hostel Grassland.	2.5689	Unimproved calcareous grassland	Unimproved neutral grassland and vegetation in rivers and streams	2002	Unfavourable - maintained	



HP065	Broadhurst Edge Field	7.6959	Rush-pasture	Bird assemblage - upland	1991	Unfavourable - declining	
HP066	Doveholes Dale	6.1336	Unimproved calcareous grassland	DRDB species	1991	Unknown	
HP067	Peak Dale Grassland	16.7129	Unimproved calcareous grassland	Semi-improved neutral and calcareous grassland	2002	Unfavourable - maintained	
HP079	The Roosedyche	12.566	Unimproved acid grassland	Semi-improved acid grassland and broadleaved plantation	2018	Unfavourable - maintained	Site partially destroyed
HP080	Crist Quarry	2.6835	Wet grassland	Rush-pasture and habitat mosaic	1991	Unknown	
HP082	Longridge Lane Fields	10.493	Unimproved calcareous grassland on lime spoil	Semi-improved neutral grassland	2006	Favourable	
HP084	River Goyt at Whaley Bridge	2.1585	Flowing water rivers and streams	Secondary broad-leaved wet woodland	2013	Unfavourable - recovering	
HP092	Lower Crossings Meadows	2.5567	Unimproved neutral grassland	Wet grassland	1999	Unfavourable - declining	
HP095	Bradshaw Hall Lane	0.5443	Hedgerow	Unimproved acid grassland	1999	Unknown	
HP101	Peak Forest Canal Furness Vale	2.4476	Standing open water - canal	Water-margin vegetation, lowland swamp and broadleaved wet woodland	2017	Unfavourable - maintained	
HP103	River Goyt at Goytside	1.1867	Flowing water rivers and streams	Water-margin vegetation	1991	Favourable	
HP104	Furness Clough	4.671	Secondary broad-leaved woodland	Secondary broad-leaved wet woodland and wet acid flush	2016	Unfavourable - recovering	
HP106	Furness Vale Millpond #1	1.036	Standing open water	Water-margin vegetation	1999	Unknown	
HP109	Diglee Road Meadow	1.1326	Semi-improved neutral grassland	Rush-pasture	2005	Favourable	
HP117	Ridge Hall Wood	4.4527	Secondary broad-leaved plantation		1991	Unknown	
HP120	Diamond Hill	9.2669	Unimproved calcareous grassland	Semi-improved calcareous grassland	2005	Unfavourable - declining	Site partially destroyed
HP121	Longridge Lane Pond	0.0224	Standing open water	Reptile/amphibian assemblage	1991	Unknown	



HP122	Hollinhurst Head Complex	7.5666	Unimproved acid grassland	Unimproved neutral grassland, wet grassland and habitat mosaic	1999	Unfavourable - declining	
HP128	Birch Vale Mill Ponds	0.6488	Standing open water and lowland swamp	Wet woodland and amphibian / invertebrate assemblage	2004	Unknown	
HP129	Thornsett Mill Pond #1	0.2512	Standing open water	Secondary broad-leaved woodland and reptile, amphibian and invertebrate assemblage	1991	Unknown	
HP134	Black Edge Road Verge	1.7931	Unimproved acid grassland	Heather moorland	2017	Favourable	
HP137	Bluebell Wood adjacent to Sett Valley Trail	0.5041	Secondary broad-leaved woodland	Bird assemblage - woodland	2006	Favourable	
HP139	Sett Valley Trail	9.8586	Habitat mosaic		2006	Favourable	
HP142	Bowden Hall Pond	0.9116	Standing open water	Water-margin vegetation and invertebrate assemblage	2006	Unfavourable - maintained	
HP144	Dinting Nature Reserve	4.4059	Ancient semi-natural ash woodland	Ancient semi-natural oak woodland and unimproved acid grassland	1999	Unfavourable - maintained	
HP146	Dinting Junction Pond	0.0433	Standing open water	Water-margin vegetation and reptile, amphibian and invertebrate assemblage	1994	Unfavourable - maintained	
HP148	Watford Lodge Local Nature Reserve	1.9351	Standing open water - pond	Lowland swamp, broadleaved wet woodland and invertebrate assemblage	1999	Unfavourable - maintained	
HP150	Swallowhouse Mill Pond	0.8937	Reptile/amphibian assemblage		1999	Unknown	Site partially destroyed
HP151	Chisworth Rough	1.0783	Heather moorland	Secondary broad-leaved woodland	1991	Unfavourable - declining	
HP157	Knathole Wood	0.2828	Ancient semi-natural woodland - mixed deciduous	DRDB species	2007	Unfavourable - declining	
HP159	Woodseats Wood	9.2344	Secondary broad-leaved woodland	Flowing water rivers and streams	2008	Unfavourable - maintained	
HP160	CPA Pond	0.5112	Standing open water	Invertebrate assemblage	2013	Favourable	
HP161	Far Woodseats Wood	6.9337	Ancient semi-natural oak woodland	Flowing water rivers and streams	1991	Unknown	



HP162	Goyt Mill Wood	3.7127	Ancient semi-natural woodland - mixed deciduous		1991	Unknown	
HP163	Fernilee Village Wood	2.269	Ancient semi-natural woodland - mixed deciduous	Flowing water rivers and streams	1991	Unknown	
HP164	Banks Wood	6.1811	Habitat mosaic		2006	Unfavourable - maintained	
HP165	Robin Wood	5.1331	Ancient semi-natural woodland - mixed deciduous		2007	Unknown	
HP166	Brook Bottom Wood	2.3144	Ancient woodland plantation - mixed		1991	Unfavourable - maintained	
HP167	Butterbank Plantation	1.9269	Ancient woodland - plantation broad-leaved	Unimproved acid grassland	1991	Unfavourable - declining	
HP171	The Kells	0.8346	Ancient semi-natural woodland - mixed deciduous	Flowing water rivers and streams	1991	Unfavourable - maintained	
HP172	Green Botham Farm Fields	3.3581	Secondary broad-leaved wet woodland	Semi-improved neutral grassland	2000	Unknown	
HP175	Goytside Meadow	9.9817	Unimproved neutral grassland	Semi-improved neutral grassland, lowland swamp and invertebrate assemblage	2016	Unfavourable - recovering	
HP179	Hollingworth Reservoir & Swallowswood Nature Reserve	9.115	Secondary broad-leaved woodland	Secondary broad-leaved wet woodland and woodland bird assemblage	2018	Unfavourable - maintained	
HP189	The Embankment	2.1791	Unimproved calcareous grassland		2013	Favourable	
HP190	The Canal and Surrounds	2.9024	Unimproved acid grassland	Standing open water and lowland swamp	2013	Favourable	
HP191	Turncliff Common	32.6646	Habitat mosaic	Upland mire and unimproved acid grassland	2017	Unfavourable - maintained	
HP192	Leap Edge Flush	2.9183	Lowland mire	Lowland swamp and acid rush pasture	2017	Unfavourable - declining	
HP193	Turncliff Dale B	3.5229	Unimproved calcareous grassland		2017	Favourable	
HP194	Cutting Area H	3.6107	DRDB species - fungi		2013	Favourable	
HP177	Ferney Bottom Meadows	7.3387	Unimproved neutral grassland	Semi-improved neutral grassland, unimproved calcareous grassland	2014	Unknown	Site partially destroyed



HP007	Hindlow Grassland and Road Verge	5.073	Unimproved calcareous grassland	Unimproved neutral grassland	2009	Unfavourable - maintained	
HP064	Broadhurst Edge Wood Reserve	8.2239	Secondary broad-leaved plantation		2009	Unfavourable - recovering	
HP154	North Road Ponds	1.7364	Standing open water	Water-margin vegetation and unimproved neutral grassland	2013	Favourable	
HP168	Beardwood	2.8755	Ancient semi-natural woodland - mixed deciduous	Unimproved acid grassland	1991	Unknown	
HP187	Otterhole Farm Meadows	0.315	Unimproved neutral grassland	Semi-improved neutral grassland	2009	Unfavourable - declining	
HP012	Taxal Pond	0.2526	Standing open water	DRDB species - plant	2009	Unfavourable - declining	
HP026	Railway Land Hogshaw (former sidings)	7.8721	Habitat mosaic	Nationally Scarce plant species	2016	Unfavourable - declining	
HP027	Ashwood Dale	11.3419	Ancient semi-natural ash woodland		2012	Unfavourable - maintained	
HP032	Rowarth Meadow	6.8081	Rush-pasture	Semi-improved neutral grassland	2008	Unfavourable - maintained	
HP044	Elle Bank	8.7085	Ancient semi-natural oak/birch woodland	Bird assemblage	2009	Unfavourable - recovering	
HP045	Kinder Road Wood	5.7507	Ancient semi-natural oak/birch woodland		2009	Unfavourable - recovering	
HP046	Dinting Vale Reservoirs and Brook	5.3539	Standing open water	Flowing water rivers and streams and invertebrate assemblage	2012	Unfavourable - maintained	
HP056	Wye Dale	1.0102	Ancient woodland - plantation broad-leaved	Secondary broad-leaved wet woodland	2008	Favourable	
HP057	Tunstead Quarry	44.8319	Unimproved calcareous grassland	Secondary broad-leaved wet woodland	2009	Unfavourable - maintained	Site partially destroyed
HP068	Victory Quarry	7.6032	Habitat mosaic	Unimproved neutral grassland, lowland swamp and standing open water	2017	Favourable	



HP069	Peak Dale/Smalldale Quarries	9.1997	Unimproved grassland calcareous	Semi-improved grassland neutral	2002	Unknown	
HP073	Harpur Hill Disused Railway Line #2 East	1.1442	Unimproved neutral grassland	Unimproved grassland calcareous	2010	Unfavourable - maintained	
HP074	Stanley Moor Complex	41.8037	Upland mire	Swamp - Bottle Sedge, rush pasture, unimproved acid grassland and unimproved calcareous grassland	2010	Unfavourable - maintained	
HP099	Grin Low Grassland	33.5634	Unimproved grassland calcareous	Unimproved neutral and acid grassland	2012	Favourable	
HP119	Countess Cliff Grassland	10.8446	Unimproved grassland calcareous	Semi-improved grassland calcareous	2010	Unfavourable - recovering	
HP143	Dinting Wood	6.8247	Ancient semi-natural oak woodland	Ancient semi-natural wet woodland	2009	Unfavourable - recovering	Temporary damage
HP147	Lees Hall	6.8713	Unimproved acid grassland	Secondary broad-leaved wet woodland	2008	Unfavourable - maintained	
HP180	Cunningdale South	3.1019	Unimproved neutral grassland	Unimproved grassland calcareous	2016	Unfavourable - recovering	
HP070	Longsidings Quarry	24.551	Unimproved grassland calcareous	Wet grassland, reptile and amphibian population and standing open water	2011	Unfavourable - maintained	
HP071	Harpur Hill Disused Railway #1 West	0.7092	Unimproved grassland calcareous	Unimproved neutral grassland	2011	Unfavourable - maintained	
HP158	Cunningdale North	2.3336	Unimproved grassland calcareous	Semi-improved grassland calcareous	2011	Unfavourable - maintained	
HP169	Dove Holes Spoil Heaps	4.7558	Unimproved grassland calcareous on lime spoil	Unimproved neutral grassland and invertebrate assemblage	2011	Unfavourable - maintained	
HP173	Waterside Fields	3.5876	Floodplain grassland semi-improved		2000	Unfavourable - declining	
HP174	Meadow Farm Fields	5.4603	Floodplain grassland semi-improved	Unimproved acid grassland	2000	Favourable	
HP196	Mousley Bottom	17.2875	Habitat mosaic		2017	Unfavourable - recovering	



HP149	Gamesley Sidings	31.174	Habitat mosaic	Secondary broad-leaved wet woodland, wet grassland and unimproved neutral grassland	2017	Unfavourable - maintained	
HP156	Ridgeclose Rocks and Grassland	5.4684	Unimproved grassland calcareous	Wet grassland	2015	Unfavourable - declining	
HP176	Cow Dale	8.5636	Unimproved grassland calcareous	Unimproved neutral grassland, broadleaved woodland	2017	Unfavourable - declining	
HP183	Ferneydale Grassland	5.0677	Unimproved grassland calcareous	Semi-improved neutral grassland	2018	Unfavourable - declining	
HP186	Dinting Lodge Grassland	4.6048	Unimproved neutral grassland	Standing open water, rush pasture and invertebrate assemblage	2015	Unfavourable - declining	
HP195	Chinley Community Meadow	1.7963	Unimproved neutral grassland		2017	Favourable	
HP076	Stanley Moor Reservoir	9.4321	Unimproved acid grassland	Semi-improved acid grassland, heather moorland and water vole population	2013	Unfavourable - maintained	
HP034	Furness Vale Railway Site	6.8058	Habitat mosaic	Ephemeral/grassland and wet grassland	2014	Unfavourable - declining	Temporary damage
HP042	Alders Lane Meadows	7.3811	Unimproved neutral grassland	Rush-pasture	2014	Unfavourable - maintained	
HP081	Eccles Pike	39.1979	Unimproved acid grassland	Heather moorland	2014	Favourable	
HP112	Buxworth Railway Cutting	9.5834	Lowland heath	Unimproved acid and neutral grassland and hawthorn scrub	2014	Unfavourable - recovering	
HP170	Beet Wood and The Beet	4.1861	Secondary woodland broad-leaved		2014	Unfavourable - maintained	
HP178	Melandra Castle and Railway	14.064	Habitat mosaic	Unimproved acid grassland, broadleaved woodland and bird assemblage	2018	Unfavourable - declining	
HP184	Marple Road Meadows	1.8542	Unimproved neutral grassland	Unimproved acid grassland	2014	Favourable	Site partially destroyed
HP006	Brierlow Quarry and Verges	0.9595	Unimproved grassland calcareous		2016	Unfavourable - declining	Site partially destroyed



HP188	Dale Grassland Road	0.5434	Unimproved neutral grassland	DRDB plants species - globeflower and saw-wort	2017	Unfavourable - declining	Site partially destroyed
HP021	Lightwood Reservoirs	2.3306	Standing open water	Reptile/amphibian assemblage	2016	Unfavourable - maintained	
HP023	Combs Moss	246.1499	Heather moorland	Upland mire, unimproved acid grassland and bird assemblage	2017	Unfavourable - maintained	
HP024	Light Wood	14.768	Secondary broad-leaved plantation	Bird and lower plant assemblage	2017	Unfavourable - maintained	
HP181	Brookside Pastures	18.8731	Unimproved neutral grassland - wet	Semi-improved neutral grassland and upland mire	2015	Unfavourable - declining	Temporary damage
HP199	Brownhills Bank	3.1013	Unimproved neutral grassland	Unimproved acid grassland	2017	Favourable	
HP200	Ferneydale South	8.4679	Unimproved calcareous grassland	Rare plants - marsh arrowgrass, green spleenwort	2019	Favourable	None
HP197	Down Lees and Barlow Farm Fields	20.5189	Bird assemblage - ground nesting birds	Unimproved neutral grassland	2017	Favourable	
HP198	Spring Meadows Knoll	11.3266	Unimproved neutral grassland	Rush-pasture	2016	Favourable	
HP201	Hollinwood, Buxworth	2.3113			0	Unknown	



18 Appendix E. Habitat Creation and Management Guides

18.1 Habitats to Restore and Protect Woodland Networks

A large amount of the HPBC landscape outside of the SSSIs and peatlands are identified to be of high priority for creation of woodland networks, working to improve flood management and increase carbon sequestration. A woodland NRN does not only mean broadleaf woodland, but also scattered trees and parkland, hedgerows, treelines and scrub.

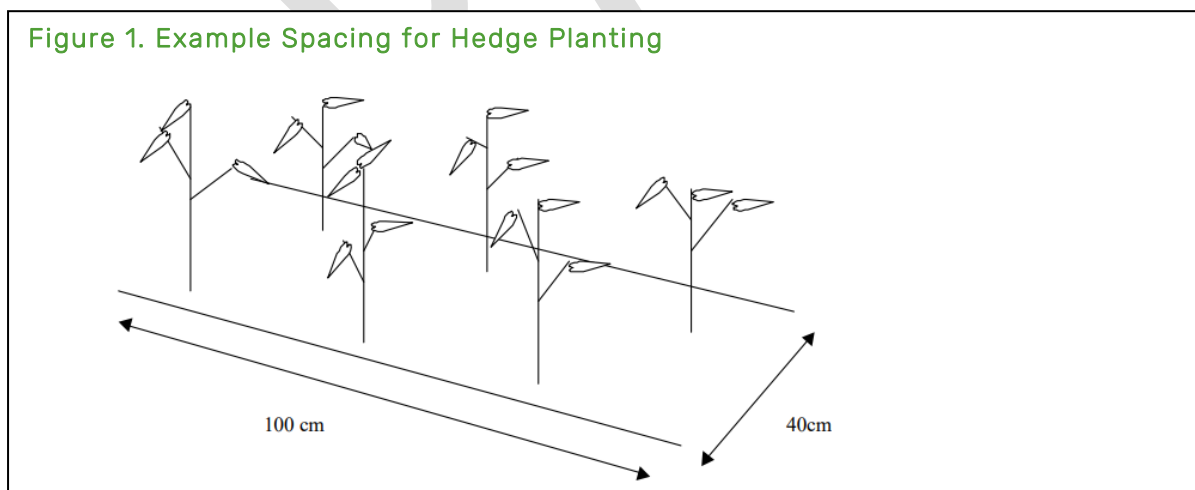
18.1.1 Hedgerows

Hedgerows are an excellent way to connect and expand wooded and tree corridors as they take up minimal space and can be created in a range of environments, from urban to rural.

18.1.1.1 To create a new hedge

- Use a mixture of locally common, native, fruit, nut and seed-bearing species. Appropriate for the area include oak, hawthorn, holly, hazel, guelder rose, bird cherry and rowan. Where possible, use trees of local provenance as this will improve likelihood of success.
- Plant between November – March, avoiding waterlogged soil. Where possible, plant in double staggered rows with 6 – 8 plants per metre.
- Plant trees every 10 – 20 metres, particularly at hedge junctions which act as song posts for birds and provide features for bats.
- Keep weed free for three years with a mulch mat or wood chippings and protect from grazing.
- The first spring after planting the hedgerow can be cut back to be a height of 45 – 60cm which will promote bushy growth.
- Monitor health of the saplings within the first few years and replace any dead species.

Figure 1. Example Spacing for Hedge Planting



18.1.1.2 Management of an existing or established hedgerow

- All hedgerow management must take place outside of breeding bird season which runs from March – September inclusive.
- Diversity is key, many species need dense undergrowth and scrub at ground level to commute through and nest in, many bird species prefer short, dense hedges whereas other such as linnet are reliant on tall, twiggy hedges and standing trees. Hedges should therefore be managed on rotation, with each being cut roughly every three years, aiming to manage one third of hedges annually.



- The hedges must always be cut instead of flailed.
- Allow the encroachment of bramble and ivy to intertwine into the hedges, these species provide key resources for many pollinators, birds, bats and mammals.
- Plant up any hedges that contain more than 10% gaps.
- Cut roadside hedges annually for safety but restrict cutting to one side of hedgerow.
- Avoid cutting any stretch of hedge at the same height year on year as this will cause a hard knuckle to develop and the subsequent deterioration of the hedge.
- Leave some hedges untrimmed where they do not conflict with farm operations.
- Maintain grass margins to buffer the hedges and provide nesting habitat, aim for at least 1.5m on either side where possible.
- Leave areas of tall ruderal growing against hedges in more nutrient enriched areas undisturbed over winter as the larvae and adults of many overwintering insect species will use the hollow stems of plants such as hogweed.
- Avoid pesticide and fertiliser drift wherever possible.

18.1.2 Broadleaved Woodland

Priority woodlands to target within HPBC are upland oak and mixed ash woodlands however a large number of the woodlands that currently exist are coniferous. Where possible, conifer woodlands should be slowly felled and rotationally restocked with broadleaf species.

Existing ash woodlands should be prioritised for surveys of ash dieback, triggering restorative works to fell infected trees and protect those which are potentially resistant, aiming to improve the longevity of these threatened woodlands.

18.1.2.1 *Creation of Woodland*

- Woodland can occur through either natural regeneration or planting.
- Natural regeneration is created by a section of land with an existing, viable seed source being stock proofed and left to allow native tree species to naturally colonise the land, this is a slow process but creates a much more natural, stable environment.
- If planting, ensure to plant native, appropriate species for the area, this includes canopy species (making up 50% of the area) consisting of silver and downy birch and sessile and pedunculate oak; as well as an understorey, planted in 20% of the area made up of ash, holly, rowan and aspen; as well as scrub species such as hazel, hawthorn, guelder rose and honeysuckle, ensuring to maintain 20% of the site as open space such as glades and rides.
- Plant between November – March, avoid planting in waterlogged or frozen ground.
- Woodland should be planted with trees at intervals of between 2-5 m, in irregular groups of 5-50 individuals, made up of the same species or 2-3 compatible species. Early successional and fast-growing species such as rowan and birch will mature quickly and become prominent in the first 12-15 years, creating light and open woodlands, morphing into closed canopy as the slower growing species mature.

18.1.2.2 *Woodland Management*

- Carry out works between September and March to avoid disturbing nesting birds.
- Reinstate and create rides through felling. Undertake zonal ride mowing to provide insect rich shrubby cover and to allow woodland flora to flourish.



- Thin regularly. Where possible, crown mature trees as opposed to felling to retain standing deadwood. Target conifers for felling to enable regeneration of native broad-leaved species. Ensure thinning and felling promotes age and structural diversification to maintain a three-dimensional structure of canopy, scrub and ground layer.
- Prevent soil compaction by avoiding operations in wet weather and at sensitive times of year. Use smaller machines/ hand felling where possible.
- Undertake hazel coppicing if possible / if hazel woodland is present.
- Monitor for signs of invasive species including rhododendron, Himalayan balsam and Japanese knotweed and seek guidance when found.

18.1.3 Wood Pasture Parkland and Scattered Trees

Open parkland habitats have vastly reduced in density within the UK and will support many specialist species due to the ecotone they can create between woodland and grassland. Historically, much of the White Peak would have once been wood pasture habitat, with large herbivores grazing within the mature trees. They are often of high importance for specialist species and improve the overall permeability of the area for both woodland and open species. To manage:

- The trees must be native, broadleaf trees, preferably oak or beech which will form a tall, full canopy, interspersed with shorter, scrubby stands of hawthorn.
- A grass buffer is to be maintained around standing trees in arable fields to protect them from root damage and leeching.
- For open parkland habitats, young trees must be protected from grazing pressure until they are mature enough to withstand damage with the grassland being managed in an appropriate grazing scheme to create a rich, diverse grassland habitat, as detailed in the sections below.

18.1.4 Management of Mature and Veteran Trees

Veteran and mature trees are an essential feature that support a multitude of species, focus should be put on maintaining these important habitats, increasing their longevity:

- Use grass margins to protect from arable operations.
- Where possible, leave fallen deadwood in situ beneath tree canopy as invertebrate habitat, where this is not possible, stack in margins to create wood piles.
- Retain ivy on trees as an important source of winter pollen and nectar.
- Improve conditions for veteran trees by thinning encroaching trees and reducing canopy competition to allow them to develop into old age (halo thinning).
- Do not carry out cultivations, supplementary feeding, storage of materials or machinery, or weed control (apart from spot treatment) under the canopy of in-field trees.

18.1.5 Traditional Orchards

Numbers of orchards within the area can be increased through the provision of community orchards or providing trees to schools and groups to create orchards. To manage:

- Management should maintain a low intensity, avoiding pesticides or herbicides.
- Tree guards will be necessary for new planting, removing all guards once mature.
- All trees must be fruit bearing and provided with a large amount of space between each tree.



- Trees must be appropriately pruned to preserve health.
- The ground may be seeded with an appropriate seed mix for the area and mown or subject to very light grazing during the winter months, aiming to create species rich grasslands in the open space.
- Some scattered scrub may be present and will benefit species diversity and niche creation however this should not make up over 10% of site.

18.2 Habitats to Restore and Protect Open Networks

One of the key methods that should be used to restore and connect the open habitat network is through creating nature forward management plans for public parks and gardens under council ownership and management, ensuring that grassland restoration is being achieved at the large sites to create 'source' sites for species. These should be supported through the creation of corridors and steppingstone habitats through wildlife friendly private gardens, pollinator routes through towns, wildlife friendly verges and field margins. This work must include engagement with local landowners and raising awareness of various support schemes that may be available to encourage them to actively change management.

18.2.1 Road verges

Management methods to establish greener verges include:

- Undertake a full cut in late-Feb/ March prior to nesting bird season. Increasing the height of cutter bar will also lower the risk to small mammals and amphibians.
- Allow wildflowers to set seed prior to the second annual cut in September/ October.
- Ensure all arisings are collected and removed, either off-site or to a sacrificial area of the verge to create a habitat pile. This prevents nutrient enrichment and increases botanical diversity.
- Where additional cuts are required for safety purposes, cuts should avoid the main flowering period (July-Aug) where possible.
- All verges should be monitored for litter and litter picks undertaken where necessary to reduce the risks to wildlife and increase the aesthetical value of the verges.

18.2.2 Calcareous and Acid Grassland and Lowland Meadows

Much of the remaining grassland in Derbyshire is managed as permanent pasture. The essence of pasture grazing lies in ensuring that the production from one year has all been removed before the start of the next growing season. The grazing period depends upon the characteristics of the grassland.

The Peak District is fairly distinct in its grasslands as the species mix is determined by the soil type, meaning that the areas of the borough covered by the Dark Peak are predominately acidic, whereas those within the White Peak are predominately calcareous.

Moreover, much of the Peak District is characterised by heavily grazed sheep pasture. Sheep are highly selective grazers and will often target flower heads, avoiding unpalatable species; eventually leading to monoculture of dominating species with limited floristic diversity.

Key management actions to improve grazed grasslands include:

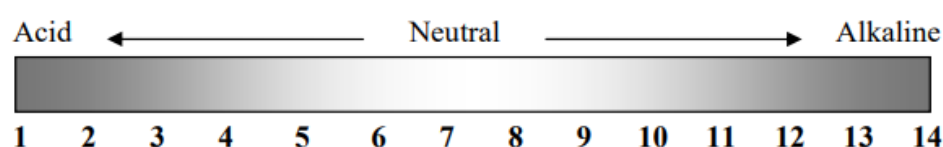
- pH levels of the soil (which will dictate if it is acidic, neutral or alkaline) can be easily tested with kits from local garden centres, see figure below on how to assess the result.



If seeding the grassland, ensure to get seed mixes suitable for the area and pH. Advice on appropriate seed mixes can be sought through conversations with DWT, tailored to each site however, general recommendations include heath bedstraw, sheep's sorrel, tormentil, fescues and potentially a small number of dwarf shrubs and rushes including common and bell heather, billberry, jointed rush and heath rush for acidic grasslands and salad burnett, field scabious, wild thyme, fairy flax and quaking oat grass for calcareous.

- Exclude livestock from early march to July, aiming to graze later in the year between August and December, aiming to create a sward height of under 2 inches for winter whilst allowing some tussocks to remain. When to remove the stock will be dependent on how wet the field is, this should be monitored and stock removed when risk of poaching is present. Additional grazing implementations may need to be carried out such as light grazing in April as a means of natural scrub control if scrub encroachment is high as well as light grazing from July – October if purple moor grass and soft / hard rush are dominant and preventing further species richness. Stocking densities should aim to be 0.15 to 0.6 LU/ha/year.
- These can be grazed by cattle, sheep, horses or ponies but use of hardy cattle such as black galloways or shetlands will improve floristic diversity due to the nature in which they graze being far preferable to sheep.

Figure 2. pH Scale of Soil



18.2.3 Seeded Meadows

Native wildflower meadows are a suitable option for open habitats within smaller land parcels such as public open spaces, verges and amenity sites as they do not require the use of grazing animals and can therefore be maintained in public spaces.

To create a seeded meadow:

- Test the Soil pH to identify appropriate species mix.
- If the soil is too fertile then wildflowers will face competition from vigorous grasses and undesirable plants. Reduce nutrients over time through cutting and removal of the vegetation and creation of areas of bare ground.
- Scarify 50–75% of the ground in late summer. Take the chosen seed mix and mix with sand, spread the seeds and trample in. Water during dry weather and monitor for any abundance of thistles and docks which will need to be removed before they seed.
- Management after year 1:
 - Cut and remove all cuttings in late February / early March;
 - Cut and collect again once most of the plants have seeded in late August / early September. If possible, alternate cut timing year on year to create variation; and,
 - Leave sections of site unmanaged to provide crucial habitat for invertebrates.



18.2.4 Open Mosaic Habitat (OMH)

Open Mosaic Habitat is a complex and threatened habitat that is of high importance to a number of priority species. OMH as a habitat is often targeted for redevelopment as it is typically situated on brownfield sites. Moreover, disturbance is key to maintain the habitat, because if the area is left then over time succession will lead to the habitat becoming grassland or, more commonly, scrub.

One of the main things that should be done to protect this habitat is reconsideration of development allocation, aiming to conserve OMH habitat and instead targeting areas of lower ecological quality such as amenity or modified grassland.

To maintain, professional ecological advice should be sought on a site by site basis due to the complexity of this habitat however, key objectives include:

- Implement periodic intervention to prevent large areas of succession. This should be done through rotational bare ground creation, using excavators to expose bare soils and creating scrapes and banks, redistributing subsoils in localised areas.
- This should happen outside of the flowering season, preferably over winter but when substrates are dry and firm and should happen on a rotational basis approximately every 5 years (depending on size of site and size of disturbance plot).
- These areas should subsequently be monitored to ensure recolonisation. Urban habitats such as this are often under threat from colonisation by invasive, non-native species particularly Japanese knotweed and Himalayan balsam. Ensure to monitor and remove all non native species when found.

Open Mosaic Habitats are extremely difficult to create manually and are essentially created through allowing post urban / industrial areas to naturally recolonise with flora developing within the thin soils and substrates. Once established, follow associated management recommendations or consult a qualified ecologist to provide an appropriate, detailed management plan.

18.3 Habitats to Restore and Protect Wetland Networks

Outside of the SSSIs and SACs, the existing wetland sites are primarily made up of small, scattered wetlands and rivers, many of which are identified to be in poor condition. Priority habitats identified within the previous Local Plans include blanket bog, upland heathland, upland flushes, fens and swamps, wet woodland, purple moor grass and rush pasture, rivers and streams, ponds and lowland fens.

18.3.1 Wet Woodland

The creation of wet woodland follows much the same procedure as the creation of broadleaf outlined above. Additional measures include:

- Appropriate wet woodland species for the area include alder, downy birch, goat willow and crack willow, an understorey of silver birch and oak and a shrub layer of hawthorn, grey willow, blackthorn and dog rose, ensuring to maintain 20% of open space throughout in the form of glades and rides.
- Acquire all saplings from local sources to reduce the risk of disease spread.



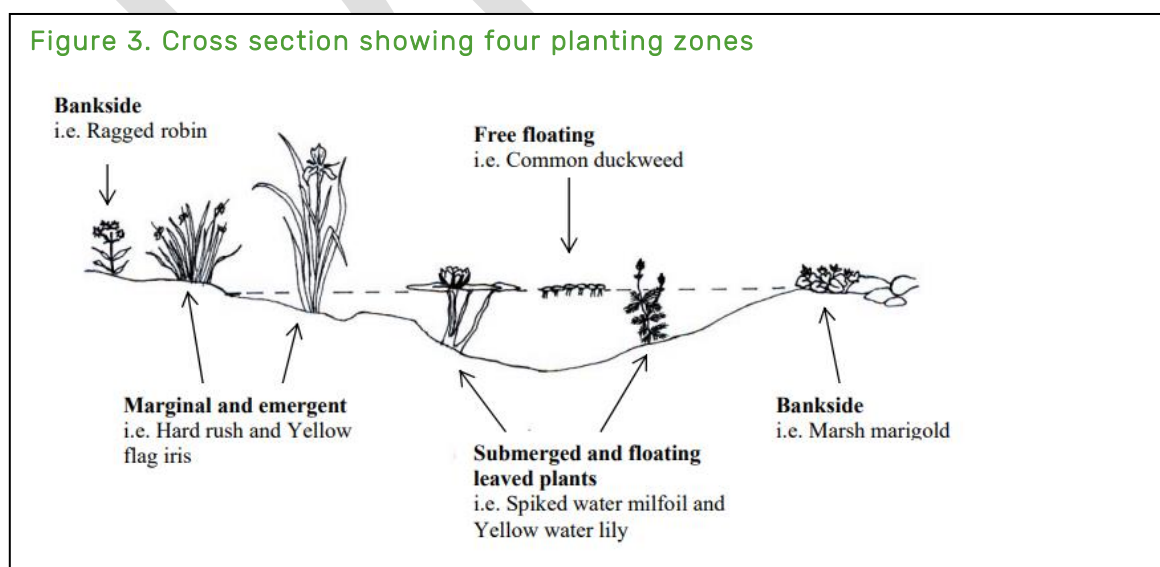
- Long term management is to follow that for broadleaved woodland, maintaining 20% of open space and regularly thinning and restocking where needed to maintain a diverse, three-dimensional structure of mature trees and young saplings.

18.3.2 Ponds, Ditches and Scrapes

Pond numbers in the UK have seen huge declines in recent decades, having immense negative impacts on amphibian numbers as populations no longer have a network of ponds in which to commute between and are often left isolated. To create and manage new ponds:

- Use a digger to create a varied profile with shallow edges 0-10cm deep, slowly undulating towards the pond centre which should be 1m at its deepest point.
- Natural regeneration of pond plants is preferable however, if stocking does occur it should include a range of plants within 4 zones: bankside (marshy plants further away from the water), marginal and emergent (wet tolerant and can stand in water), submerged and floating leaved (rooted under the water) and free floating.
- Appropriate plants include water forget-me-not, soft rush, joined rush, hairy sedge and common reed in the margin as well as marsh penny wort and common water starwort submerged and free floating.
- A 'little and often' approach is best employed. This is achieved by undertaking annual vegetation removal in the autumn, restricting the amount removed each year to no more than a fifth of the total amount.
- If existing pond edges are steep, improve by re-profiling to create a 'marginal' zone which will encourage a range of plants to develop and allow easier access for amphibians.
- Scrubby vegetation adjacent to the ponds is complementary to the habitat mosaic and should be encouraged but will require management if the pond becomes too shaded.
- Log piles provide extra habitat for hibernating amphibians. Bark of branches and logs which penetrate the water provides a valuable micro-habitat for insects.
- If it is necessary to control plants, do so by removing a wedge or strip across the range of water depths as different animals live at different depths.
- Do not introduce non-native invasive species and remove if they occur.

Figure 3. Cross section showing four planting zones





Scrapes and ditches can be created in naturally wet areas and surrounding existing waterbodies which will create seasonally wet features. Use the natural topography of the ground to its advantage, enhancing areas that may already occasionally store water.

- Create scrapes by removing the top layer of soil to form shallow hollows in the ground. The deepest section should not exceed 500mm below ground level, with tapering edges to create shallow margins. The basin should undulate so as to create different depths and areas of exposure. Do this during winter, avoiding breeding bird season and the vehicle used should take the path of least resistance, remaining on footpaths where possible to avoid damage.
- Ditches can be similarly created to control water flow and distribution, like scrapes, these can be profiled and shaped for maximum benefit for wildlife, creating gently sloping sides and ledges which allow species to access the waterbodies and provide space for vegetation growth.
- The simplest way to enhance new features is through allowing plants to naturally colonise, particularly if the site is in close proximity to an existing wet feature. Should the area be seeded or planted, appropriate species include wild angelica, meadowsweet, marsh bedstraw, Watermint and marsh marigold. Do not plant any invasive or non-native species.

18.3.3 Blanket Bog

It is highly unlikely that the council will be in a position in which they are either managing or advising on blanket bog habitat and there are a wide range of existing projects occurring to protect this vital habitat however, key measures to improve its biodiversity value include:

- Preventing burning management practices, this causes lasting damage to the peat and much of the flora.
- Prevent sales of peat compost and peat extraction.
- Block gullies to reverse the impacts of moorland draining.
- Support sphagnum replanting, consider supporting organisations such as moors for the future with volunteer sphagnum planting days.

18.3.4 Upland Heathland

Upland heathland is a one of the habitats that the Peak District is most recognisable for, creating sprawling plains of purple during August. Appropriate management for this complex site includes:

- Ensuring to cut, not burn the heather if this type of management is required. Not only does burning cause lasting damage to the peat and the sphagnum, it also puts numerous species at risk including reptiles and small mammals.
- Block created channels and gullies.
- In areas of flora degradation, consider doing brash laying of cut heather to seed spread as well as plug planting key species groups including billberry, cowberry, common cotton grass, hares tail cotton grass, cross leaf heath, bell heather, tormentil and sphagnum.
- Consider the creation of small scrapes to create additional wetland features which may support ground nesting birds, amphibians and reptiles. If done with machinery, ensure to take the path of least resistance, aiming to keep any machinery on footpaths where possible to prevent damage.



- Keep public to footpaths, heather is easily damaged by trampling and allowing unlimited public access can have negative impacts.
- If grazing, grazing pressure should be minimal however be aware that the impacts of under management can also be damaging. If the site is heather dominant, introduce a hardy species of sheep *i.e.* swaledale or cheviots for 1 – 2 months in late summer during year one at a low density who will be able to remove some of the heather build up. Following this a recommended stocking rate of 0.05 cattle per ha during the summer is recommended. Stocking density should be monitored and adjusted accordingly based on how the vegetation is responding.
- The above should only be used as guidance and exact stocking densities should be calculated based on complexity of the existing site, including overall age and dominance of heather and the percentage of the area made up by grass moors.

18.3.5 Upland Flushes, Fens and Swamps

Upland flushes, fens and swamps are all highly sensitive habitats that are highly susceptible to damage, particularly drainage, pollution, trampling, burning, use of vehicles, agricultural intensification and trampling.

- Grazing is required on these sites as without it, they have a high likelihood of reverting to woodland through pioneer tree species such as birch. Small amounts of scrub encroachment can be beneficial as it improves diversity of the habitat however, if this goes over 15% of the whole site, intervention is recommended.
- Grazing density is recommended at 0.03 livestock units per ha per year and grazing is best carried out between May and late September, if the ground is too wet, remove stock to avoid excessive poaching however light poaching in some areas may be beneficial as it can provide space for new plants to grow.
- Grazing should be carried out with native, hardy cattle as they create a more diverse habitat and there are many species within fens that horses and sheep may find unpalatable.
- If areas of habitat are being avoided by cattle and therefore becoming rank, cutting should be considered however expert advice is recommended before this type of management is carried out.
- Monitor for encroachment of Japanese knotweed and Himalayan balsam and remove where found.
- Be aware of pollution from neighbouring land uses which may be entering the soils through run off.

18.3.6 Purple Moor Grass and Rush Pasture

This is a habitat that occurs on poorly drained sites, typically with wet, acidic soils and is often found within a mosaic of other grassland and wetland habitats.

Management of these sites include:

- Low level grazing at a suggested rate of 0.5 livestock units per ha. Preferably this should be done with a combination of both hardy sheep and cattle rotating which species is grazing year on year.
- Timing of grazing is dependent on the current condition of the habitat, with spring and autumn grazing of cattle helping to reduce purple moor grass dominance and improve



diversity whereas winter grazing will help to break up the sward however, care must be taken to avoid excessive poaching if grazing in wetter months.

- A rotational grazing regime is preferred as this should create a variation in sward heights, with patches of taller vegetation providing nesting and burrowing habitat whilst shorter vegetation will open up the sward to new species.
- Similar to the above, if the site has had minimal management in recent years, cutting may be appropriate however expert advice is recommended before undertaking this.
- Be aware of pollution from neighbouring land uses that may be entering the soils through run off.

18.3.7 Rivers and Streams

Many of the key management aspects of protecting rivers and streams is through allowing them to be more natural, reducing manmade influences and reconnecting waterbodies to their floodplains. This includes,

- Seek to remove weirs / remainder waterbodies around existing weirs. This will allow passage of fish and reconnect the waterbody to itself. This requires expert ecological advice including ecology surveys and Ecological Impact Assessments.
- Where grazing occurs, fence off the stock from the waterbody to prevent poaching and bank damage.
- Prevent pollution and run off.
- Allow the creation of leaky dams to slow the flow of the waterbody and prevent flooding downstream.

18.3.8 Lowland Fen

Lowland fen is a rare and important habitat that has seen large declines in quality and extent in recent decades as a result in loss of traditional management and drainage. This is a complex habitat and ideally should be subject to specialist advice to ensure it is effectively restored however, key recommendations include:

- Engaging in the Great Fen Project
- Raising and maintain higher water tables through irrigation.
- Grazing with hardy, native cattle, preferably between May and Late September and should be kept at 0.03 livestock units per ha, per year however, this should be evaluated based on weather conditions and in situations where the ground is too wet, stock should be removed.
- Monitor rate of encroachment from pioneer tree species such as silver birch, if woody species exceeds 15% of the overall site, intervention will be needed.
- Monitor for encroachment of Japanese knotweed and Himalayan balsam and remove where found.
- Be aware of pollution from neighbouring land uses which may be entering the soils through run off.



Appendix F. Desk results of Potential BNG sites

Site Name	Score	Surveyed
Ferneydale LNR, Ferneydale Ave	28	N
Hogshaw Recreation Ground	21	Y
Land south/land west of West Drive, Tintwistle (Sewage Works Land)	21	Y
New Mills/Thornsett Cemetery, High Hill Road,	20	Y
Manor Park	19	N
Linear Park including old tramline (land off Goyt Place as far as Alpha Mews)	18	Y
Land at the Launt (off Granby Road)	18	Y
Ashwood Park	18	N
Glossop Cemetery - possessory title	18	N
Open space around Bullring (Dove Holes)	17	Y
Land off Sherwood Road	16	Y
Land off Philip Howard Road (Harehills Park)	15	N
Community Field - Land South of Charlesworth Crescent	14	Y
Land at Temple Fields, Harpur Hill, Buxton	14	Y
Banskwood Park (Hadfield) - including land adj to railway sidings.	14	N
Serpentine Walks	14	N
Jodrell Meadow - land on north side of Jodrell Road, Whaley Bridge (Land at Hockerley Lane)	13	Y
Land off Granby Road	13	Y
Land off Woolley Bridge Road (Paradise St)	13	Y
Land to West of Lower Barn Road, Hadfield (Land off Springfield Close, Woolley Bridge)	13	N
Buxton Cemetery	12	N
Buxton Golf Course	12	N
Land at Fairfield Common (outside Golf Course)	12	N
(part of) Serpentine Walk, St Johns Road, Buxton [Gadley Woods Triangle]	11	N
Land off St Georges Road (Green Wedge)	10	Y
Open Space off Vale House Drive	10	Y
The Green off Fairfield Road, Fairfield	9	N
Hope Cemetery off Edale Road, Hope	7	Y



19 Appendix G. Detailed BNG Assessments

Each site that was surveyed for BNG suitability is described below, with baseline biodiversity value and proposed uplift outlined for each site. The calculations included below are indicative and are designed to outline which sites have the highest suitability to be taken forward. Where a site is selected for BNG, if the area is currently POS, the community must be involved in guiding the decision making around the design and implementation of the habitat creation.

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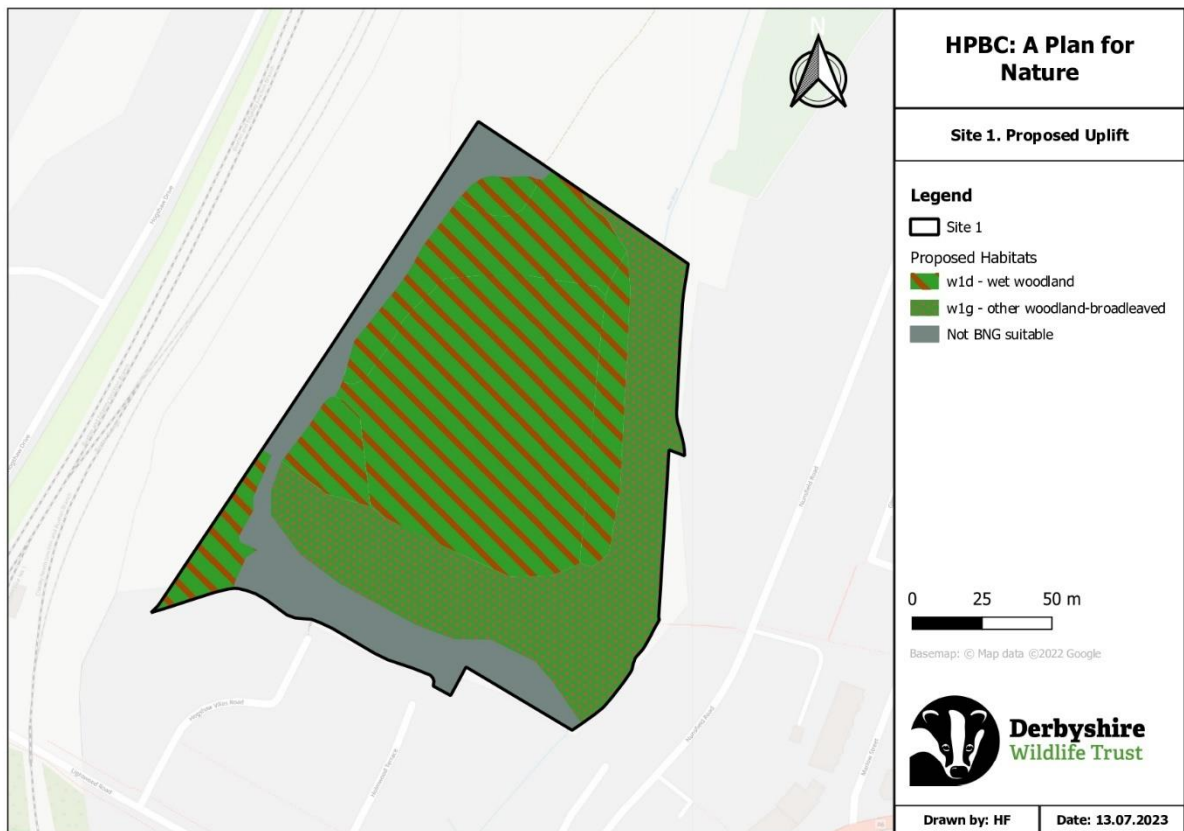
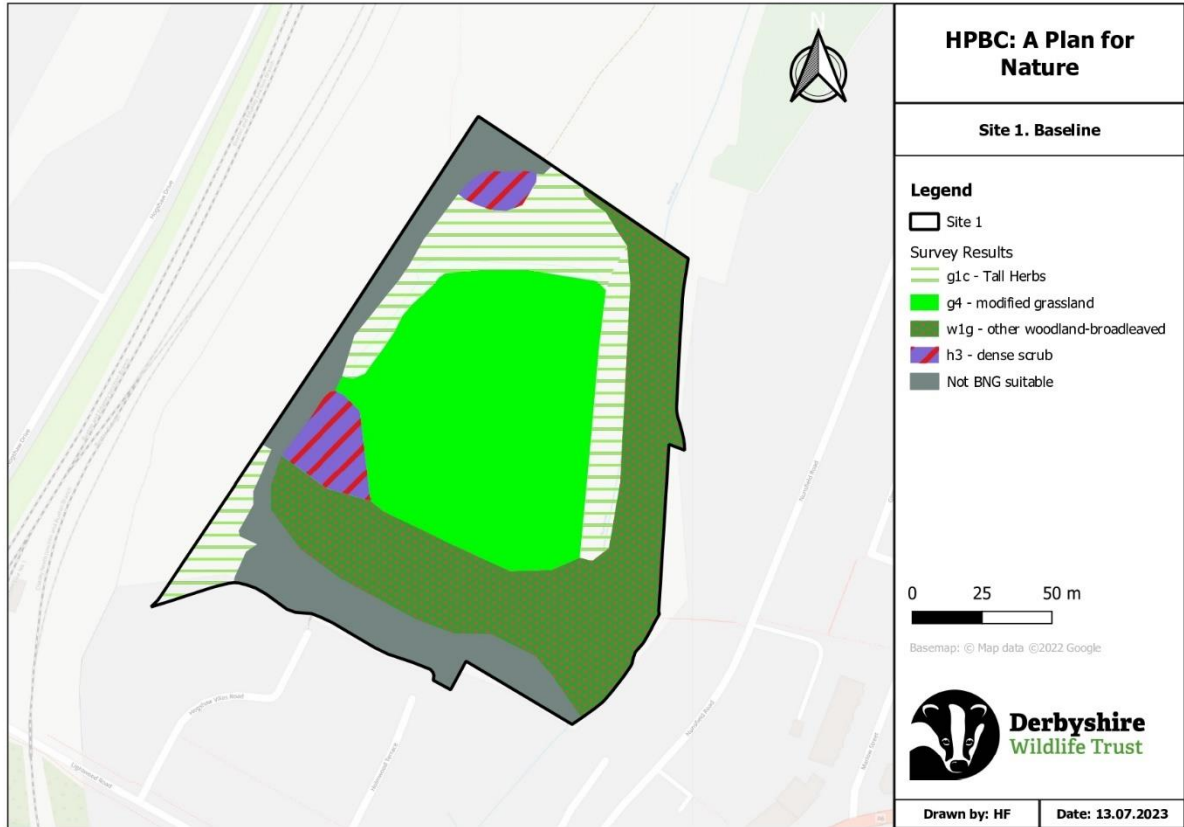
19.1 Site 1. Hogshaw Recreation Ground

Map Reference: 1	Location: Buxton	Size: 2.3ha
<p>Description: Large public recreation area including a playground and playing field, comprising mown modified grassland, with areas of taller grass around the northern, eastern and western edge. The grassland is surrounded by native broadleaved woodland to the east and south with a gravel footpath to the west. A strip of wet woodland is located to the west of the site. Patches of dense scrub are located to the north of the grassland and to the southwest with invasive species (Japanese knotweed and snowberry) recorded onsite. The southern section comprises a road and parking, with a row of garages. A section of tall herbs with invasive species is present in the southwest corner.</p>		
<p>Habitat Connectivity: Moderate. Site is surrounded by a medium sized woodland; however, this woodland has limited connectivity to the surrounding landscape. The site itself is identified as being high priority for wet woodland creation in the NRN.</p>		
Main Habitat Type:	Habitat Condition:	
Broadleaf woodland	Poor	
Modified Grassland	Poor	
Scrub	Poor	
Scrub	Moderate	
Tall herbs	Poor	
Tall herbs	Moderate	
<p>Habitat Enhancement or Creation Potential: High. It is strongly recommended that the site is used to create an expanse of wet woodland, enhancing the existing woodland into moderate quality as opposed to poor. The site should maintain public access and establish a nature walk around the site as it is becoming established.</p>		
Approximate Baseline Units: 6.17 Habitat Units (of usable land)	Potential Net Unit Change: +5.98 Habitat Units, delivered through:	
Approximate Post Intervention Units: 12.15 Habitat Units	<p>Restoration of the existing woodland from poor to moderate by retaining deadwood and felled trees in situ, establishing a more diverse species mix and aiming to create a varied vertical structure and age class as well as removal of nonnative, invasive species.</p> <p>Creation of an approximate 1.28ha of wet woodland in the remaining area of the site in moderate condition, creating a diverse structure with a mixture of willow, alder, birch and other native</p>	



	species. Appropriate assessments will need to be carried to establish the ground water level is suitable for wet woodland, desktop data suggests this is the case. Additionally, any area used to create footpaths will need to be removed from the area calculation in a final BNG assessment.
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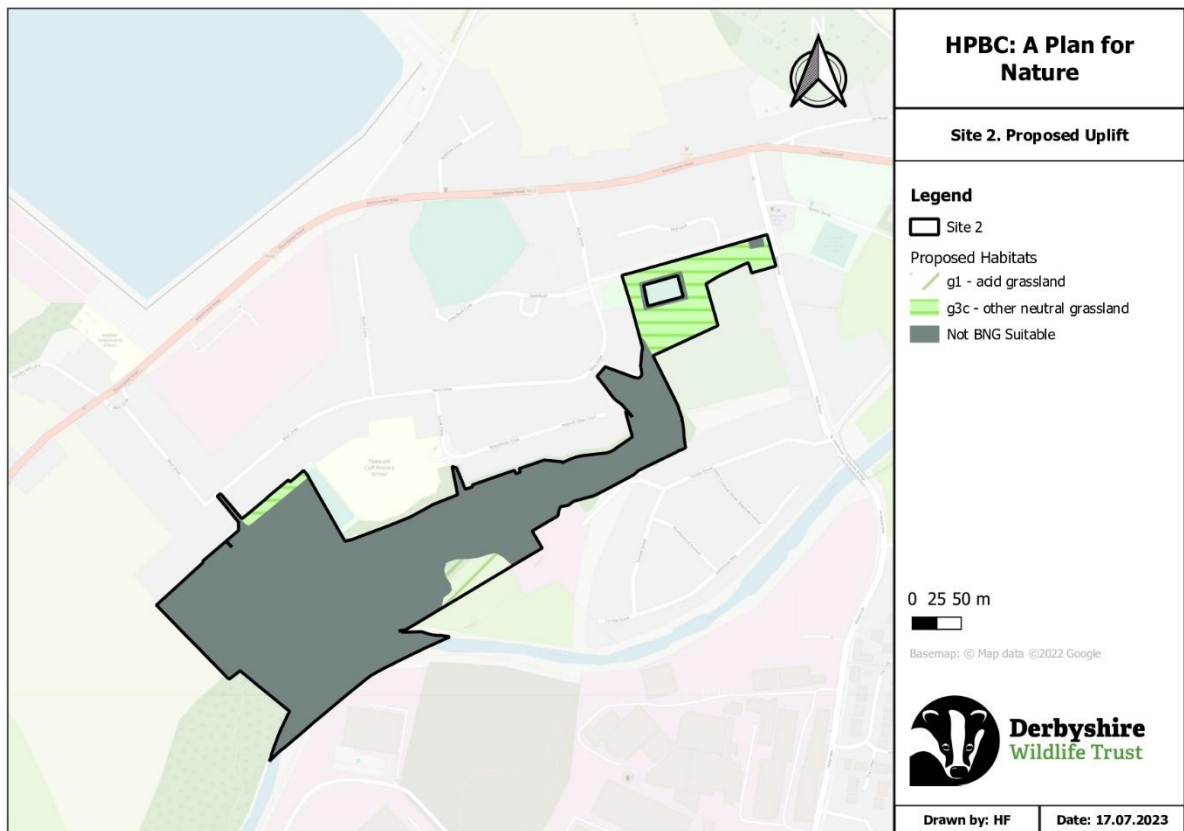
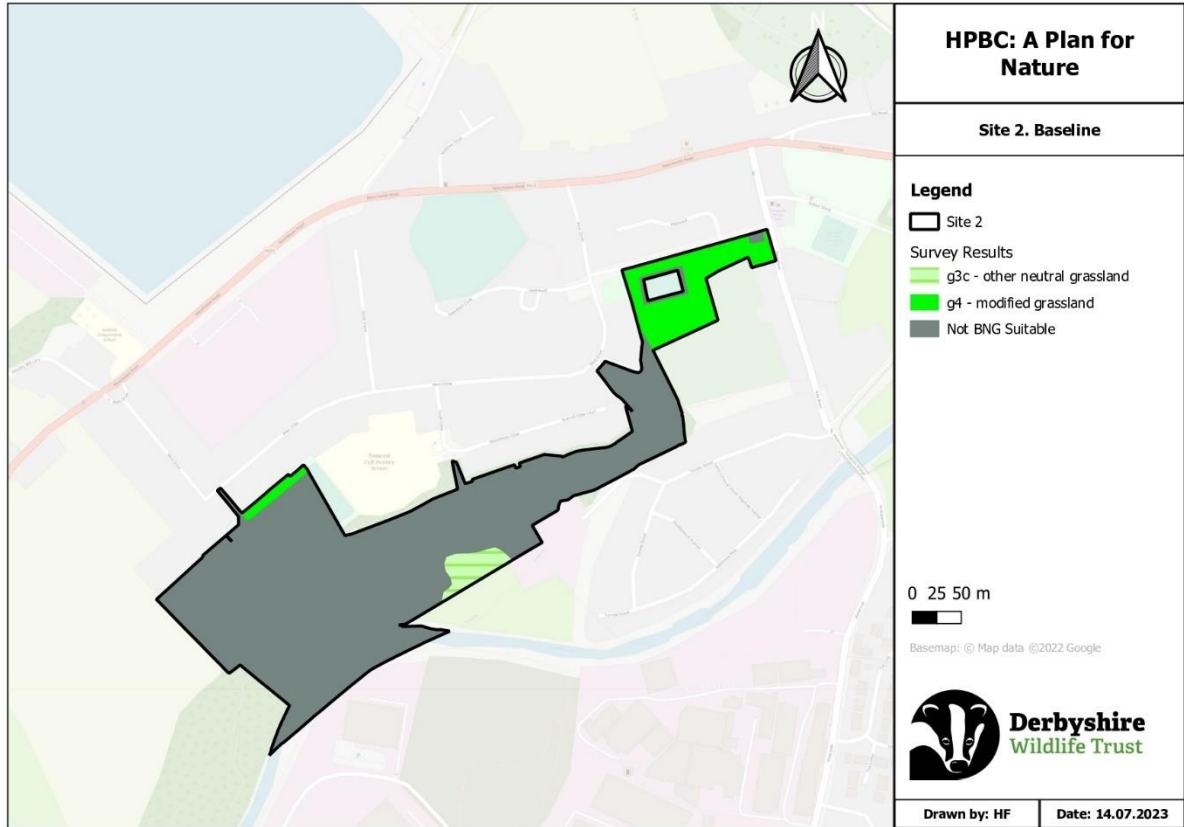
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19.2 Site 2. West Drive

Map Reference: 2	Location: Tintwistle	Size: 7.2ha
<p>Description: A varied site with numerous public footpaths throughout made up of native broadleaf woodland, modified grassland, other neutral grassland with acidic indicators and several playing fields and public spaces. The site is relatively large however, the area suitable for BNG is minimal, with many areas needing to be removed either because they are of existing high quality (native, diverse broadleaf woodland) or they are used for public amenity such as playing fields and playgrounds.</p>		
<p>Habitat Connectivity: Moderate. The site is dominated by woodland which is part of a scattered network of broadleaf woodland that extends out of the county and into Greater Manchester. The site is identified on the NRN as being high priority for expansion of woodland.</p>		
Main Habitat Type:	Habitat Condition:	
Modified Grassland	Poor	
Other Neutral Grassland	Poor	
Broadleaf Woodland	Not assessed for BNG as is of high existing value	
<p>Habitat Enhancement or Creation Potential: Moderate. The area currently identified as other neutral grassland has some acidic indicators, the pH of these soils should be tested and the area of grassland retained and enhanced to either good quality acid grassland or other neutral dependent on the results, this should be delivered through a reduction in scrub cover and appropriate sward management to increase species diversity. The area of modified grassland has high public use and therefore, established footpaths will need to be created throughout and the surrounding land enhanced to moderate quality other neutral grassland.</p>		
Approximate Baseline Units: 2.36 Habitat Units (of usable land)	Potential Net Unit Change: + 4.87 Habitat Units, delivered through:	
Approximate Post Intervention Units: 7.23 Habitat Units	<p>The enhancement of the existing other neutral grassland from poor to good condition either acidic grassland or other neutral based on pH assessment of soil. The enhancement of identified modified grassland to moderate quality other neutral grassland through sections of appropriate seeding, altering mowing regime and retaining small areas of bare ground. Much of the modified grassland will need to be retained due to recreation value, the maps below identify the proposed areas for uplift.</p>	





19.3 Site 3. Thornsett Cemetery

Map Reference: 3	Location: New Mills	Size: 1.6ha
<p>Description: A public cemetery comprising a large area of modified grassland, with paved tarmac walkways tarmac throughout. Scattered trees and other areas of ornamental planting are present within the central western section of the site, along with an access road and parking. These areas are used for amenity purposes and have therefore not been assessed for BNG.</p>		
<p>Habitat Connectivity: Good. The site is part of a large, connected wooded corridor that is connected to a river and public walking trail. The wider area is identified as high priority for the expansion of the existing woodland network.</p>		
Main Habitat Type:	Habitat Condition:	
Modified Grassland	Moderate	
<p>Habitat Enhancement or Creation Potential: Moderate but likely unsuitable for BNG. Whilst much of the site is currently maintained as modified grassland and does not yet contain graves, it is highly likely that these areas will be used for graves in the future. Therefore, as much of the site's management will largely be out of the council's control, it is suggested that BNG not be used on this site. Alternatively, there are a number of biodiversity gains that can be implemented in church yards, including reducing the mowing, planting of native trees and shrubs and creating log piles or other small features along the outskirts.</p>		
Approximate Baseline Units: 3.75 Habitat Units (of surveyed area)	Potential Net Unit Change: NA	
Approximate Post Intervention Units: NA		



19.4 Site 4. Linear Park

Map Reference: 4	Location: Whaley Bridge	Size: 0.8ha
Description: The Site is a narrow linear site that is majority woodland and considered unsuitable for BNG.		
Habitat Connectivity: Moderate. The site is very small and is connected to a narrow corridor of woodland that continues along the railway line.		
Main Habitat Type:	Habitat Condition:	
Broadleaf Woodland	Not Assessed	
Habitat Enhancement or Creation Potential: Low. The site is extremely small and narrow and completely wooded, there is no potential for BNG to be carried out on this site. Instead, it is suggested that the existing management of this site be reviewed and the site itself have an assessment of current diversity and health, potentially implementing small scale, rotational management to improve the sites condition and maintain it as good quality.		
Approximate Baseline Units: NA	Potential Net Unit Change: NA	
Approximate Post Intervention Units: NA		



19.5 Site 5. Launt off Granby Road

Map Reference: 5	Location: Buxton	Size: 1.09ha
<p>Description: An area of neutral and acidic grassland located on steep slopes with grassy public footpaths throughout. Patches of bramble scrub were present on steeper south facing banks and area of woodland dominated the southern section of this site and was not assessed as it was considered unsuitable for BNG.</p>		
<p>Habitat Connectivity: Good. The site sits on the outer edge of an existing connected corridor of woodland and grassland habitats that follows much of the River Wye. The site is identified by the NRN as being of high priority for woodland creation however, the ground truthing survey suggests it is more appropriate to enhance the existing grassland on the site.</p>		
Main Habitat Type:	Habitat Condition:	
Other neutral grassland	Poor	
Upland acid grassland	Good	
Bramble scrub	N/A	
<p>Habitat Enhancement or Creation Potential: Moderate. The other neutral grassland is the primary area for uplift; the site should have soil tested to identify if the remaining site has the possibility to become upland acid grassland, as is recorded to the south west of the site, if pH results indicate this is not possible then instead the site will need to remain other neutral grassland but in an enhanced condition. Disturbance and destruction from the community was high on this site, with litter, graffiti and dog waste across much of the area – as a result community engagement would need to be high on this site to achieve success, with a focused biodiversity group from the local community involved. Moreover, due to the undulating nature of the ground, it is unlikely that the site will be able to be cut and instead, will need to be grazed however, this may be difficult due to the nature of the surrounding areas. Due to the numerous constraints on this site, the creation of woodland may be more appropriate (maintaining the existing acid grassland as open space) however, the small size of the site means that woodland creation through BNG would provide minimal uplift. Consider seeking to create an open woodland on this site through other means i.e. MOREwoods.</p>		
Approximate Baseline Units: 5.39 Habitat Units	Potential Net Unit Change: +3.43 Habitat Units, delivered through:	
Approximate Post Intervention Units: 8.82 Habitat Units	Improving the quality of the existing other neutral grassland to good quality (or good quality acidic grassland depending on pH results which would uplift 3.72 Units).	



	<p>Sowing an appropriate seed source and implementing a low density grazing regime on site with appropriate stock will create a mixed sward. Ensure to monitor scrub encroachment and consider rotational clearance.</p>
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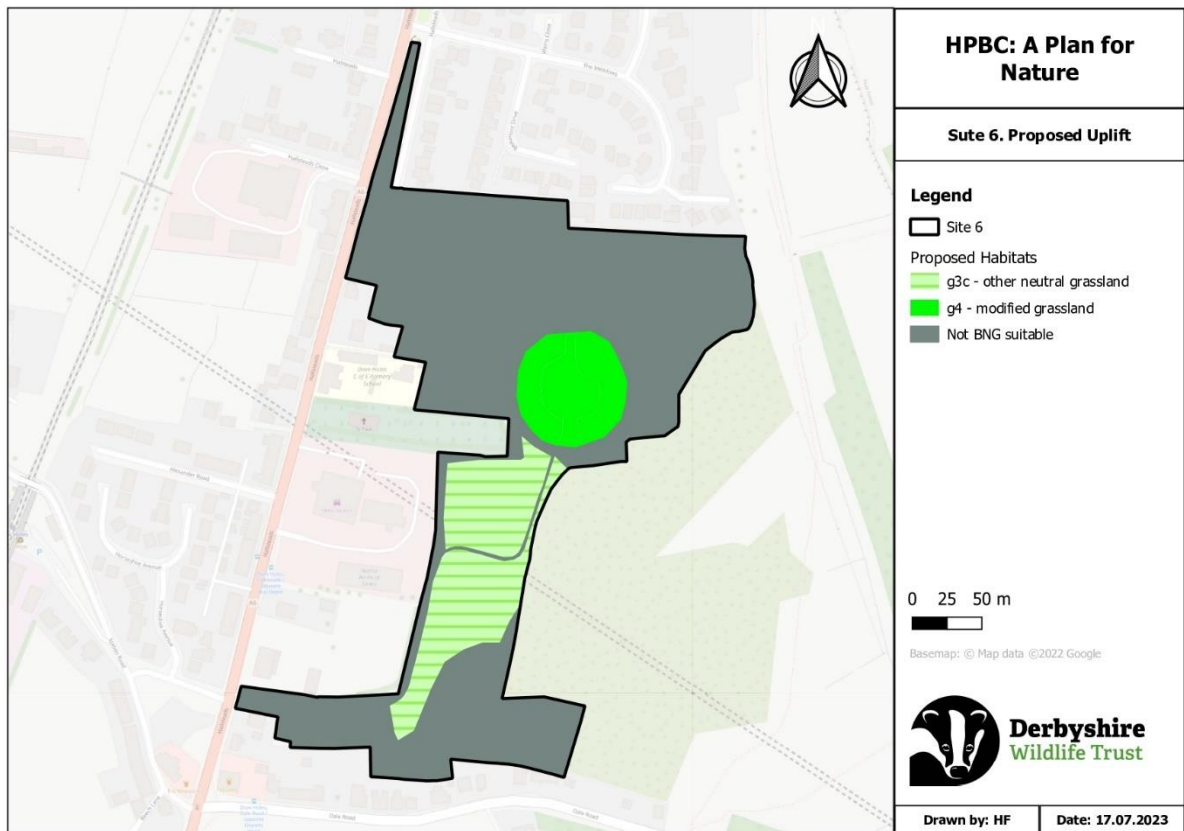
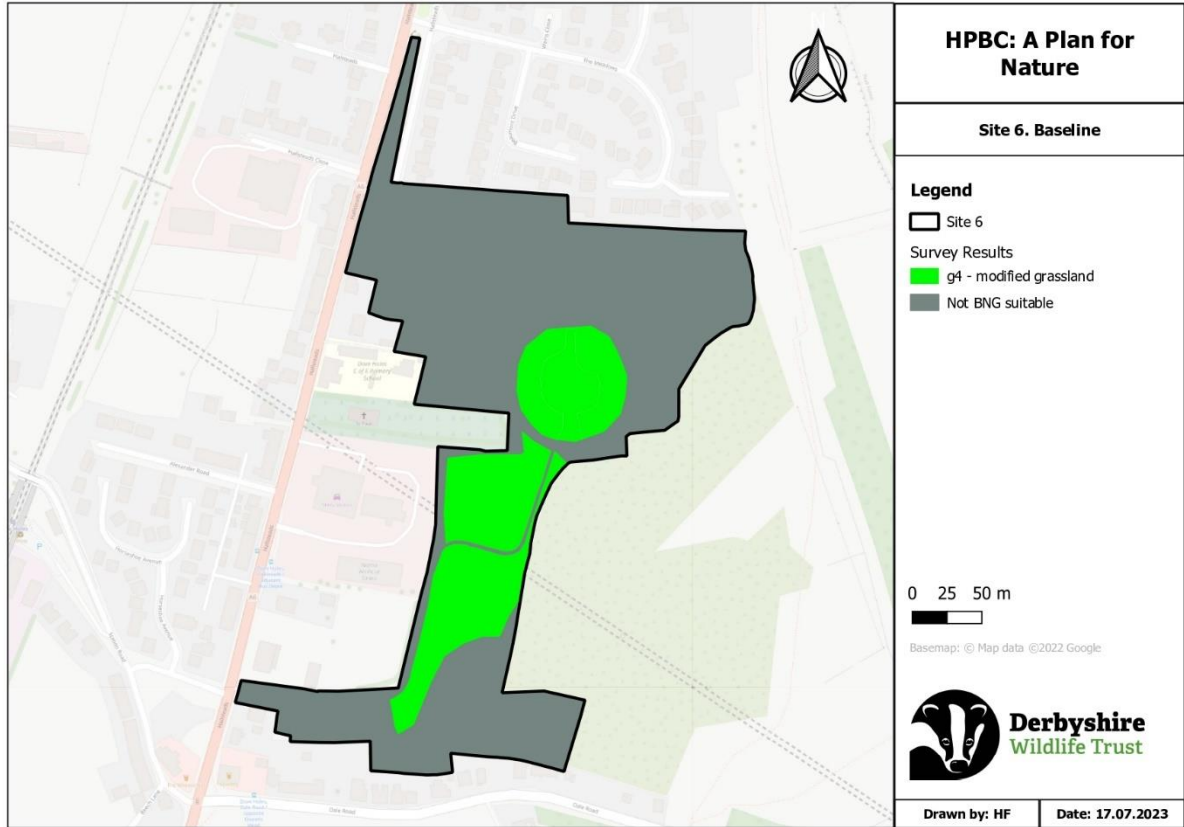
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19.6 Site 6. Dove Holes (Bull Ring)

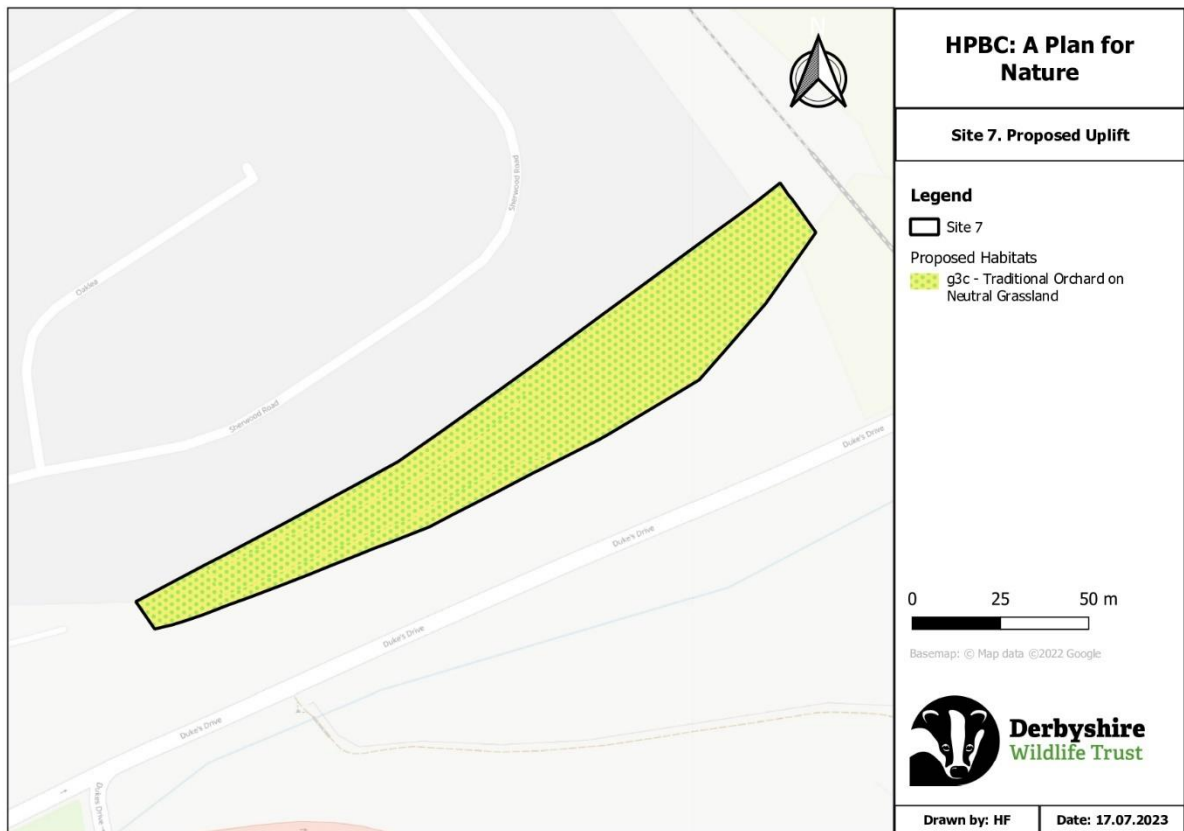
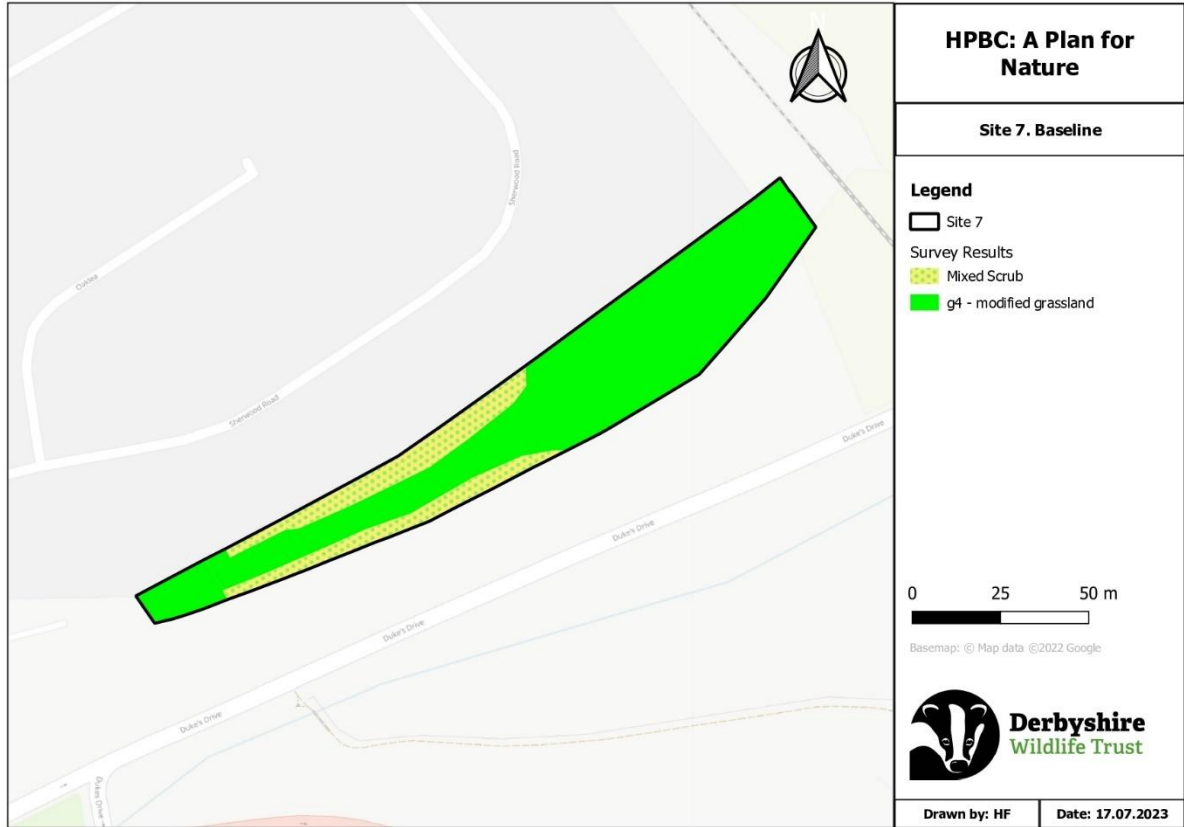
Map Reference: 6	Location: Dove Holes	Size: 6.42ha
<p>Description: A varied public park comprising playing fields, community buildings, woodland, modified grassland. The centre of the site is situated on a historic monument of a stone circle, completely covered under grassland. The topography created from this monument has allowed more diverse pockets of habitats to establish due to lack of management. Areas of public playing fields, buildings, play areas and woodland have not been assessed for BNG.</p>		
<p>Habitat Connectivity: Moderate. The site is located within a scattered network of small woodland and grassland pockets. The site is identified by the NRN as having high suitability for both woodland and grassland creation.</p>		
Main Habitat Type:	Habitat Condition:	
Modified Grassland	Poor	
Modified Grassland	Moderate	
<p>Habitat Enhancement or Creation Potential: Moderate. The site could be uplifted through a change in mowing regime and sections of seeding to become other neutral grassland – due to the high footfall of the area it is unlikely that these areas will be able to be restored into a habitat of better quality. pH of the sites soils could be tested, if the soils are acidic then seed appropriate species and instead aim for acidic grassland as opposed to other neutral. The round section of grassland at the top is a scheduled monument, therefore there may be constraints associated with changing the mowing regimes of this area, the below calculations retain the monument (currently poor condition) without change as it is assumed that this will need to remain short – if change is allowed, then follow the same management regime as the remaining grassland.</p>		
Approximate Baseline Units: 5.05 Habitat Units	Potential Net Unit Change: +6.27 Habitat Units, delivered through:	
Approximate Post Intervention Units: 11.32 Habitat Units	<p>Uplift of the larger section of grassland to good quality other neutral grassland (or acidic if pH reveals suitable) as anything more ambitious is unlikely to succeed in an area of high footfall and dog walkers. Implement appropriate mowing and seed sources. If the monument can be managed differently, then an uplift can be achieved here, either through seeding to neutral grassland or changing mowing to lift the site to good quality modified grassland.</p>	





19.7 Site 7. Sherwood Road

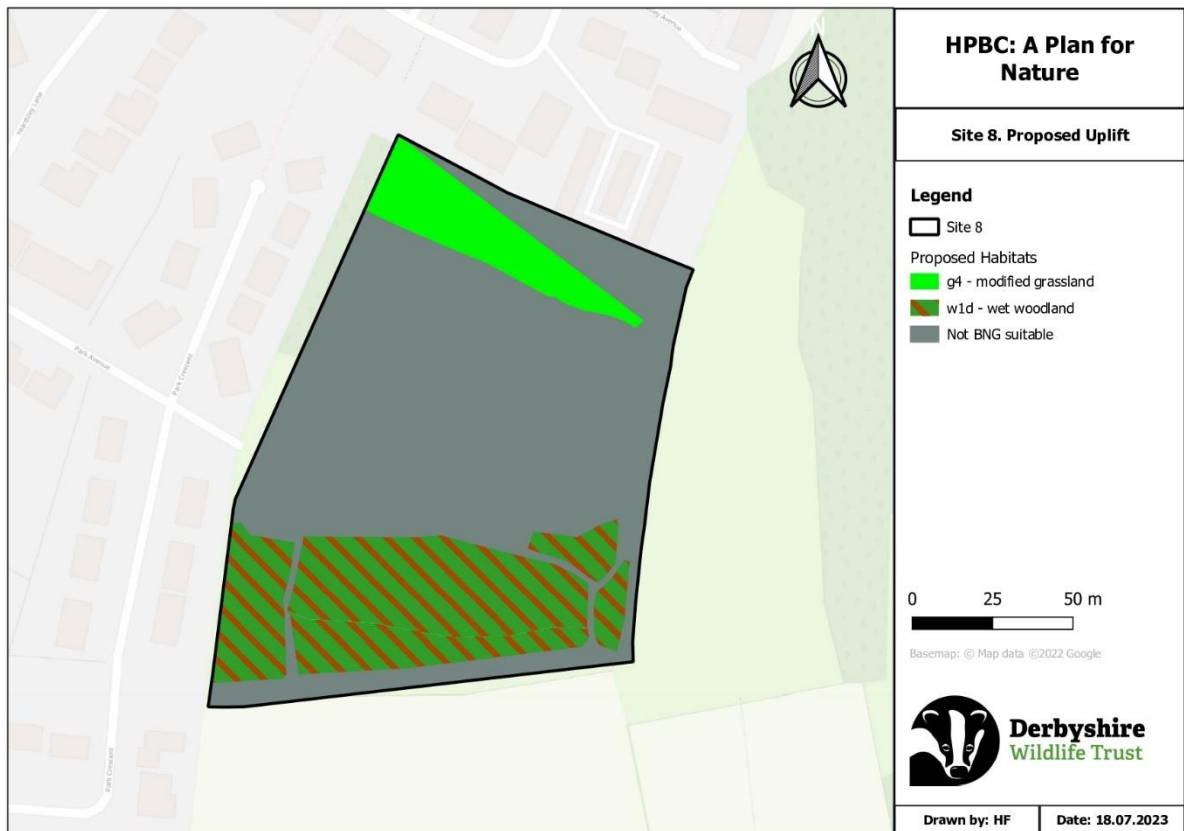
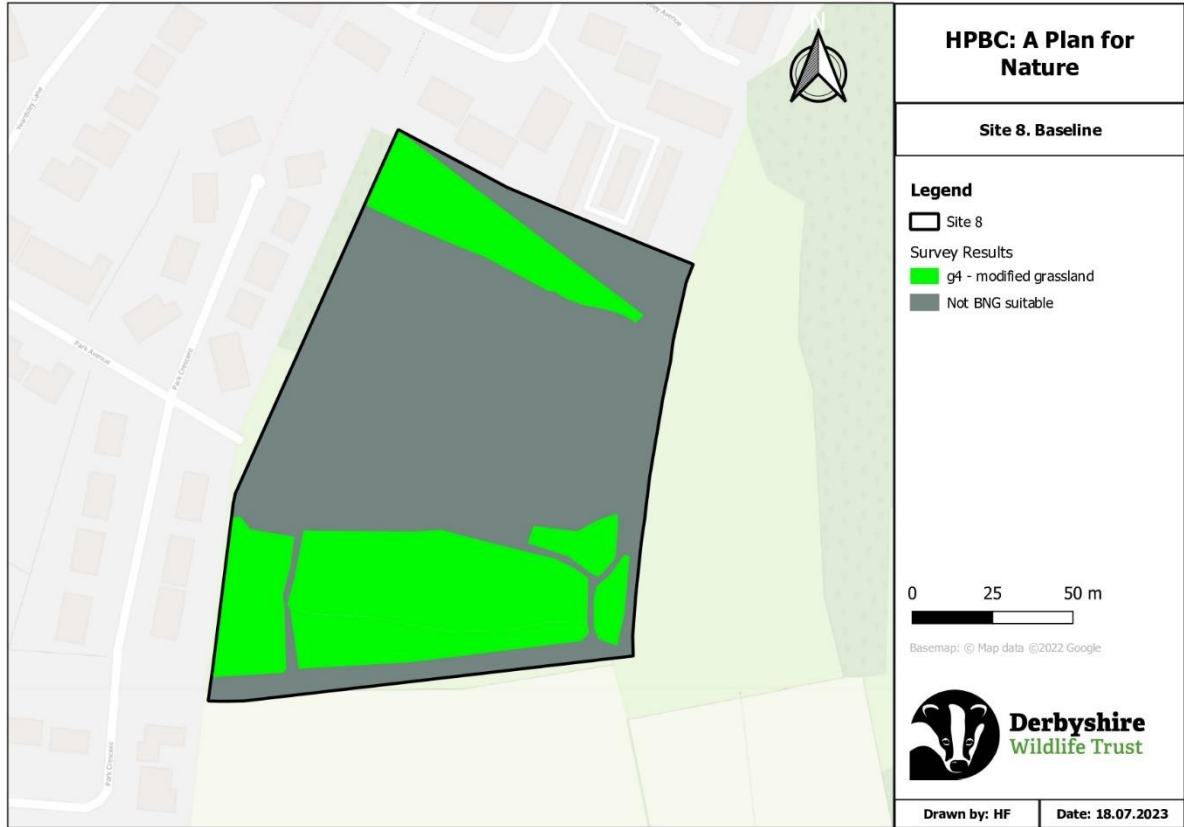
Map Reference: 7	Location: Buxton	Size: 0.47ha
<p>Description: A patch of modified grassland with public footpaths, previously used as a public playing field with an old football goal onsite. Much of the grassland was left tall and grassy with a small section to the west cut short (<5cm). Raspberry scrub was situated along a section of the north and south of the site boundary. The invasive species snowberry was recorded in two locations on the northern border of the site. A small newly planted orchard was located in centre northern section of the site.</p>		
<p>Habitat Connectivity: Good. The site is situated on the border of a large woodland corridor that extends out from the centre of Harpur Hill, habitat creation on this site would expand the existing habitat network.</p>		
Main Habitat Type:	Habitat Condition:	
Modified Grassland	Poor	
Modified Grassland	Moderate	
Dense Scrub	Poor	
<p>Habitat Enhancement or Creation Potential: Moderate. It is proposed that this site is used to expand the existing orchard planted in the north and a community orchard is created across the entire site, maintained in moderate condition. To manage this site, community involvement would need to be high. Orchards must have good quality grassland underneath them and therefore, seeding and correct mowing is a must, as well as regularly collecting fallen fruits etc.</p>		
Approximate Baseline Units: 1.86 Habitat Units	Potential Net Unit Change: +1.5 Habitat Units, delivered through:	
Approximate Post Intervention Units: 3.36 Habitat Units	Removal of nonnative snowberry and control of the raspberry canes. Seeding an appropriate mix into the grasslands and implementing a sensitive mowing regime. Planting a mixture of native, fruit bearing trees and ensuring they have an appropriate management plan. Establishing and supporting a community group who can look after the site, collecting the fruit and ensuring the site is not damaged.	





19.8 Site 8. Community Field

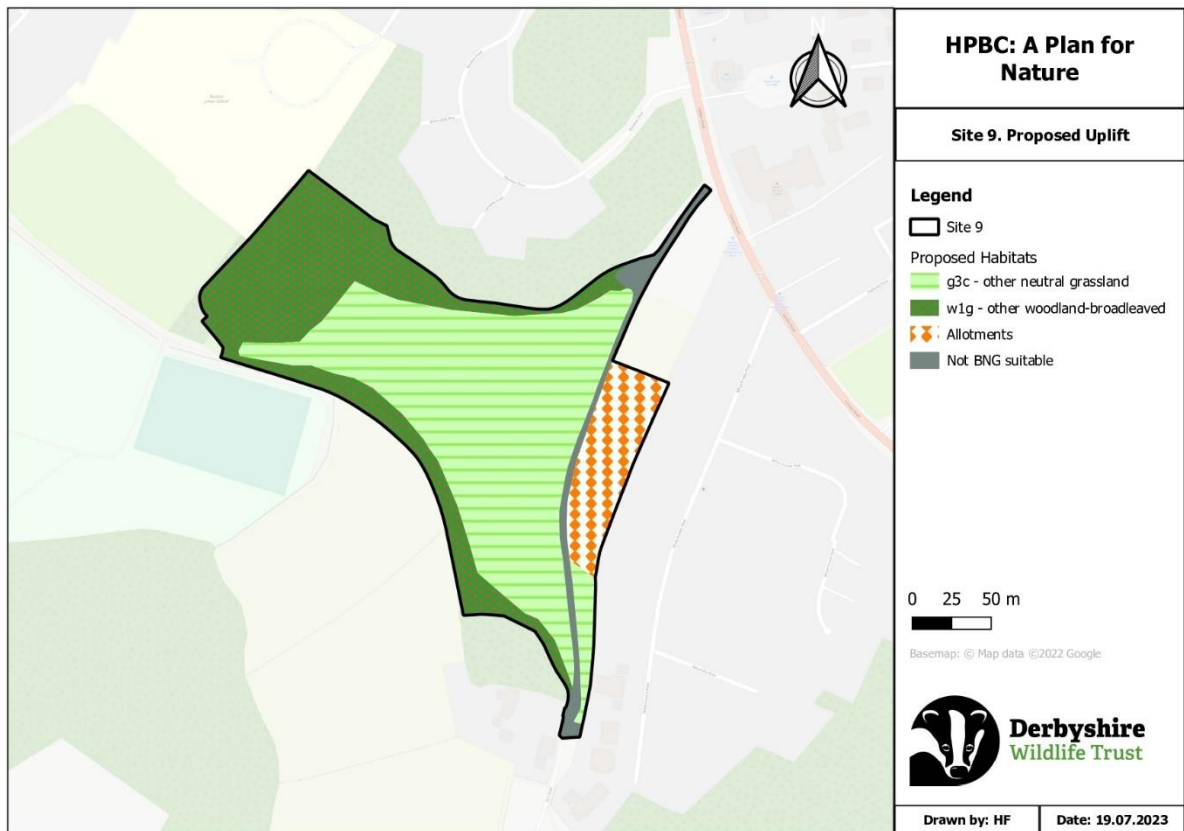
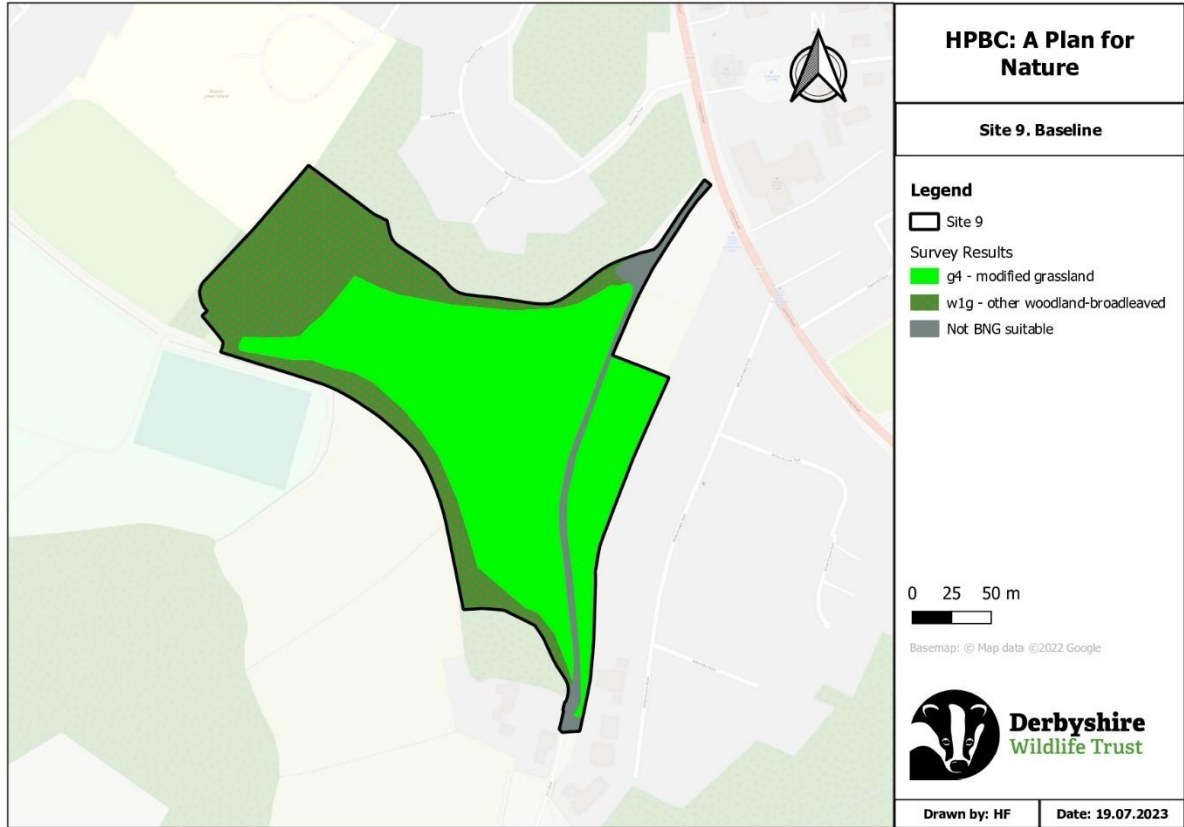
Map Reference: 8	Location: Furness Vale	Size: 1.81ha
<p>Description: A playing field with a community building and associated access. The football field, building and access track were all deemed unsuitable for BNG and therefore not assessed. Areas of grassland surrounding the pitch comprised of three areas of modified grassland. Scattered trees were present throughout the southern and northern portion of the site.</p>		
<p>Habitat Connectivity: Moderate. The site is located within a scattered existing woodland network however, it is located on the outer edge of this, and the surrounding habitats are relatively sparse. The NRN identifies much of the site as being suitable for wet woodland creation.</p>		
Main Habitat Type:	Habitat Condition:	
Modified Grassland	Poor	
Modified Grassland	Moderate	
<p>Habitat Enhancement or Creation Potential: Low. The land available for enhancement is minimal as much of it is taken up by sports pitches and community buildings. The site is fairly wet and the NRN indicates high suitability for the creation of wet woodland, baseline surveys supported this suggestion however, due to the small size of land available, wet woodland creation through BNG would not result in a net increase in units. It is therefore proposed that the areas identified on the below map are planted with appropriate tree species, including alder, willow and black poplar – particularly as there was existing black poplar recorded on the site and it is an important species, being the rarest native tree in the UK. As BNG is not an appropriate funding scheme for this, it is proposed that it is delivered through alternative funding schemes such as community funds or MOREwoods. Planting appropriate species in this area is likely to positively impact flood risk in the area, as well as diversifying the green space, creating a wilder space for the community.</p>		
Approximate Baseline Units: 1.56 Habitat Units	Potential Net Unit Change: NA	
Approximate Post Intervention Units: NA		





19.9 Site 9. Temple Fields

Map Reference: 9	Location: Buxton	Size: 4.2ha
<p>Description: A large public access area of modified grassland with a road running through the eastern section of the site and a small area of hardstanding for parking located in the northeastern. Areas of woodland are located along the southern and northern boundary of the site.</p>		
<p>Habitat Connectivity: Moderate. Sections of woodland and grassland are located around the site however, these are fragmented by residential buildings and roads. The site is shown to be high priority for the creation of woodland, likely to expand the existing woodland sites within the area.</p>		
Main Habitat Type:	Habitat Condition:	
Other Woodland; Broadleaf	Moderate	
Modified Grassland	Good	
<p>Habitat Enhancement or Creation Potential: High. The size of the site and the fact that its currently dominated by low quality habitats means that there is high suitability for uplift. Firstly, it is proposed that the existing woodland is enhanced to be in good condition, this area was surveyed for BNG as it was identified to be relatively poor quality in its current state and therefore, there is scope for improvement. Much of the remaining grassland is proposed for good quality other neutral grassland, aiming for species rich grassland with a range of native species suitable for pollinators that will engage the wider public, creating a site that is good for people’s wellbeing. A section of the site is proposed to be retained for community allotments, potentially allocating a plot to the school which neighbours the site. Finally, due to the close proximity to the school, additional engagement activities and additions are proposed, including the creation of bug hotels, bird boxes and signage.</p>		
Approximate Baseline Units: 25.93 Habitat Units	Potential Net Unit Change: +12.61 Habitat Units, delivered through:	
Approximate Post Intervention Units: 38.55 Habitat Units	<p>Enhancing the existing woodland to good quality, this is to be delivered through retention of fallen and standing deadwood on site, creating diversity in storey and structure through planting a shrub layer and ensuring a wider mix of species diversity is present.</p> <p>Creation of community allotments in moderate condition on 0.415ha of land.</p> <p>Enhancement of the remaining grassland to good quality other neutral grassland, created through sowing an appropriate mix and implementing a mowing regime to enhance the wildflowers, including sowing yellow rattle to create sward structural diversity across the site. The grassland should also have a small number of scattered trees throughout, including oak, hawthorn, hazel and elm.</p>	





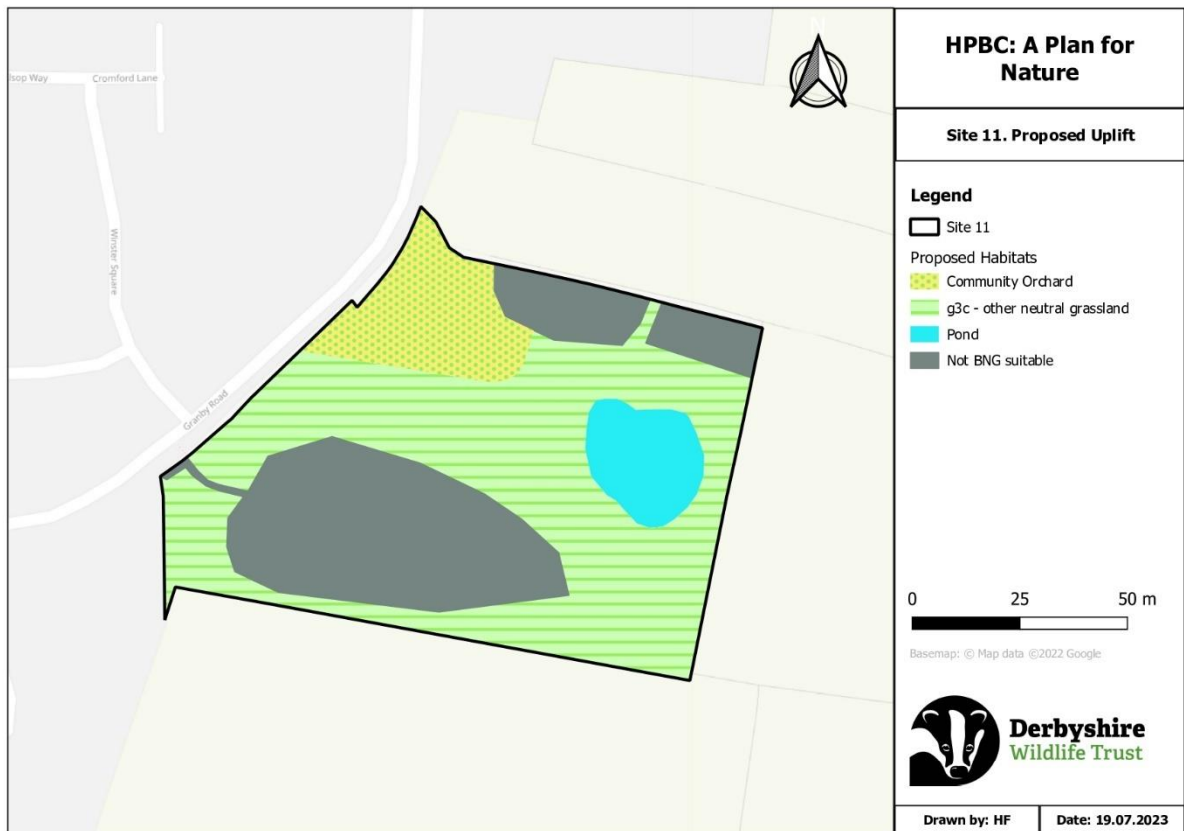
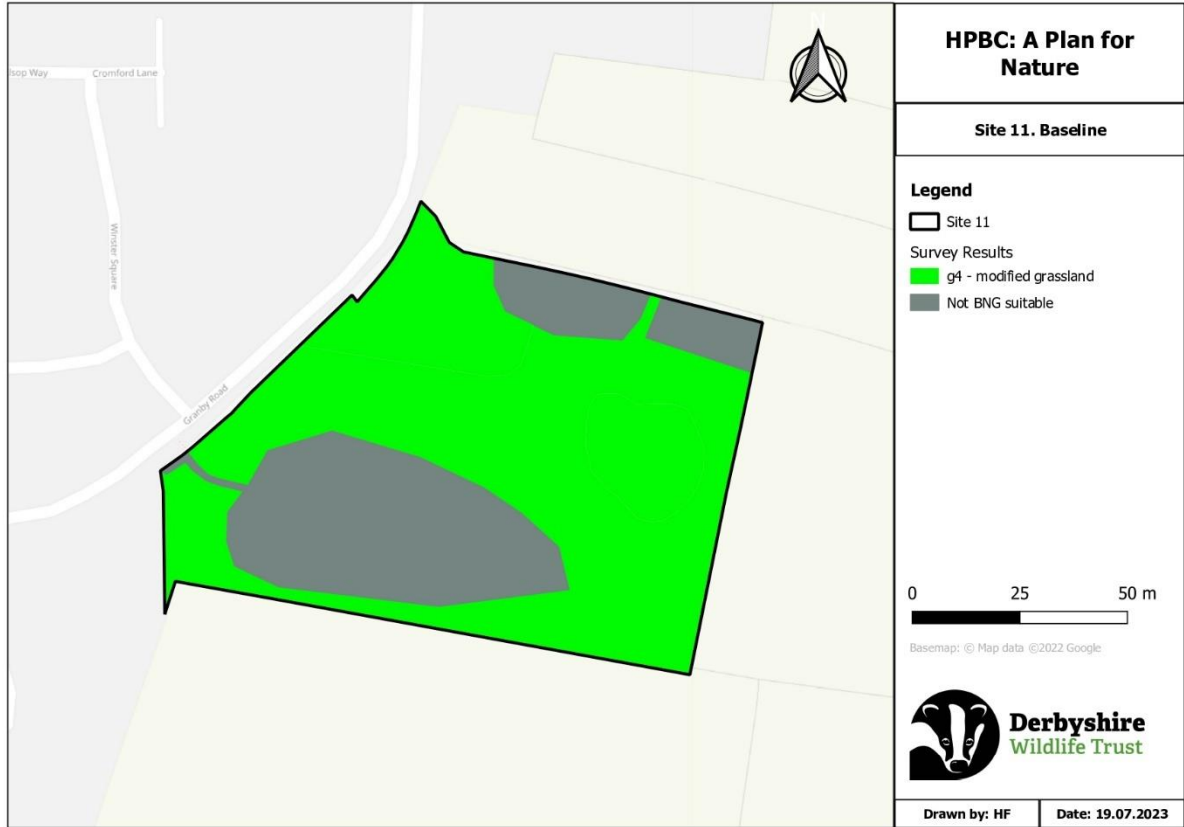
19.10 Site 10. Jodrell Meadow

Map Reference: 10	Location: Whaley Bridge	Size: 2.58ha
Description: Site is dominated by woodland which was assessed as unsuitable for BNG and therefore not assessed. Two small areas of public green space comprising modified grassland were located within the site.		
Habitat Connectivity: Moderate. The woodland that makes up much of the site is part of a wider network that expands into Chinley however, the network is relatively fragmented with narrow strips of habitat.		
Main Habitat Type:	Habitat Condition:	
Modified Grassland	Poor	
Habitat Enhancement or Creation Potential: Low. The area of land available for restoration is minimal and therefore, using this site for BNG is not viable. Small scale changes may be more appropriate on this site, including evaluating the sites existing woodland management and its mowing / management regime to create a wilder, more inclusive site.		
Approximate Baseline Units: 0.42 Habitat Units	Potential Net Unit Change: NA	
Approximate Post Intervention Units: NA		



19.11 Site 11. Granby Road

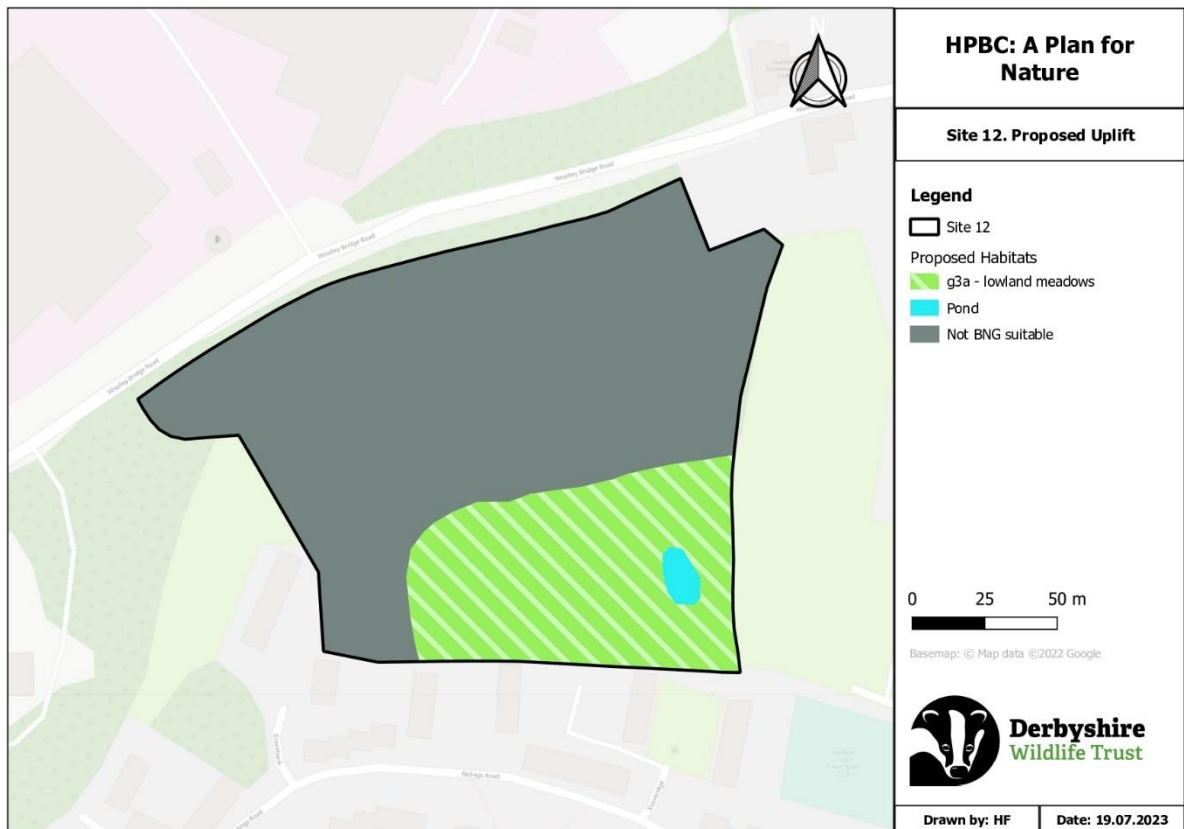
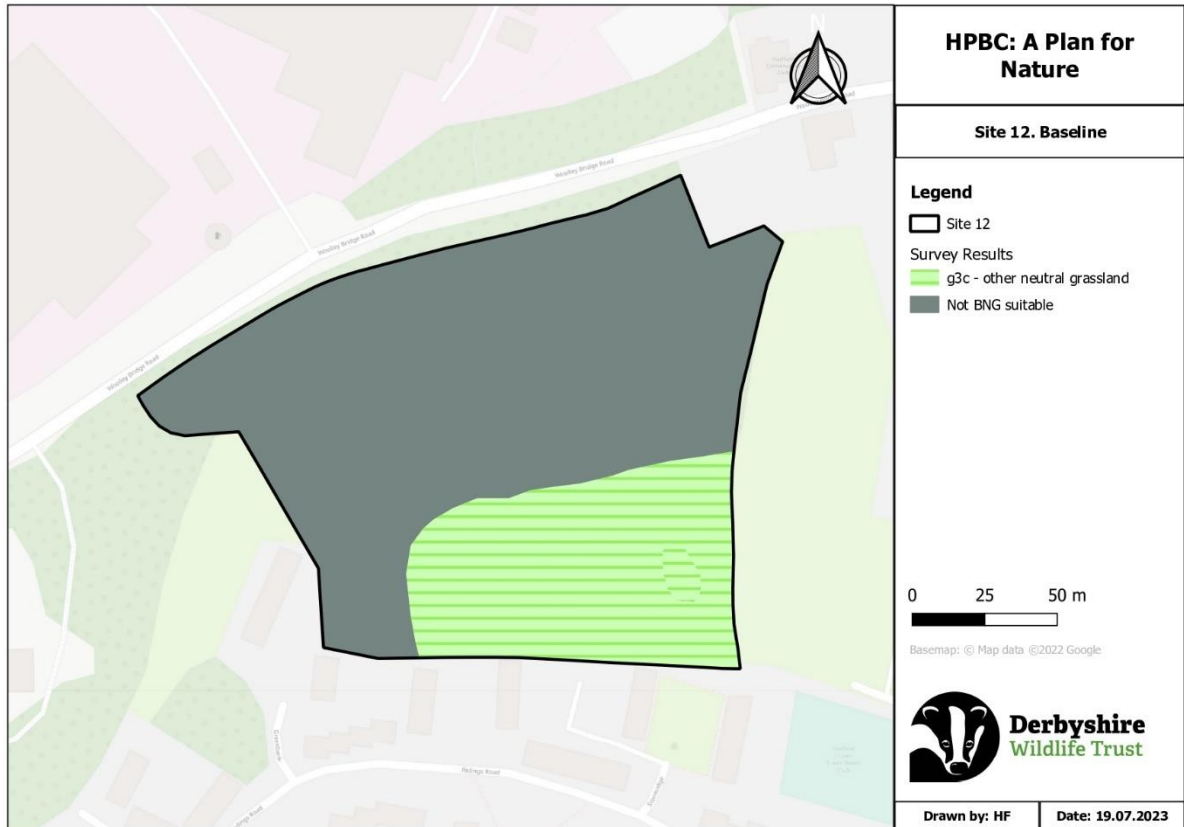
Map Reference: 11	Location: Buxton	Size: 0.97ha
<p>Description: A community field consisting of modified grassland throughout, with taller grassy patches around the circumference. A playground is located towards the southwest of the site that has not been assessed for BNG. Along the northern boundary is a small 'wildlife area' with scattered trees, and hedgerows present. A small, planted community orchard is located in the northwest corner of the site.</p>		
<p>Habitat Connectivity: Poor. The site is not connected to any notable habitats and is largely surrounded by agricultural land and residential buildings. The NRN identifies the site as being suitable for both open habitat and increased tree cover.</p>		
Main Habitat Type:	Habitat Condition:	
Modified Grassland	Poor	
<p>Habitat Enhancement or Creation Potential: High. It is proposed that part of the site is used to expand and establish the community orchard, creating a hub for the community to focus, a medium pond is proposed in the centre of the site and the remaining grassland improved to good quality other neutral. Footpaths and walkways should be established across the site including a viewing / dipping platform in the pond and a community focus group established to maintain the orchard. Additionally, it is recommended that an area is maintained short for people to use for picnics and resting – this hasn't been included in the calculation.</p>		
Approximate Baseline Units: 1.35 Habitat Units	Potential Net Unit Change: +4.19 Habitat Units, delivered through:	
Approximate Post Intervention Units: 5.55 Habitat Units	<p>Enhancing 0.507ha of land into a traditional orchard in moderate condition, planting a range of native, fruit bearing trees as well as seeding and maintaining the grassland to be in good condition.</p> <p>The creation of a 0.061ha pond in the centre of the site, with an undulating base, a range of aquatic and marginal plants as well as protection from dogs and a viewing platform.</p> <p>Enhancement of the grassland to good quality other neutral through sowing an appropriate mix including yellow rattle to establish sward diversity and implementing a sympathetic mowing regime, include a small number of scattered native trees across the site.</p>	





19.12 Site 12. Land off Woolley Bridge Road

Map Reference: 12	Location: Hadfield	Size: 2.4ha
<p>Description: A mosaic of woodland, scattered scrub and grassland. The woodland takes up the majority of the site and was not surveyed as it is not suitable for BNG, the grassland is tussocky and varied, with a high level of scattered scrub cover, the species diversity varied across site, being much more diverse towards the woodland edge and was on the cusp of being good quality.</p>		
<p>Habitat Connectivity: High. The site is part of a wider network of woodland and sits on the edge of an urban settlement, with evidence of further development happening on the boundary.</p>		
Main Habitat Type:	Habitat Condition:	
Broadleaf Woodland	Not assessed as not suitable for BNG	
Other Neutral Grassland with scattered scrub	Moderate	
<p>Habitat Enhancement or Creation Potential: High. Only a section is suitable for BNG uplift, this would be focused on improving the UKHAB condition of the moderate other neutral grassland to good quality lowland meadow. This could be achieved through small scale action. In addition, the grassland is relatively wet and the addition of at least one pond would be of high benefit to the area. The area would have high value for wellbeing to the community as it is a good quality area of open space, it should be considered to make this publicly accessible through the inclusion of a footpath however be aware, any footpath inclusion will need to be removed from overall calculations.</p>		
Approximate Baseline Units: 5.60 Habitat Units	Potential Net Unit Change: +5.74 Habitat Units, delivered through:	
Approximate Post Intervention Units: 11.34 Habitat Units	<p>The uplifting of other neutral grassland to good condition lowland meadow through: reducing scrub cover to below 5% and implementing a more appropriate management strategy such as cutting and collecting in an appropriate timeframe which will improve species composition, possibly doing sections of seeding in the less diverse areas. Implementing a wildlife pond in moderate condition into the grasslands.</p>	





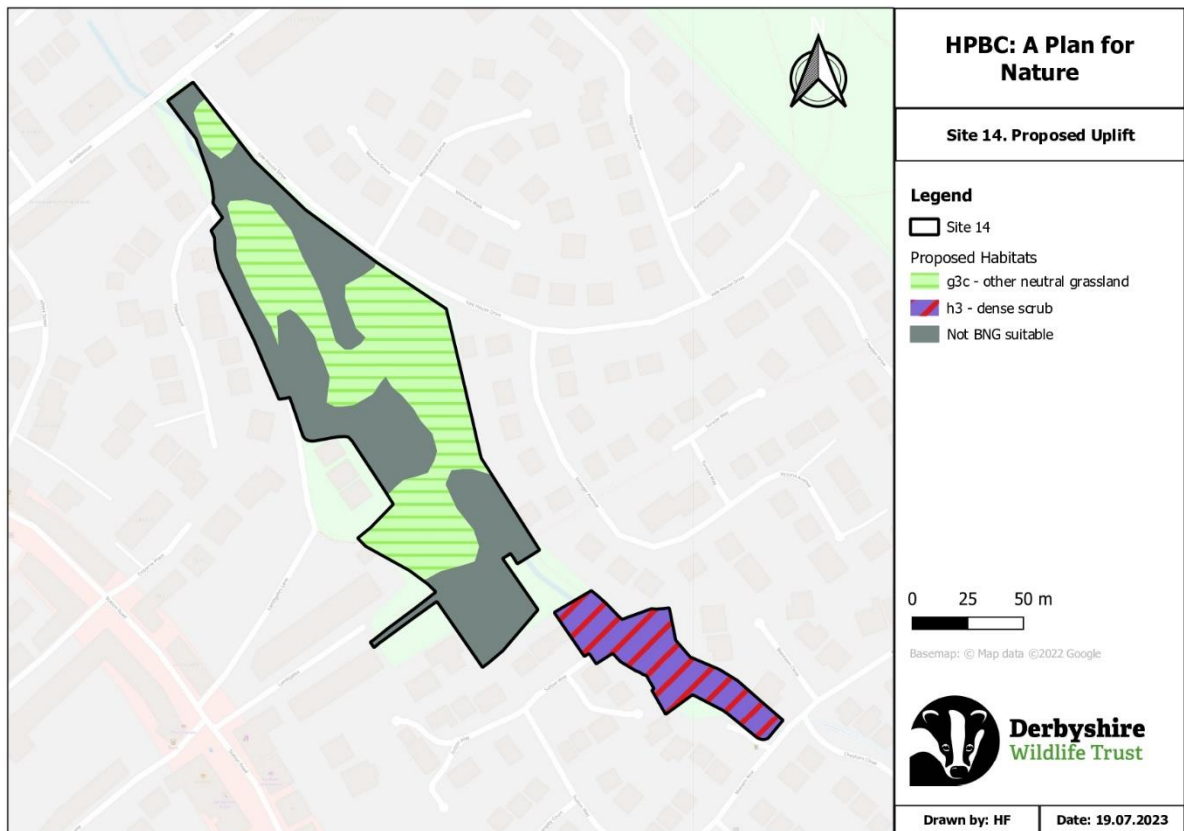
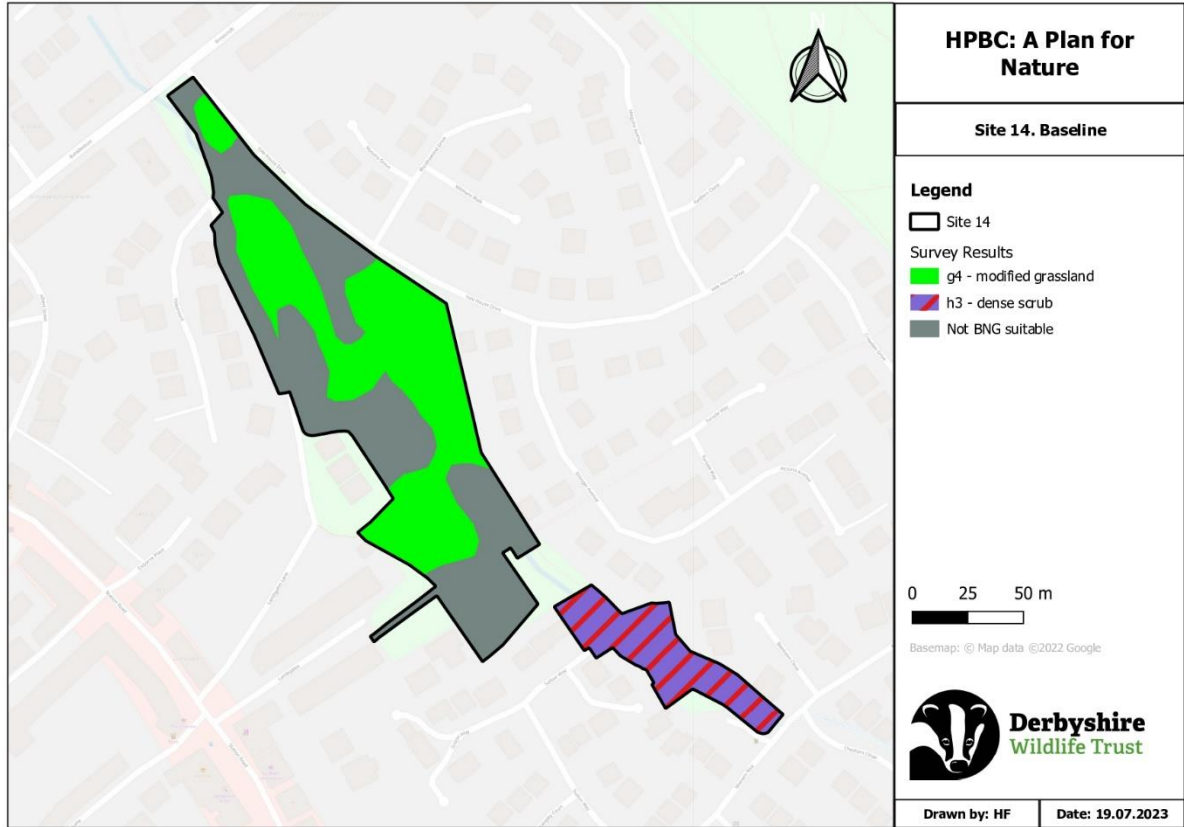
19.13 Site 13. Land off St. Georges Road

Map Reference: 13	Location: New Mills	Size: 0.37ha
Description: The Site is majority woodland and considered unsuitable for BNG.		
Habitat Connectivity: Low. The onsite woodland forms part of a wider woodland parcel however, the block of woodland is relatively isolated, the woodland is located along a waterbody however, desktop data identifies minimal habitats surrounding the waterway at present.		
Main Habitat Type:	Habitat Condition:	
Broadleaf Woodland	Not assessed as not suitable for BNG	
Habitat Enhancement or Creation Potential: Low. As the site is entirely wooded and very small, it is not suitable for BNG. Instead, it is recommended that the existing management of this site be reviewed and the site itself have an assessment of current diversity and health, potentially implementing small scale, rotational management to improve the sites condition and maintain it as good quality.		
Approximate Baseline Units: NA	Potential Net Unit Change: NA	
Approximate Post Intervention Units: NA		



19.14 Site 14. Open Space off Vale House Drive

Map Reference: 14	Location: Hadfield	Size: 1.6ha
<p>Description: A varied public site with a mixture of small woodland pockets, modified grassland, footpaths and a flowing stream. The site is surrounded by residential buildings and has high footfall. The grasslands are in poor condition due to the lack of species diversity and the presence of invasive species however, the site has high potential, with pockets of grassland containing a more varied species mix. A small section of the site is completely covered in dense bramble scrub, current management should be considered for this section if it is not used for BNG.</p>		
<p>Habitat Connectivity: Low. The site is surrounded by residential structures however, as it is the only area of greenspace within the surrounding area, it is of high importance for restoration to ensure appropriate delivery of access to nature for the public.</p>		
Main Habitat Type:	Habitat Condition:	
Broadleaf Woodland	Not surveyed as not appropriate for BNG.	
Modified Grassland	Poor	
Dense Scrub	Poor	
<p>Habitat Enhancement or Creation Potential: Moderate. The grassland should be uplifted from poor quality modified grassland to good quality other neutral grassland, as the site is already relatively wooded we would not propose any new woodland creation and instead, focus on restoring the existing grassland. The sward of the grassland is varied at present, but species diversity is relatively low, change in management, seeding and the active removal of invasive species (Japanese Knotweed) will improve the quality of this. There should be a transition zone of wet, marshy grassland along the edges of the waterbody to drier sward on the slopes. The bramble scrub is unlikely to be able to be uplifted based on the current habitats present.</p>		
Approximate Baseline Units: 2.25 Habitat Units	Potential Net Unit Change: +4.51 Habitats Units, delivered through;	
Approximate Post Intervention Units: 6.76 Habitat Units	Reseeding and appropriate management of the existing grassland site to uplift to good quality other neutral grassland. Removal of Japanese Knotweed. Retaining bramble scrub and retaining woodland.	





19.15 Site 15. Hope Cemetery

Map Reference: 15	Location: Hope Valley	Size: 0.7ha
<p>Description: A small burial site that contains established graves, an area of memorial tree burials and an area of other neutral grassland that will likely be used for future grave sites. The grassland has a small number of planted young trees as well as a two mature beech trees, the grassland is relatively wet and diversity varies across the small area.</p>		
<p>Habitat Connectivity: Moderate. The site is bordered by broadleaf woodland which runs along the trainline in a scattered corridor. The use of memorial planting on this site will be of high benefit to the ecological value as it is extending the surrounding habitat.</p>		
Main Habitat Type:	Habitat Condition:	
Other Neutral Grassland	Moderate	
Memorial Woodland	Not surveyed as not appropriate for survey.	
<p>Habitat Enhancement or Creation Potential: Low. The size of the site and available space leaves minimal opportunity for BNG as it would not be feasible to carry this out on established graves and memorial areas due to the council having little control over the management of each site. In addition, the remaining area will likely be used in future for additional graves and therefore would not be able to be tied into a 30 year scheme. It is recommended that where possible, newly planted memorial trees are native and appropriate and a tree line is planted around the outskirts of the site, continuing the woodland corridor.</p>		
Approximate Baseline Units: NA	Potential Net Unit Change: NA	
Approximate Post Intervention Units: NA		