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Ecological Assessment Report

Wyreside Master Plan

February 2023



**Wyreside Master Plan
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1.0 Introduction & Scope

- 1.1 Tyrer Ecological Consultants Ltd were commissioned by Graham Anthony (GA) Associates on behalf of the owner of Wyreside Leisure Limited to produce an Ecological Assessment Report that considers the 'Wyreside Master Plan', an exciting project to create one of the most comprehensive leisure businesses in Wyre.
- 1.2 The vision of the 'Master Plan' is to combine four development locations – **Wyreside Hall Hotel, Brook Lodge, Taylors Farm and Rivendell** - through a network of trekking trails and footpaths across the surrounding landscape for recreational enjoyment with each site providing a range of commercial services.
- 1.3 As part of the Wyreside Master Plan the applicant is proposing to rewild and enhance up to eight biodiversity hotspots in the wider ownership of Wyreside Hall Hotel which this report identifies as **Sites 1-8**.
- 1.4 A summary of the Master Plan proposals is provided below:
- 'Satellite developments in association with Wyreside Hall Hotel including: redevelopment of Taylors Farm to create equestrian centre for guest and conversion of existing buildings to overnight accommodation and guest reception; redevelopment of former fish hatchery Brook Lodge to create recreational fishery for guests staying at Wyreside and change of use of land to allow siting of holiday lodges; formation of nature trails and horse trekking routes; designation of rewilding and habitat protection areas in connection with Wyreside Hall;'*
- 1.5 This Ecological Assessment Report provides baseline information of the eight biodiversity hotspot sites targeted for enhancement. It follows a number of ecological surveys carried out in 2022 within the wider Master Plan land ownership, and is provided with four external **Technical Appendices (TA's 1-4)**, that contribute to the project, including:
- **TA1 - Preliminary Ecological Appraisal of Brook Lodge;**
 - **TA2 - Great crested newt survey results at Brook Lodge;**
 - **TA3 - Bat survey results carried out at Taylors Farm.**
- 1.6 **TA4 – Biodiversity Management Advice** sets out management and enhancement advice for the eight biodiversity hotspot sites targeted, based on a baseline assessment of their broad main habitat types, as derived from an Extended Habitat Survey.
- 1.7 The objectives of this report are to:
- Provide baseline information on the current habitats and ecological features at the selected eight biodiversity hotspots in the wider ownership of Wyreside Hall Hotel.
 - Identify and map habitats at these sites using UK Habitat Classification – Habitat Definitions Version 1.1 (2020).
 - Identify potential presence of any protected species or habitats and provide an assessment of any potential effects any proposed works may have on these.
 - Identify any other ecological constraints.
 - Determine which of the eight biodiversity hotspots are suitable candidate sites for enhancement as part of the proposed planning application.
 - Identify mechanisms for securing the enhancement.
- 1.8 This Assessment has been informed by a detailed Desk study and Extended Habitat surveys of the eight biodiversity hotspots.

- 1.9 Relevant legislation, planning policy and guidance are referred to as appropriate.
- 1.10 See **Figures 1.1 – 1.3** for a concept visual aid.



Figure 1.1 – Extracts from Wyreside Master Plan ‘The Complete Leisure Experience’ produced by GA Associates 2022

Wyreside Masterplan

Wyreside Hall | Rivendell | Taylor's Farm | Brook Lodge

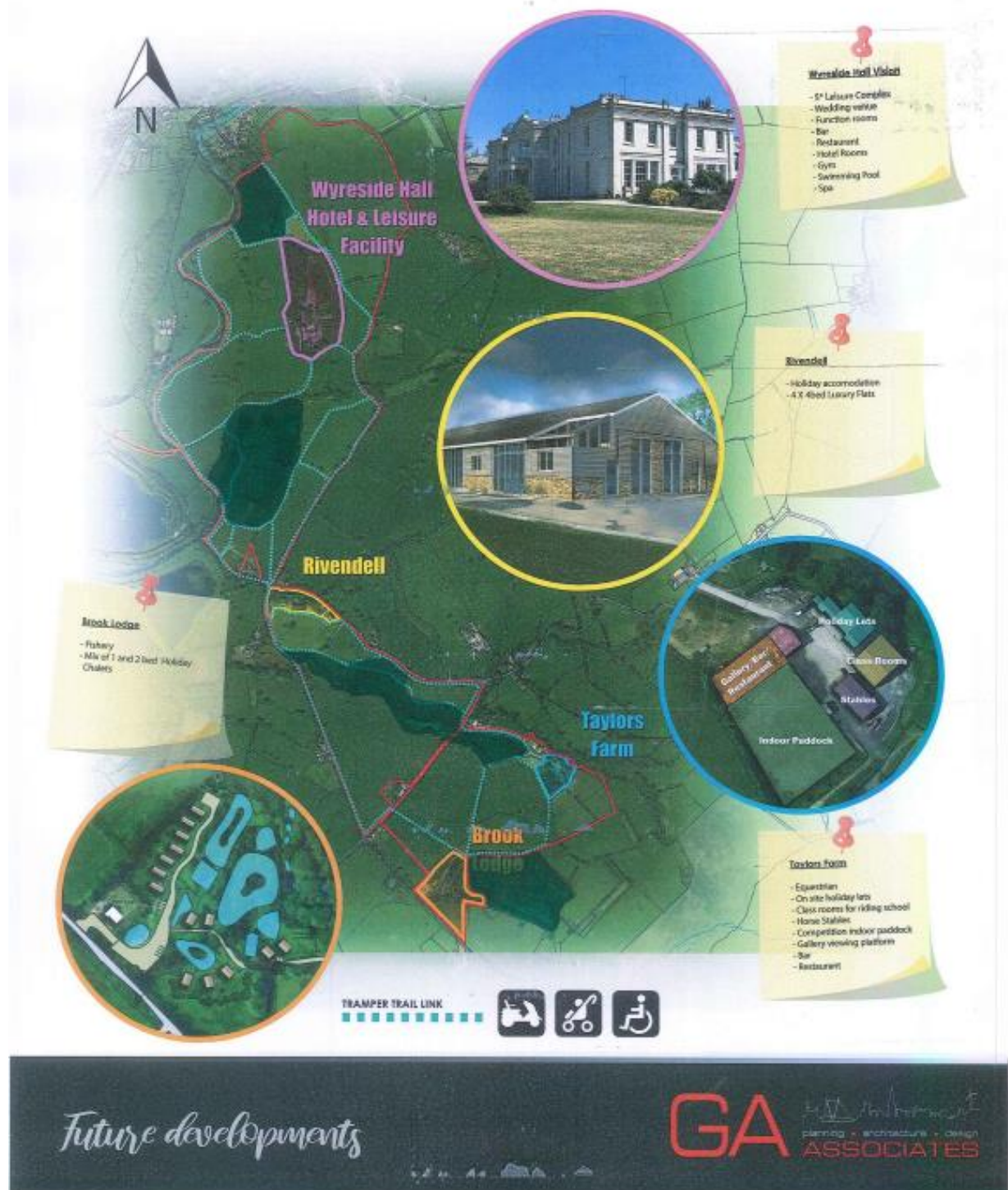


Figure 1.2 – Wyreside Master Plan with the 4 locations at the focus of the Master Plan

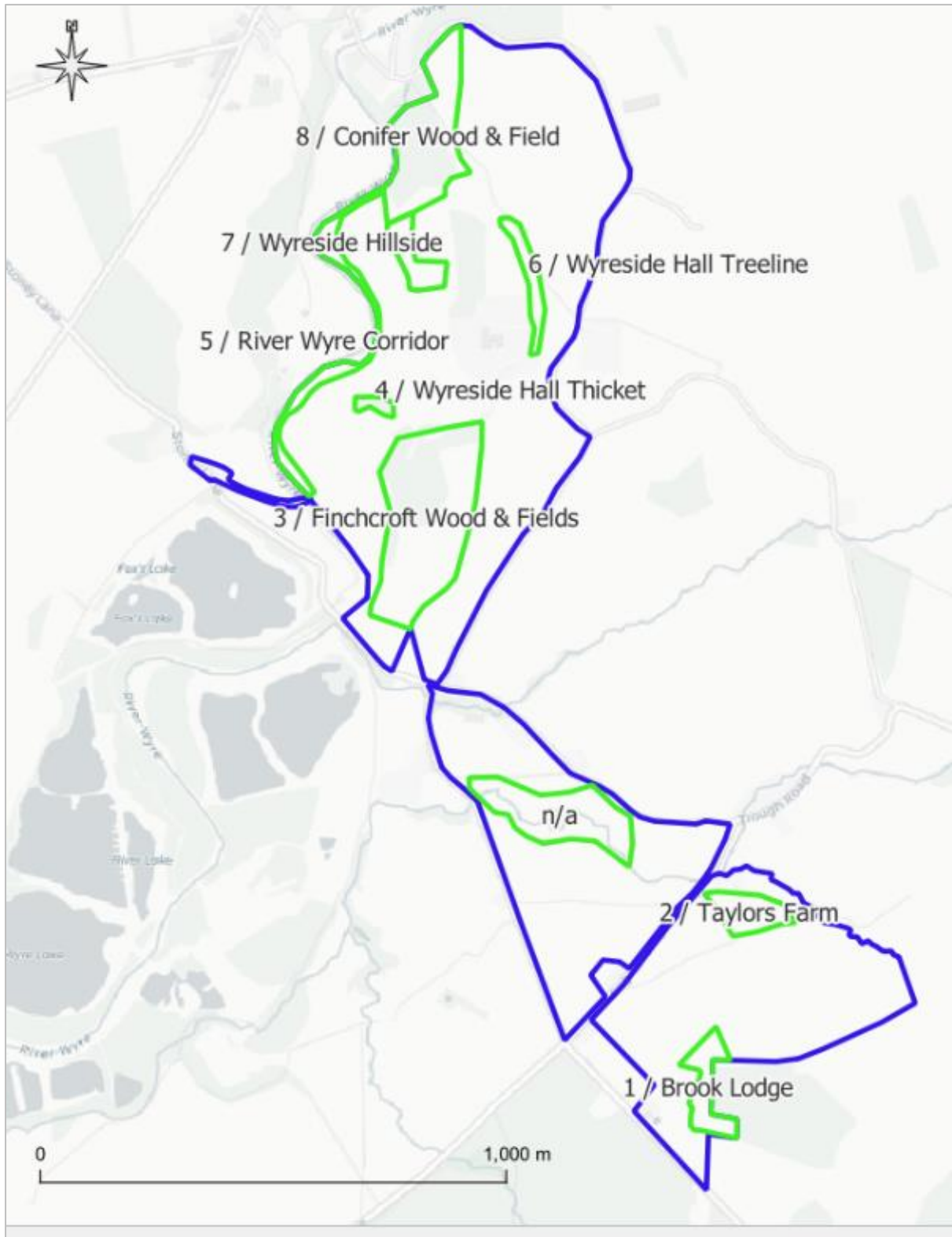


Figure 1.3 – Image shows in green outline the Eight biodiversity hotspots (1-8) subject to Extended Habitat survey as part of this Ecological Assessment Report; blue outline indicates the wider ownership boundary

2.0 Legislation & Policy

2.1 The legislature and guidance considered for the purposes of this report includes the following:

- Biodiversity Net Gain. Good practice principles for development;
- BS 42020:2013 Biodiversity – Code of Practice for Planning and Development;
- Conservation of Habitats and Species Regulations (amendment) (2019) (EU Exit);
- Countryside Rights of Way (CRoW) Act (2000);
- Natural Environment and Rural Communities (NERC) Act (2006);
- The Hedgerow Regulations (1997);
- Town and Country Planning Act (1990);
- Wild Mammals Protection Act (1996);
- Wildlife and Countryside Act (WCA) (1981) (as amended).

2.2 These acts entail relevance to both protected and invasive species. The degree of protection offered to taxa provided within existing UK and EU legislature often varies depending on species/group, for example, some species may purely be protected during one of its life stages (e.g. common species of breeding bird whilst nesting/with eggs/young); some species may receive full protection within the EU, whereas others may be protected solely on a national basis (e.g. grass snake).

2.3 **Table 2.1** contains appropriate legislature to each species/group specifically respective to the Site and provides the relevance of said legislation.

Table 2.1 - Relevant legislation

Species Group/Species	Relevant Legislation	Level of Protection
Badger	Protection of Badgers Act (1992), Wildlife and Countryside Act (1981) (as amended)	Illegal to wilfully kill, injure or take a badger (or attempt to do so). Cruelly ill-eradicate a badger. Dig for a badger. Intentionally or recklessly damage or destroy a badger sett, or obstruct access to it. Cause a dog to enter a badger sett. Disturb a badger when it is occupying a sett.
Bats	CRoW Act (2000) Conservation of Habitats and Species Regulations (2019) (EU Exit) Wildlife and Countryside Act (1981) (as amended)	All British bats and their roosts are afforded full protection from damage/destruction and bats may not be injured/killed/taken at any life stage. Once identified, roosts are protected whether the bat is in occupation or not.
Birds	CRoW Act (2000) Wildlife and Countryside Act (1981) (as amended)	All wild birds (with only minor exceptions) and their nests whilst being built or containing eggs or dependant young are protected. Birds listed on Schedule 1 Wildlife & Countryside Act (1981) (as amended) are afforded a greater level of protection.

Great Crested Newt (GCN)	CRoW Act (2000) Conservation of Habitats and Species Regulations (2019) (EU Exit) Wildlife and Countryside Act (1981) (as amended)	Great Crested Newts (GCN's) are fully protected from disturbance, killing, injuring or possession at any life stage. Confirmed breeding ponds and resting places are afforded the same protection.
Invasive Plant Species	Wildlife and Countryside Act (1981) (as amended)	Species listed within Schedule 9 as invasive, including Japanese Knotweed (<i>Reynoutria japonica</i>) and Himalayan Balsam (<i>Impatiens glandulifera</i>), for example, carry notoriety regarding development. The Act makes it an offence for any person to grow or cause to grow in the wild any plants listed as invasive.
Otter	CRoW Act (2000) Conservation of Habitats and Species Regulations (2019) (EU Exit) Wildlife and Countryside Act (1981) (as amended)	All Otters and their resting areas are afforded full protection from damage/destruction and otters may not be injured/killed/taken at any age. Once identified, holts are protected whether the bat is in occupation or not.
Reptiles	Conservation of Habitats and Species Regulations (2019) (EU Exit) - SL/SS Wildlife and Countryside Act (1981) (as amended) - SL/SS CRoW Act (2000)	All native reptile species have some degree of protection in the UK, through section 8(1) and (5) (specified in Schedule 5) of the Wildlife and Countryside Act 1981 (as amended). Sand lizard (SL) and smooth snake (SS) are species of principal importance however with greater protection(s).

Relevant Policy

- 2.4 Guidance for Local Authorities: Extract from Office of the Deputy Prime Minister - Circular 06/2005:

“It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision”.

- 2.5 Paragraph 180 of the National Policy Planning Framework (as revised in July 2021) states:

180. When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and,

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

2.6 Relevant local policy - The Wyre Local Plan (2011 - 2031) echoes the above stating:

CDMP4 Environmental Assets.

1. Development proposals should, where possible: a) Provide enhancements in relation to the environmental assets in this policy; and b) Seek to minimise or eliminate net environmental impact.

2. Development will be required to be accompanied by proposals to mitigate the overall environmental impact and maximise further opportunities to improve the environmental outcomes. Where mitigation measures are not considered adequate, appropriate on or off site compensation measures will be sought to off-set the environmental impact of the development.

3. Development will be permitted where, following implementation of any required mitigation, there is no unacceptable impact on environmental assets or interests, including, but not limited to, green infrastructure, habitats, species, soils, water quality and resources and trees and hedgerows.

10. The Borough's designated and undesignated ecological assets will be protected, enhanced and managed with the aim of establishing and preserving functional networks which facilitate the movement of species and populations and protect the Borough's biodiversity. Development should contribute to the restoration, enhancement connection of natural habitats through the provision of appropriate Green Infrastructure and to a net gain in biodiversity where possible.

13. Development that would result in the further fragmentation of, or compromises the function of, Wyre's ecological network will not be permitted unless: a) The harm caused is significantly and demonstrably outweighed by other planning considerations; and b) An appropriate mitigation and compensation strategy can be secured.

21. Development will be expected to incorporate existing trees and hedgerows into the design and layout of the scheme where possible unless their loss is essential to allow the development to go ahead and is supported by evidence in a tree or hedgerow survey.

22. Where tree and hedgerow loss is unavoidable, an equivalent amount of new trees and hedgerows of suitable species should be proposed unless a clear justification is provided for not doing so. Where appropriate, opportunities to increase tree and hedgerow cover should be explored.

23. Development and planting schemes must be designed so as to avoid: a) Damage to existing trees which are to be retained; or b) The potential for future conflict between buildings and trees.

24. Where development is proposed which would result in the loss of ancient woodland, protected tree(s) or veteran tree(s), planning permission will only be granted where: a) The removal of one or more trees would be in the interests of good arboriculture practice; or b) It is demonstrated that the benefits of the proposed development outweighs the amenity and/or nature conservation value of the tree(s).

3.0 Priority Habitats & Species

3.1 In the United Kingdom, legal protection and otherwise legislative recognition is afforded to particular habitats and species. Certain habitats and species are considered to hold nature conservation importance and are thus protected, due to factors such as their ecological functionality, connectivity, rarity, their vulnerability, environmental importance, or declining population/status. They are referred to as priority habitats and priority species.

National context

3.2 The UK Biodiversity Action Plan (UKBAP) provided a statutory basis for lists of habitats and species of national conservation importance - now transposed under Section 41 (s.41) of the Natural Environment Rural Communities Act 2006 (NERC Act).

3.3 The following Section 41: Habitats of Principal Importance in England and Section 41: Species of Principal Importance in England are considered relevant to the appraisal:

Habitats:

- Hedgerows
- Lowland meadows
- Lowland mixed deciduous woodland
- Ponds
- Rivers & streams

Species:

- Bats: Brown Long-eared (*Plecotus auritus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*) and Common Noctule (*Nyctalus noctula*),
- Botanical species that includes Bluebell (*Hyacinthoides non-scripta*), for e.g.
- Crustaceans that include: White-clawed Crayfish (*Austropotamobius pallipes*), for e.g.
- Herpetofauna that include: Great Crested Newt (GCN) (*Triturus cristatus*), Slow-worm (*Anguis fragilis*), Common toad (*Bufo bufo*), Common lizard (*Zootoca vivipara*), for e.g.,
- Mammals that include: Otter (*Lutra lutra*), Water vole (*Arvicola amphibius*), Hedgehog (*Erinaceus europaeus*), Brown hare (*Lepus europaeus*), for e.g.,
- s.41 Bird species that include but not limited to: Bullfinch (*Pyrrhula pyrrhula*), Grey Partridge (*Perdix perdix*), Linnet (*Carduelis cannabina*), Reed Bunting (*Emberiza schoeniclus*), Song Thrush (*Turdus philomelos*), Tree Sparrow (*Passer montanus*), House Sparrow (*Passer domesticus*), Starling (*Sturnus vulgaris*), Willow Tit (*Poecile*

montanus), Dunnock (*Prunella modularis*), Skylark (*Alauda arvensis*) and Lapwing (*Vanellus vanellus*) for e.g.,

District context

- 3.4 Local Biodiversity Action Plans (LBAP's) are a way of encouraging people to work together to deliver a program of continuing action for biodiversity at a local level. LBAPs also embrace the idea of 'local distinctiveness'; habitats and species which are not considered UK conservation priorities can be catered for by LBAPs if they are of particular local significance.
- 3.5 LBAP's set out practical steps that aim to help protect biodiversity, enhance and improve biodiversity where possible and promote biodiversity at a local level.
- 3.6 The Lancashire Biodiversity Action Plan (LBAP) lists key local habitats/species considered to be rare or declining in the area; some may be of national concern while others are significant at local level.
- 3.7 There are several local habitat and species plans of relevance to the study that might be activated and referred to should any of the eight biodiversity hotspots be targeted for enhancement, though the main species are covered in.

4.0 Methodology

Desktop Study

4.1 A desk study was undertaken to identify existing information on the presence of designated sites, protected and notable species and habitats within proximity as follows:

- Statutory designated sites for nature conservation within 5km; and,
- Non-statutory designated sites for nature conservation within 5km;
- Existing records of protected and notable faunal species, within 2km (dated within the last 10 years).

4.2 The following key sources were consulted:

- Natural England and Joint Nature Conservation Committee (JNCC) websites;
- The Multi Agency Geographic Information for the Countryside (MAGIC) website; and,
- A bespoke data search to include all protected species and designated sites within a 2.0km radius was sourced from LERN as the information gathered provides further, and often unobtainable, biodiversity information concerning protected species and their local distributions.

4.3 Reference was also made to Ordnance Survey (OS) maps of the local area and online aerial images (www.google.co.uk/maps) in order to determine any features of nature conservation interest in the wider area.

Field Survey

4.4 An Extended Habitat Survey of the eight biodiversity hotspot sites targeted for rewilding and enhancement was carried out on 10th October 2022 in clear, wet conditions (12-14°C), average wind 2/12 (Beaufort scale), average cloud cover 95% by the following surveyor (**Table 4.1**).

Table 4.1 - Surveyor credentials

Name	Description of most relevant credentials
Mr. M. Pritchard ACIEEM (Senior Ecologist)	<ul style="list-style-type: none"> • Five years professional Ecological consultant experience & extensive training in cross habitat/species ecology; • Relevant Degree: FdSc Countryside, Conservation & Recreational Management; • Licenced in Bats: (2020-5039-CLS-CLS) (Class 1) and accredited agent on the (Class 2) Natural England bat licence of Mrs. K. Wilding (CLS-14227); • Licensed for Great Crested Newt: CL08 (Great Crested Newt Survey Level 1) - 2018-34062-CLS-CLS (England); • Licensed for Sand Lizard & Natterjack Toad (2022-62891-SCI-SCI); • FISC Level - 3 (2019) (Botanical); • Trained in use of the MoRPH River assessment; • Trained in UK Habs / BNG condition assessment.

Habitat assessment

- 4.5 During site walkovers habitat identification adopted industry standard UK Habitat Classification Version 1.1 (Butcher, et.al., 2020) with reference to the Joint Nature Conservation Committee (JNCC) Phase 1 Habitat Methodology standards (JNCC, 2010) and reference to the Chartered Institute of Ecology and Environmental Management (CIEEM) Technical Guidance Series “Guidelines for Preliminary Ecological Appraisal, 2nd Edition” (CIEEM, 2017).
- 4.6 The survey was extended to include the additional recording of specific features indicating the presence, or likely presence, of protected species, invasive species and other species of conservation significance.
- 4.7 A number of factors can influence this report, i.e.
- Skills, knowledge, competence and experience of the surveyor,
 - Knowledge of flora and fauna relevant to the location and geographical range,
 - Nature of the immediate and surrounding habitat in relation to shelter, foraging and commuting opportunities,
 - Seasonal timing,
 - Limitations experienced.
- 4.8 This report and supporting **Technical Appendices 1-4** have been assessed by Mrs. K. Wilding, Director of Tyrer Ecological Consultants Ltd, and her assessment concurs with the findings and recommendations of the surveyor and author Mr. Pritchard.

Limitations

- 4.9 This report does not contain a comprehensive list entailing the totality of botanical taxa on either of the eight biodiversity hotspots targeted but does identify habitats present based on flora that is present during the survey. An extended habitat survey does not constitute a detailed botanical survey or faunal species list or provide a full protected species survey but, enables competent ecologists to ascertain an understanding of the ecology of a site in order to:
- Broadly identify the nature conservation value of a site and assess the significance of any potential impacts on habitat/species recorded; and/or,
 - Confirm the need and extent of any additional specific ecological surveys that are required to identify the true nature conservation value of a site (if any).
- 4.10 Many species and floral communities are only evident at certain times of the year. As the survey took place in October, a sub-optimal period for habitat identification, it is possible some habitats would be better identified during the optimal season of April to September.
- 4.11 Whilst access was not considered a significant issue on any of the surveyed areas the surveyor stuck to flat ground, where possible, and otherwise environments that were visibly safe. Habitats in potentially dangerous settings were avoided or were observed from a reasonable distance with the aid of GPS and satellite imagery.
- 4.12 In considering the limitations above no significant constraints were experienced that might adversely influence the integrity and discussion of this report which have been provided in accordance with best practice guidance.

5.0 Desk Study Results

Statutory designated sites

5.1 One statutory designated site is present within a 2.0 kilometres search buffer of Wyreside Hall (see Figure 5.1):

- **Bowland Fells** / (1.82km southeast of Wyreside Hall): a Special Protection Area (SPA) and Site of Special Scientific Interest (SSSI):

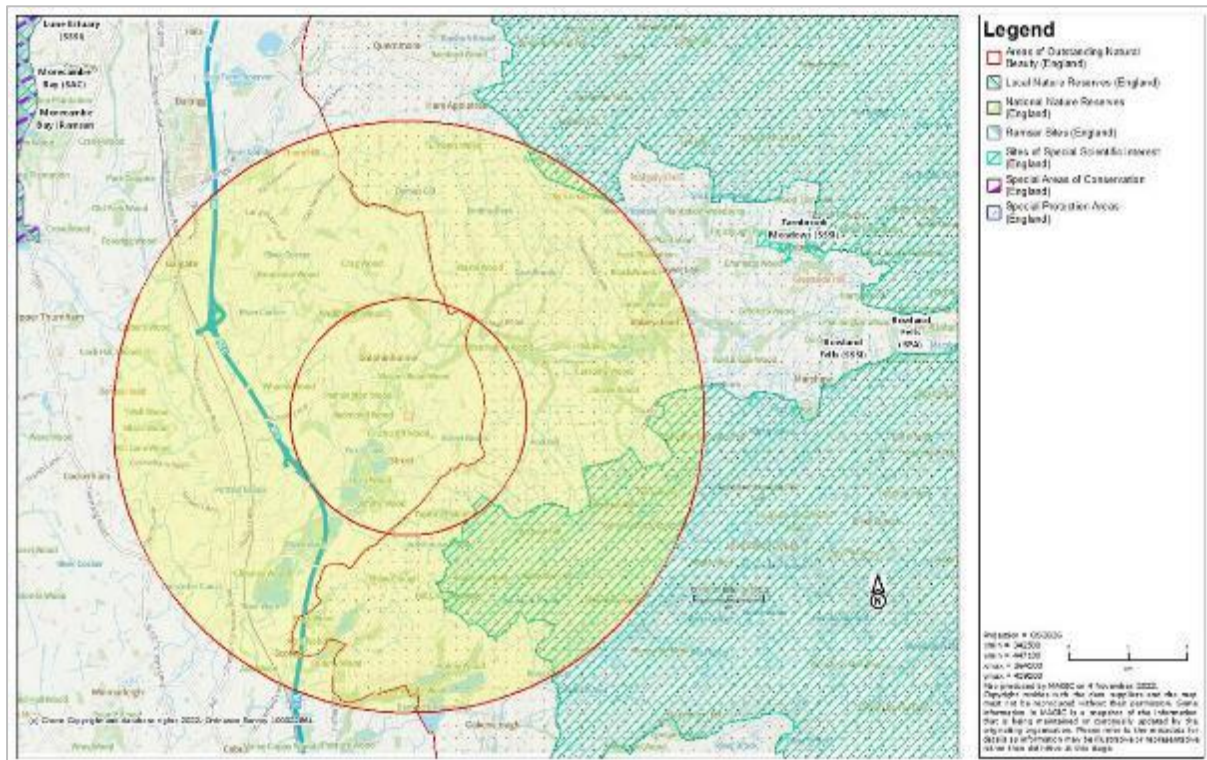


Figure 5.1 – Proximity of the Bowland Fells SSSI and SPA to Wyreside Hall as a centroid

This site encompasses the main upland block within the area of Lancashire known as the Forest of Bowland, an outlier of the Pennine Range situated in the north of the county and to the east of the M6 motorway. Most of this land, stretching from Clougha and Whitray Fell in the north to Parlick in the south, is over 250 m OD and rises sharply to a stream – dissected plateau with the highest point being Ward’s Stone at 561 m. The underlying rock is Millstone Grit beneath which lies Carboniferous Limestone.

These extensive upland fells support the largest expanse of blanket bog and heather moorland in Lancashire and provide suitable habitat for a diverse upland breeding bird community which includes three species (hen harrier, merlin and peregrine), which are afforded special protection under the Wildlife and Countryside Act 1981 by virtue of their rarity or vulnerability. Additional interest is provided by the existence of one of the largest lesser black-backed gull colonies in Great Britain, the presence of a number of nationally or locally uncommon plant species and a variety of upland habitats and their associated avifauna.

*The most extensive plant communities within the site are dry heather-dominated heathland, generally found on the steeper slopes, and heather *Calluna vulgaris* and cottongrass *Eriophorum vaginatum*-dominated blanket bog which covers the tops of the ridges and shallow slopes.*

Within the blanket bog communities bog mosses Sphagnum spp. are sparse, due to the effects of past burning practices, although bog rosemary Andromeda polifolia, a nationally scarce species, cranberry Vaccinium oxycoccus, crowberry Empetrum nigrum, and cloudberry Rubus chamaemorus are all widely distributed. Some areas of bog have been more heavily burnt and this, perhaps coupled with greater numbers of grazing sheep, has resulted in the loss of heather to give bilberry Vaccinium myrtillus and cottongrass bog. In some areas dwarf shrub component has been reduced still further to produce a cottongrass dominated degraded blanket bog community. In places within the site there is active and extensive peat erosion leaving large mounds and hags surrounded by shallow peat and a stony mineral soil.

The extensive areas of Calluna heath are generally managed by small patch burning to encourage red grouse. On recently burnt areas, bilberry is quick to recover and is at first dominant over the regenerating heather but the bilberry later becomes less conspicuous as the heather eventually reasserts its dominance. Heavy burning and high levels of sheep grazing have in some areas resulted in the loss of heather and its replacement by a bilberry/wavy hair grass Deschampsia flexuosa community. In other places cowberry Vaccinium vitis-idaea has become co-dominant with bilberry, as on the summit plateau of Ward's Stone where these species are associated with a variety of lichens. Where grazing has been heavier still, the dwarf shrubs are replaced by species-poor acid grassland dominated by mat-grass Nardus stricta or, to a lesser extent, heath rush Juncus squarrosus, or purple moor-grass Molinia caerulea. Despite such modifications, the site is of particular value for the extent of heather moorland still remaining and represents a good example of a habitat type which has been significantly reduced across upland Britain.

On the lower ground, bracken forms extensive stands in some areas. Dense growth of bracken suppresses the ground flora but where it is less dense bilberry community grows beneath, along with other plant species more usually associated with woodland, such as wood sorrel Oxalis acetosella and climbing corydalis Corydalis claviculata. Chickweed wintergreen Trientalis europaea has also been recorded on the site growing beneath bracken and here is nearly at its southern limit and in its only Lancashire location.

A number of interesting plants grow on the Millstone Grit crags, where they are protected from grazing and burning. These include fir clubmoss Huperzia selago and also Scottish filmy fern Hymenophyllum wilsonii and hayscented buckler-fern Dryopteris aemula in their only Lancashire sites.

Flushes and springs are not common but provide a habitat for the Lancashire rarities lesser twayblade Listera cordata, broad-leaved cottongrass Eriophorum latifolium and pale forget-me not Myosotis stolonifera – a nationally scarce species. Tree cover in the form of oak Quercus petraea scrub is fragmented and occurs on the steep slopes and in the cloughs, adding to the diversity of habitats within the site. Many of the trees are of great age, supporting a variety of lichens, and the shelter they provide allows the growth of carpets of tall ferns.

The maintenance of heather moorland over much of the site has provided an excellent habitat not only for red grouse for which the moors have primarily been managed, but for other moorland birds requiring the presence of heather for nesting cover and as a source of prey. Of these the hen harrier is the most notable: the Bowland Fells represent the only regularly-used breeding locality in England and thus supports a very important breeding nucleus for this species which is in decline and increasingly experiencing a reduced success in breeding performance. Other nesting predatory birds (raptors) include merlin (another species suffering a continued decline in numbers), peregrine, short-eared owl, sparrowhawk and kestrel. The open moorland and blanket bog communities support other upland birds such as golden plover, ring ouzel, meadow pipit, skylark, whinchat and wheatear while the damp, rushy lower slopes provide ideal habitat for waders such as redshank, curlew, lapwing, snipe and oystercatcher. The fast-flowing upland streams are the typical habitat for common sandpiper,

dipper and grey wagtail while the presence of tree cover adjacent to open moorland is ideal for woodcock, redstart and spotted flycatcher.

Mallowdale and Tarnbrook Fells also support one of the five largest breeding colonies of lesser black-backed gulls in Great Britain which probably contains over 10% of the British and 1% of the European populations.

Non-statutory designated sites

5.2 Fourteen non-statutory designated Biological Heritage Sites (BHS) are present within a 5.0 kilometres search buffer. They are listed below by distance from Wyreside Hall.

- 1) *Mill Wood BHS / 0.48 kilometres west / The site comprises a small, ancient semi-natural wood situated on an east facing slope close to the River Wyre. This woodland is included in the Lancashire Inventory of Ancient Woodland (Provisional). The canopy is dominated by oak and sycamore, with frequent ash and birch, and occasional alder, larch and beech. The wood has a well-developed understory of holly, hazel and bird cherry, together with hawthorn, rowan, birch, elder, aspen and blackthorn. The ground flora includes dog's mercury, bluebell, bramble, bracken, red campion, wood anemone, wood-sorrel, greater stitchwort, enchanter's-nightshade, ivy, honeysuckle, wood sage, wood avens, pignut, foxglove, great wood-rush, broad buckler-fern, tufted hair-grass, creeping soft-grass and wood melick.*
- 2) *Wyre Valley Gravel Pits BHS / 0.69 kilometres southwest / The site comprises a large complex of water bodies lying alongside the River Wyre, formed as a result of sand and gravel extraction, together with associated semi-natural habitat. The site includes Scorton Lake, Cleveleymere and Scorton Picnic Site to the west of the M6 motorway, and a series of more recent water bodies, together with Wharf Wood and Jimmy Wood, to the east of the motorway. Collectively the lakes form an extensive area of open water which, together with the associated semi-natural habitats, have considerable value for both breeding and over wintering birds.*
- 3) *Dolphinholme Churchyard BHS / 0.91 kilometres northwest / The site comprises species-rich, semi-natural neutral grassland in the graveyard of the Parish Church of St. Mark, in the village of Dolphinholme. Although small in extent, much of the grassland supports a rich assemblage of plants. The main area of interest lies to the south of the church. Here the sward is dominated by several grasses, namely Yorkshire fog, red fescue, sweet vernal-grass and meadow foxtail, with locally frequent heath-grass and occasional cock's-foot. Cat's-ear occurs in abundance, whilst frequent herbs and rushes include common knapweed, pignut, common bird's-foot-trefoil, selfheal, meadow vetchling, common sorrel and field wood-rush. Other species recorded include betony, ox-eye daisy, bluebell, lady's-mantle, wood anemone, rough hawkbit, common spotted-orchid, angelica, mouse-ear hawkweed, ribwort plantain, primrose, tufted vetch, tormentil, red clover, white clover, meadow buttercup, creeping buttercup, hairy sedge, common sedge, field horsetail and compact rush. Fox-and-cubs, an introduced, naturalised garden escape is locally frequent. The grassland to the north of the church is partially shaded by scattered trees and shrubs and is generally less diverse. Nevertheless, it supports a number of old grassland indicator species including common bird's-foot-trefoil, cat's-ear, selfheal, angelica, lesser stitchwort and field wood-rush as well as a range of other herbs and grasses. A ditch along the northern boundary provides additional habitat diversity.*
- 4) *Weir Wood BHS / 0.87 kilometres northeast / The site comprises a steeply sloping, semi-natural woodland adjoining the south bank of the River Wyre. It is listed in the Lancashire Inventory of Ancient Woodland. Oak, birch, ash and wych elm form the main components of the canopy and alder coppice occurs around streams and flushes.*

The understorey is sparse and consists of hawthorn, rowan, bird cherry and elder. The ground flora includes abundant bluebell, together with enchanter's nightshade, dog's mercury and creeping soft-grass. The ground flora beneath the alder coppice consists of characteristic wet woodland species such as opposite-leaved golden-saxifrage. Sphagnum moss also occurs indicating a base poor status.

- 5) *Fox's Wood BHS / 0.92 kilometres southwest / The site comprises a small, ancient semi-natural wood situated on level ground alongside the west bank of the River Wyre. This woodland is included in the Lancashire Inventory of Ancient Woodland (Provisional) (English Nature 1994). The canopy is dominated by sycamore and alder with frequent birch and occasional oak, ash and elm. Larch and sweet chestnut occur rarely. The understorey contains elder, hawthorn, blackthorn, elm, hazel, willow and gorse. There has been some recent felling of sycamore and dead elm and these areas have been planted up with native hardwoods including ash, oak, alder, hazel, bird cherry and rowan. The ground flora includes bracken, common nettle, bramble, foxglove, bluebell, red campion, dog's mercury, wood sage, greater stitchwort, great wood-rush, broad buckler-fern, tufted hair-grass, creeping soft-grass and reed canary-grass. Of particular note is the occurrence of wild daffodil, a species included in the Provisional Lancashire Red Data List of Vascular Plants.*
- 6) *Ortner Wood (Sparrow Gill) BHS / 1.17 kilometres northwest / The site comprises semi-natural woodland situated 1 km north east of Dolphinholme, partially adjoining the north bank of the river Wyre. It is listed in the Lancashire Inventory of Ancient Woodland (Provisional), (English Nature, 1994) and forms an integral part of the complex of ancient woods lying in the Wyre valley between Scorton and Abbeystead. The canopy is composed of ash, oak and sycamore with alder in wet areas and along streams. Wych elm, birch, rowan and larch occur occasionally. There is an understorey of hazel, hawthorn and holly. The ground flora includes bluebell, wood-sorrel, red campion, wood avens, enchanter's-nightshade, wood speedwell, foxglove, herb-robert, bramble, honeysuckle, broad buckler-fern, male-fern, hard fern and bracken. Stream sides and damp areas support additional species including ramsons, opposite-leaved golden-saxifrage, bugle, common nettle, common hemp-nettle, wavy bitter-cress, creeping buttercup, marsh thistle, soft-rush, hairy wood-rush, tufted hair-grass and reed canary-grass.*
- 7) *Starbank Wood BHS / 1.63 kilometres north / The site comprises semi-natural woodland which is identified within Natural England's Inventory of Ancient Woodland.*
- 8) *Brigbank and Horse Holme Woods BHS / 1.84 kilometres northeast / The site comprises two adjoining semi-natural woods situated alongside and close to the south bank of the river Wyre. The woods are listed in the Lancashire Inventory of Ancient Woodland (Provisional), English Nature, 1994, and form an integral part of the complex of ancient woods lying in the Wyre Valley between Scorton and Abbeystead. Much of Brigbank wood is dominated by oak with sycamore and birch. The trees are mature and even aged and there is very little understorey or regeneration except at the western end where some holly and hazel is present. Most of the ground flora is dominated by common bent and sweet vernal grass with occasional bluebell, wood-worrel and lesser celandine. Ash, wych elm and sycamore co-dominate on steep slopes formed by the undercutting of the river. Landslips have occurred here and the slopes are flushed in places by springs. Again the understorey is sparse. Sweet vernal grass, opposite-leaved golden-saxifrage, ramsons and male and broad-buckler ferns are most frequent in the ground flora. Large moss covered boulders are scattered around. There are also two separate stands of wet alder woodland supporting a mixed ground flora including sweet vernal grass, wood-sorrel and dog's mercury. Parts of Brigbank Wood have recently been thinned and replanted.*

- 9) *Lordhouse Edge Mire BHS / 1.92 kilometres southeast / The site comprises two small enclosures supporting semi-natural woodland, damp grassland and flushes adjoining the north side of Oakenclough Road, approximately 3 km north east of Scorton. The occurrence of bogbean, a species included in the Provisional Lancashire Red Data List of Vascular Plants, adds further interest to the site. The woodland, which lies alongside the road, is wet and has a stream flowing through it. The canopy is dominated by alder with oak and ash on the roadside bank and occasional willow, rowan, hawthorn and holly in the understorey. The ground flora includes both woodland and marshy grassland species including tufted hair-grass, common nettle, creeping buttercup, yellow pimpernel, marsh thistle, field horsetail, bramble, honeysuckle, ivy, herb-robert, rushes, angelica, marsh marigold, cuckooflower, water mint, cuckooflower, marsh valerian and marsh hawk's-beard. The woodland opens out into scattered willow scrub and wet glades with species-rich flushes. Bogbean occurs frequently in the flushes together with marsh pennywort, marsh marigold and greater bird's-foot-trefoil, and occasional water mint, cuckooflower, common spotted-orchid, lesser spearwort, marsh valerian, ragged-robin and heath wood-rush. Other species present include tawny sedge, angelica, marsh hawk's-beard, bog stitchwort, marsh violet, devil's-bit scabious, great hairy willowherb, common sorrel, creeping willow, Yorkshire fog, red fescue and purple moor-grass. The remainder of the southern enclosure supports damp species-rich grassland dominated by Yorkshire-fog and rushes with frequent greater bird's-foot-trefoil, red fescue and tufted hair-grass. Other species present include sneezewort, meadow vetchling, ragged-robin, common knapweed, selfheal, carnation sedge and quaking grass. The small triangular field to the north supports further damp species-rich grassland with scattered alder, willow and gorse. It is dominated by rushes and grasses such as Yorkshire fog and tufted hair-grass with a variety of occasional species including marsh pennywort, marsh marigold, ragged robin, angelica, greater bird's-foot-trefoil, sneezewort, common spotted-orchid, field wood-rush, common sedge and oval sedge. The grassland becomes drier and less diverse to the north and east as the ground rises slightly.*
- 10) *Throstle Nest Wood (Caw Brook) BHS / 2.04 kilometres northeast / The site comprises semi-natural clough woodland situated approximately 2 km north east of Dolphinholme. It is listed in the Lancashire Inventory of Ancient Woodland (Provisional), (English Nature, 1994) and forms an integral part of the complex of ancient woods lying in the Wyre valley between Scorton and Abbeystead. The woodland lies on steeply sloping ground along both banks of Caw Brook. The canopy is dominated by oak with frequent sycamore and occasional ash, wych elm, birch and alder. Larch, Scots pine and beech occur rarely. There is a good understorey with frequent rowan and holly, and occasional hazel, hawthorn, elder and bird cherry. Much of the ground flora is dominated by bluebell with dog's mercury locally abundant. Other species present include wood-sorrel, wood anemone, greater stitchwort, red campion, common dog-violet, wood sage, ivy, honeysuckle, raspberry, bracken, male-fern, broad buckler-fern, creeping soft-grass and wood millet. Streamsides and damp areas support additional species including ramsons, opposite-leaved golden-saxifrage, lesser celandine, great wood-rush and tufted hair-grass.*
- 11) *Mark Holme Wood (Hall Gill) BHS / 2.08 kilometres northeast / The site comprises an ancient semi-natural wood situated 2 km west of Abbeystead adjoining the south bank of the river Wyre and the steep gorge slopes of Hall Gill. The wood is listed in the Lancashire Inventory of Ancient Woodland (Provisional), (English Nature, 1994), and forms an integral part of the complex of ancient woods lying in the Wyre valley between Scorton and Abbeystead. The western part of the wood adjoining the river consists mainly of mature oak and birch with a sparse understorey. Alder is present in wet areas. Much of the ground flora is dominated by grasses such as common bent and*

sweet vernal grass, but the diversity of herbs increases eastwards with bluebell, wood-sorrel and ferns becoming frequent. There is a wet acidic cliff alongside the river with a lush bryophyte cover and a variety of plants including common butterwort, meadowsweet, common valerian, hemlock water-dropwort, opposite-leaved golden-saxifrage, wood melick, oak fern and hard shield-fern. Some new planting has been undertaken in the lower part of the wood. The steep slopes around the bottom of Hall Gill are dominated by ash and wych elm. Oak and sycamore are also present and there is a sparse understorey of holly with oak and sycamore saplings. Further upstream ash becomes more dominant with occasional oak and downy birch, and abundant hazel in the understorey. Wood fescue, a species included in the Provisional Lancashire Red Data List of Vascular Plants, occurs by the stream.

- 12) *Cleveley Woods BHS / 2.1 kilometres southwest / The site comprises of a long, narrow band of ancient, semi-natural woodland on the western side of the River Wyre. The woodland canopy includes Sycamore, Ash and Oak with an understorey of Hazel, Holly and Elder. Alder is locally abundant near the river. The woodland ground flora includes Ivy, Bramble, Raspberry, Dog's Mercury, Wood Sorrel, Bluebell, Foxglove, Male-fern, Broad Buckler-fern and Common Nettle.*

- 13) *Long Wood BHS / 2.15 kilometres northeast / The site comprises a small semi-natural wood adjoining the north bank of the river Wyre approximately 2 km west of Abbeystead. It is listed in the Lancashire Inventory of Ancient Woodland (Provisional), (English Nature, 1994) and forms an integral part of the complex of ancient woods lying in the Wyre valley between Scorton and Abbeystead. The wood lies on steeply sloping ground with cliffs above the river and is mixed in character. Above the cliffs, the canopy is predominantly oak and the ground flora comprises wavy hair-grass, purple moor-grass and bilberry. Elsewhere the canopy comprises oak with frequent ash, wych elm, birch and sycamore over an understorey of hazel, holly, hawthorn and rowan with alder in wet areas. Larch occurs occasionally. The ground flora is made up of dog's mercury, bluebell, wood-sorrel, ramsons, red campion, herb-robert, honeysuckle, ivy, bramble, great wood-rush, male-fern, broad buckler-fern, hard fern, bracken, tufted hair-grass, creeping soft-grass, sweet vernal-grass, false brome and wavy hair-grass. Some beech and sweet chestnut have been planted near the river at the western end of the wood.*

- 14) *Leathercote Wood and Holme Wood BHS / 3.8 kilometres south / The site comprises two adjoining semi-natural woods-Holme Wood and part of Leathercote Wood-situated approximately 5 km north east of Garstang, bordering Grizedale Reservoir. The woods are both listed in the Lancashire Inventory of Ancient Woodland (Provisional), (English Nature, 1994). The woods are generally similar in character. The canopies are mainly dominated by Oak with occasional Birch, Ash, Wych Elm, Sycamore, Beech and Scot's Pine. The understories contain Rowan, Holly, Hawthorn, Elder and locally frequent Rhododendron. The ground flora includes Bluebell, Wood-sorrel, Red Campion, Foxglove, Honeysuckle, Bilberry, Creeping Soft-grass, Wavy Hair-grass, Broad Buckler-fern, Male-fern, Lady-fern, Hard Fern and Bracken. Alder is locally frequent in wet areas and along streams. Here the ground flora includes Marsh Marigold, Water Mint, Opposite-leaved Golden-saxifrage, Meadowsweet, Lesser Celandine, Yellow Pimpernel, Common Hemp-nettle, Remote Sedge, Tufted Hair-grass and Soft-rush. The woods support a good assemblage of breeding birds characteristic of ancient semi-natural woodland.*

Priority habitats

5.3 Priority habitats mapped on MAGiC maps, (inclusive of Ancient Woodland), are listed below by ascending distance from Wyreside Hall.

- Mill Wood (Ancient Woodland) / 0.43km west.
- Weir/ Brigbank Woods (Ancient Woodland) / 0.8km northeast.
- Wyre Wharf Wood (Ancient Woodland) / 0.89km southwest.
- Ortner Wood (Ancient Woodland) / 1.3km northeast.
- Unnamed woodland (Ancient Woodland) / 1.78km northeast.
- Starbank Wood (Ancient Woodland) / 1.82km north.

5.4 A number of priority habitat (Deciduous woodlands) are situated within the 2km range of Wyreside Hall (18 woodlands). In addition, an area of Upland Heathland is situated 1.86km southeast.

Protected and Priority Species information

5.5 The following desktop study results are presented from an evaluation of ecological information gathered to date as well as from a study of online resources and data received from LERN.

Bats

5.6 Thirty-one bat records in total were provided by LERN from within the last 10 years broken down by species: a single record of Daubentons in flight was made in 2015 approximately 1.08km northwest of Wyreside Hall; fourteen Common pipistrelle records were made ranging from 2019 to 2015 with the closest record being 1.22km west. Fifteen records of soprano pipistrelle were made between 2012 and 2019 with the closest being 1.4km south; a single record of Noctule flying overhead was made in 2019 at 2.4km northwest; a single record of brown long eared was made in 2012 at 2.1km northeast.

5.7 At Taylors Farm, one of the four locations focal to the Master Plan, the 2022 dusk survey results ascertained a building on Site is supporting Transitional/Day roosts for six Common pipistrelle bats, one Soprano pipistrelle bat and one Brown long-eared bat. During the surveys, Whiskered/Brandt's and Noctule were also recorded foraging and commuting.

Birds

5.8 Forty-four notable bird records were provided by LERN within 2km of Wyreside Hall consisting of Birds of Conservation Concern (BoCC) red listed species such as house sparrow, swift, lapwing, curlew, starling; BoCC amber listed species such as meadow pipit, oystercatcher, grey wagtail, willow warbler, dunnock, song thrush; wildlife & countryside act 1981 schedule 1 species such as barn owl and lesser redpoll.

Badger

5.9 No Badger records were provided by LERN within 2km of Wyreside Hall.

Brown hare

5.10 Fourteen records were provided by LERN within 2km within the last 10 years; the most recent record being 2019. The closest record is 1.5km southwest.

Otter

- 5.11 Three records were provided by LERN within 2km within the last 10 years; the most recent being 2017. The closest record is 0.69km northwest; located within the River Wyre habitat corridor.

Great crested newt

- 5.12 Six field records of Great crested newt were provided by LERN and from MAGiC Maps 'GCN Licence return data' all located at the same point 1.3km southeast of Wyreside Hall and 225m and 425m to the west of Taylors Farm, one of the four locations focal to the Master Plan.
- 5.13 Brook Lodge, one of the four locations focal to the Master Plan, hosts twelve ponds. Brook Lodge has a history of hosting a failed nursery stock as a commercial fishery and the ponds range from historic to fairly new having each been subject to at least minor habitat modification works to shape the site. Based on habitat value each of the twelve ponds were subject to Environmental DNA (eDNA) surveys in June 2022 by Tyrer Ecological Consultants Ltd and returned eleven 'Negative' results and one 'Indeterminate' result, though it was concluded highly improbable that this pond could support Great crested newts.

Reptiles

- 5.14 One field record of common lizard was recorded within the upland heathland habitat 2.4km southeast of Wyreside Hall and 690m south-east of Brook Lodge, one of the four locations focal to the Master Plan. The record was provided for 2013.

Invasive non-native species INNS

- 5.15 Fifty-eight records of WCA Schedule 9 species were provided by LERN within 2km of Wyreside Hall including cotoneaster species (5 records), Japanese knotweed (6 records), giant hogweed (4 records), Himalayan balsam (35 records), variegated yellow archangel (2 records) and rhododendron ponticum (5 records).

6.0 Biodiversity Hotspots – Baseline Habitat Information

6.1 This section covers the field study results element of this ecological assessment and should be read in conjunction with the supporting imagery in **Appendix I**.

6.2 The previous **Figure 1.3** provides a landscape overview of each of the biodiversity hotspots showing their geographical locations. Each of the respective **UK Habitats Maps 1-8** are presented in **Appendix II** except for **Brook Lodge**.

Site 1 - Brook Lodge

6.3 Primary UK habitats within the given boundary comprise of:

- Lowland mixed deciduous woodland (Priority habitat)
- Standing open water - Ponds (various) (Priority habitat)
- Lines of trees (non-priority but ecologically desirable)
- Other neutral grassland with scattered scrub, scattered trees and tall herbs
- Other neutral grassland
- Dense scrub
- Buildings

6.4 For **Brook Lodge** the reader is referred to **TA1 - Brook Lodge, Scorton – PEA** for comprehensive habitat information.

Site 2 - Taylors Farm

6.5 Primary UK habitats within the given boundary comprise of:

- Hedgerow (non-priority)
- Lines of trees (non-priority but ecologically desirable)
- Other neutral grassland with scattered scrub and scattered trees
- Other neutral grassland with tall herbs
- Other neutral grassland
- Other developed land

6.6 Site 2 is located just west of **Taylors Farm** and comprises a rank grassland for 90% of the Site, bounded by a non-native managed hedgerow to the north boundary and native mixed deciduous treelines to the south and west boundaries formed mainly by maturing Oak, Hawthorn and Willow trees. The sward of the grassland is predominantly rank sloping downhill northwards with the northern region dominated by naturally regenerative Willows and rushes. The central region is dominated by tall herb and ruderal species that included Rosebay willowherb, False oat-grass, Soft rush, Yorkshire-fog and various Docks. The site has two access points in the south-east and south-west corners on higher ground and is evidently used by tractor vehicles moving and storing silage bales which has resulted in some localised ground disturbance and bare earth consequences; a small area of hardstanding is also present in this area. The desktop results showed Great crested newt records have occurred in this boundary.

Site 3 - Finchcroft Wood & Fields

6.7 Primary UK habitats within the given boundary comprise of:

- Lowland mixed deciduous woodland (Priority habitat)
- River & stream (Priority habitat)

- Lines of trees (non-priority but ecologically desirable)
- Other neutral grassland with scattered scrub, scattered trees and tall herbs

6.8 Site 3 is located south of the grounds of Wyreside Hall; Finchcroft Wood is a local name for the broadleaf deciduous woodland that makes up most of the northern region of this site; it is fenced off, contains a public accessible walkway and has a valley like stream flowing west to south-west, a tributary to the River Wyre. Oak and Ash are co-dominant and the woodland is dark. The rest of the site comprises a series of neutral grasslands intersected into four unmanaged meadows. In each grassland there are areas clearly rank dominated locally by Docks, Willowherbs, Creeping thistle, Reed canary-grass, False oat-grass and Bramble; few areas are species rich, particularly in the southern region which were observed to have local patches of forbs such as Black Knapweed and Yarrow. There are areas where rushes are locally abundant; others contain young, scattered tree regeneration. Treelines typically have a base of established Stinging nettle carpets and are formed by a range of mature species that include Oak, Sycamore, Horse-chestnut, Ash, Sweet-chestnut, Hawthorn. Many of the treelines do not have connecting canopies.

Site 4 – Wyreside Hall Thicket

6.9 Primary UK habitats within the given boundary comprise of:

- Lowland mixed deciduous woodland (Priority habitat)
- Standing open water - Pond
- Mixed scrub

6.10 Site 4 is located just south-west of Wyreside Hall and just north-west of Site 3 described above; it is a scrubby habitat with a section of broadleaf woodland and dense scrub ground cover in its western section and mixed mature Hawthorn scrub in its eastern section. The eastern section also has a heavily shaded pond nearly dried out with leaf litter base; woody species comprise a mix of Hawthorn, Sycamore, Holly, Willow and *Rhododendron ponticum*. Ground flora included Tufted hair-grass, Wood-avens, Herb-robert and Common Figwort. Habitat is loosely linked to a treeline from its north-east corner.

Site 5 – River Wyre Corridor

6.11 Primary UK habitats within the given boundary comprise of:

- Lowland mixed deciduous woodland (Priority habitat)
- Lines of trees (non-priority but ecologically desirable)
- Gorse scrub
- Other neutral grassland
- Buildings

6.12 Site 5 is a continuous linear matrix of habitats high in ecological value in considering their locality along the eastern side of the River Wyre. The linear stretch covers some 0.65km north to south from National Grid Reference: SD51955311 in the north, next to the coniferous woodland Site 8 (described later), south to SD51805246; in the north there are loosely connected treelines with typical neutral grassland communities below – habitat here links to a lowland mixed deciduous woodland in the northern centre, where the river arcs to an ‘S-shape’ if observed from satellite imagery; the woodland has a range of species of varying age and condition and features open glades and scrub cover. Woodland eventually gives way to the loose stone banks of the River Wyre on its western side. At its southern side the woodland opens out to a second treeline similar to that described above which then links south to a continuous extent of dense Gorse dominant scrub exceeding seven metres high in places. In the centre the riverbank narrows to open grassland where the river arcs to the south-west

before meeting a second mixed deciduous woodland more densely shaded than the northern. The southern woodland also contains an open access hay barn – the barn offers Bat roost potential and may be an option for enhancement. The southern extent of this site is largely made up of Gorse dominant scrub and patches of grassland; a bridge is present just south of the surveyed area.

Site 6 – Wyreside Hall Treeline

6.13 Primary UK habitats within the given boundary comprise of:

- Line of trees (non-priority but ecologically desirable)

6.14 Site 6 is located along the eastern boundary region of Wyreside Hall with species rich marshy grassland dominated by various rushes, possibly fen habitat fed by natural waters, on its western side. The treeline is a dense, mixed species assemblage, likely planted, with interconnecting crowns, some die back and several trees forming standing deadwood and offering bat roost potential. Frequent species are Scots-pine, Silver birch, Oak, Beech, Sycamore, Alder, Ash, Field maple and Hawthorn. Blackthorn and Willow are occasional to the sub-canopy. A central linear nerve of Leyland cypress trees form the understory in the north extent and are seemingly young in comparison to the canopy. Bramble scrub and Stinging nettle carpets make up most of the ground cover in the southern extent, which also contains a predominantly dry ditch.

Site 7 – Wyreside Hillside

6.15 Primary UK habitats within the given boundary comprise of:

- Line of trees (non-priority but ecologically desirable)
- Other woodland - mixed but largely broadleaved
- Other neutral grassland with scattered scrub and scattered rushes

6.16 Site 7 is located north-west of Wyreside Hall and comprises a young mixed plantation woodland with glades on a west-facing hill; the glade facing west has 40% scrub cover, 40% tall herb community and 20% species rich neutral grassland over rocks on its river facing side. Scots-pine, Oak, Willow, Field maple, Holly, Hawthorn, Blackthorn, Sycamore and Silver Birch trees form the young woodland, which has reasonable sunlight reaching the ground, and the woodland slopes to the west. The western region of this surveyed area has other neutral grassland, a fence, and a loosely connected treeline of Oaks, below which is both tussock forming and managed neutral grassland. Two Brown hare's were flushed from this area.

Site 8 – Conifer Wood and Field

6.17 Primary UK habitats within the given boundary comprise of:

- Line of trees (non-priority but ecologically desirable)
- Other Scots pine woodland
- Other woodland mixed
- Other neutral grassland with scattered scrub and scattered trees
- Other neutral grassland with scattered scrub and scattered rushes
- Modified grassland

6.17 Site 8 comprises a large mature coniferous woodland located in the north of the site high on the eastern riverbank of the River Wyre; it had various Pines and Larch dominating. The centre of the woodland is dark and steeply valleyed, possibly containing open water. Soils appeared acidic with Bracken and Bramble dominating the woodland ground flora though some areas

contained a range of ferns and bryophytes. The south-eastern outer extent of the woodland is double fenced to delineate it from surrounding grasslands and in this area has a adjoining mixed species woodland with maturing Whitebeam, Beech, Alder, Willow, Hawthorn, Sycamore and Field Maple intertwined with some of the conifers. In the east of the site boundary is a loosely connected treeline extending east from the woodland into open surrounding grasslands that appear managed for silage. Along the northern buffer of the conifer woodland in the north of the survey area is a tussock-forming grassland that margins the woodland with scattered Whitebeam trees present; along the southern extent of the survey area the grassland appeared wetter, more trampled, sloping to the riverbanks to the west and had carpets of rushes including Soft-rush and Jointed Rush as well as Bramble scrub; this area could be enhanced to lowland meadow. The more improved grasslands were closely cropped through cutting with Yorkshire-fog, White clover and Red fescue dominant.

7.0 Discussion

Overview

7.1 This section initially considers the ramifications of the proposals on designated sites, then, discusses the eight biodiversity hotspot sites described and mapped. This section introduces the notion of enhancing candidate sites with the aim of developing and improving wildlife habitats, whilst considering the impacts of the wider planning application.

Designated Sites

7.2 HRA screening for the Lancaster region includes the following pressures and threats for the Bowland Fells SPA/SSSI located 1.82 kilometres away from Wyreside Hall.

- *Low breeding success/ poor recruitment/ juvenile and adult survival*
- *Game management: grouse moors*
- *Managed rotational burning*
- *Changes in species distributions*
- *Change in land management*
- *Hydrological changes*
- *Public access/ disturbance*
- *Air pollution: risk of atmospheric nitrogen deposition*
- *Invasive species*

7.3 While no direct impacts listed above are considered likely to impact the designated site as a result of the proposals, given the proximity to the statutory designated site, there is potential for public access / recreational disturbance by granting the proposals, given the increase in footfall and commercial services locally.

7.4 The leisure and recreational services provided through the creation of new trails and horse routes and promotion to tourists of new wildlife trails and footpaths is likely to nullify any particular threat to the designated site, by effectively offering equal or better opportunities for recreation and enjoying wildlife within the ownership of the applicant. The applicant is able to provide suitable alternative natural greenspace (SANG's) and persuade the public away from the designated site and its sensitive ornithological / botanical interests as a result.

7.5 No impacts are anticipated to any of the fourteen biological heritage sites within 2.0km of Wyreside Hall by virtue of spatial separation meaning none of the sites will be subject to any land take, habitat loss or other abiotic pressures arising from the proposed Master Plan.

Key elements of the proposals

7.6 Key elements of the proposals to consider in respect of wildlife impact offsetting are as follows:

“Redevelopment of Taylors Farm”

“Redevelopment of Brook Lodge including change of land use”

“Formation of nature trails and horse trekking routes”

“Designation of rewilding and habitat protection areas in connection with Wyreside Hall”

Eight biodiversity hotspots subject of this report now termed “candidate sites for enhancement”

1. Brook Lodge
2. Taylors Farm
3. Finchcroft Wood & Fields

4. Wyreside Hall Thicket
5. River Wyre Corridor
6. Wyreside Hall Treeline
7. Wyreside Hillside
8. Conifer Wood & Field

- 7.7 **TA1** and **TA2** cover the findings of a preliminary ecological appraisal and follow up Environmental DNA (eDNA) surveys at **Brook Lodge** in 2022, part of which is **Site 1 Brook Lodge**, including specific conclusions and recommendations relevant to that Site. As such any enhancement or management plan devised for this as a candidate site needs to consider the wider outcomes and recommendations of this site-specific ecological appraisal as relevant.
- 7.8 **TA3** covers the findings of Dusk surveys at **Taylors Farm** in 2022, part of which is **Site 2 Taylors Farm**, including specific conclusions and recommendations, including bat mitigation and licence requirements, relevant to that Site. As such any enhancement or management plan devised for that site needs to consider the wider outcomes, recommendations and licencing requirements, as relevant.
- 7.9 Candidate sites 1-8, as numbered above, are discussed in **Table 7.1** overleaf which summarises likely ecological constraints on each of the candidate sites and presents a basic difficulty rating for feasibility of enhancing the relevant habitats through habitat management in consideration of cost, duration and wider issues.

Difficulty rating for **Table 7.1**

- | |
|---|
| 1 – Easy, standard habitat management practices steered by a Management Plan, easy to achieve noticeable improvement between 5-10 years. |
| 2 – Moderate, some complex habitats, minor species implications, not very expensive or time constrained but more difficult than 1, may require further surveys. |
| 3 – Hard, difficult, likely to encounter protected species implications and costs, time heavy, may require further surveys. |

Table 7.1 – Candidate sites 1-8 overview and difficulty ratings

Site 1 - Brook Lodge
See TA1 and TA2 for findings, conclusions and recommendations at Brook Lodge.
<p>Difficulty rating: Hard</p> <p>Like to be problematic based on the site-specific factors.</p>
Site 2 – Taylors Farm
<p>Habitats: Basic primary habitats that are easy to enhance, easy to create new habitat, difficult to connect to wider biodiversity hotspots.</p> <p>Bats: See TA3 for roosting Bats. Site currently provides good foraging and commuting value particularly at boundary habitat. Habitat management and provisional enhancement would improve the Site for this group. Development licence is required in the wider Site.</p> <p>Breeding birds: Timings implications would apply for any management or loss of trees, hedgerow, scrub, rank grassland. Habitat management and provisional enhancement would improve the Site for this group.</p> <p>Mammals: Introducing a habitat management plan presents no significant issues outside of standard pre-commencement checks prior to operational works for the presence of Badger setts, Brown hare resting sites, Hedgehogs in shelter, to avoid harm.</p> <p>Amphibians: There are Great crested newt records on Site; may warrant closer impact assessment though introduction of a habitat management plan, though management is unlikely to significantly impact this protected species or cause habitat loss. Moreover, habitat management could benefit amphibians.</p> <p>Reptiles: May be present; habitat management and provisional enhancement would improve the Site for this group.</p> <p>Invertebrates: Site currently reasonably favourable for invertebrates; habitat management and provisional enhancement would improve the Site for this group.</p> <p>Vegetation: No obvious implications by introducing a management plan. Habitat management would improve the Site for flora.</p>
<p>Difficulty rating: Moderate</p> <p>Fair candidate site for this project, though there may be easier options.</p>

Site 3 – Finchcroft Wood & Fields

Habitats: Two priority habitats, wider habitats easy to enhance, easy to create new habitat, easy to connect this habitat to the other wider biodiversity hotspots.

Bats: Site currently provides areas of optimal foraging and commuting value particularly within the woodland, treelines and at boundary habitat. Woodland highly likely to provide roosting habitat. Habitat management and provisional enhancement would improve the Site for this group.

Breeding birds: Timings implications would apply for any management or loss of trees, hedgerow, scrub, rank grassland. Habitat management and provisional enhancement would improve the Site for this group.

Mammals: Introducing a habitat management plan presents no significant issues outside of standard pre-commencement checks prior to operational works for the presence of Badger setts, Brown hare resting sites, Hedgehogs in shelter, to avoid harm.

Amphibians: May use the site for terrestrial use; habitat management and provisional enhancement would improve the Site for this group.

Reptiles: May be present and may use the site for terrestrial use; habitat management and provisional enhancement would improve the Site for this group.

Invertebrates: Site currently highly favourable for invertebrates; habitat management and provisional enhancement would improve the Site for this group.

Vegetation: No obvious implications by introducing a management plan. Habitat management would improve the Site for flora.

Difficulty rating: Easy

Ideal candidate site for this project.

Site 4 – Wyreside Hall Thicket

Habitats: Basic habitats easy to enhance, easy to create new habitat. Easy to connect this habitat to the other wider biodiversity hotspots.

Bats: Site currently provides areas of reasonably good foraging and commuting value. Possibly provides roosting habitat. Habitat management and provisional enhancement would improve the Site for this group.

Breeding birds: Timings implications would apply for any management or loss of trees, scrub.

Mammals: Introducing a habitat management plan presents no significant issues outside of standard pre-commencement checks prior to operational works for the presence of Badger setts, Hedgehogs in shelter, to avoid harm.

Amphibians: May use the site for aquatic and terrestrial use; habitat management and provisional enhancement would improve the Site for this group.

Reptiles: Unlikely to be present, unlikely to colonise the area based on its fragmentation from the wider setting.

Invertebrates: Site currently of low value for invertebrates; habitat management and provisional enhancement would improve the Site for this group.

Vegetation: No obvious implications by introducing a management plan. Habitat management would improve the Site for flora. *Rhododendron ponticum* present on site.

Difficulty rating: Easy

Ideal candidate site for this project.

Site 5 – River Wyre Corridor

Habitats: Complex matrix of primary habitats, adjacent to River Wyre an environment that likely supports Otter and wider s.41 species including Bullhead and Brown trout, moderate difficulty to enhance/improve many of the associated habitats without inviting implications and species surveys, fairly difficult to create new habitat. Easy to connect this habitat to the other wider biodiversity hotspots.

Bats: Site currently provides optimal foraging and commuting value as a riparian corridor. Many of the trees observed as highly likely to provide roosting habitat. Habitat management and provisional enhancement would improve the Site for this group.

Breeding birds: Timings implications apply for any management or loss of trees, hedgerow, scrub, rank grassland, river edges. Habitat management and provisional enhancement would improve the Site for this group.

Mammals: Introducing a habitat management plan presents no significant issues outside of standard pre-commencement checks prior to operational works for the presence of Badger setts, Brown hare resting sites, Hedgehogs in shelter, to avoid harm. Records of Otter on the river suggest enhancement could benefit this species directly (artificial otter holt).

Amphibians: May use the site for terrestrial use, though the river is unsuitable; habitat management and provisional enhancement unlikely to improve the Site for this group.

Reptiles: May use the site, though the river is unsuitable; habitat management and provisional enhancement unlikely to improve the Site for this group.

Invertebrates: Site currently favourable for invertebrates; habitat management and provisional enhancement would improve the Site for this group.

Vegetation: No obvious implications by introducing a management plan. Habitat management would improve the Site for flora. Himalayan Balsam present on river banks.

Difficulty rating: Moderate

Fair candidate site for this project, though there may be easier options.

Site 6 – Wyreside Hall Treeline

Likely ecological constraints:

Habitats: Basic primary linear habitat, easy to enhance/improve, easy to create new habitat. Easy to connect this habitat to the other wider biodiversity hotspots.

Bats: Site currently provides good foraging and commuting value as a linear feature. Some of the trees are likely to provide roosting habitat. Habitat management and provisional enhancement would improve the Site for this group.

Breeding birds: Timings implications apply for any management or loss of trees, hedgerow, scrub. Habitat management and provisional enhancement would improve the Site for this group.

Mammals: Introducing a habitat management plan presents no significant issues outside of standard pre-commencement checks prior to operational works for the presence of Badger setts, Brown hare resting sites, Hedgehogs in shelter, to avoid harm.

Amphibians: May use the site for terrestrial use; habitat management and provisional enhancement would improve the Site for this group.

Reptiles: May use the site; habitat management and provisional enhancement would improve the Site for this group.

Invertebrates: Site currently favourable for invertebrates; habitat management and provisional enhancement would improve the Site for this group.

Vegetation: No obvious implications by introducing a management plan. Habitat management would improve the Site for flora.

Difficulty rating: Easy

Ideal candidate site for this project.

Site 7 – Wyreside Hillside

Likely ecological constraints:

Habitats: Fairly basic primary habitats, easy to enhance/improve, easy to create new habitat. Easy to connect this habitat to the other wider biodiversity hotspots.

Bats: Site currently provides good foraging and commuting value particularly within the woodland and treeline. May also provide roosting habitat. Habitat management and provisional enhancement would improve the Site for this group.

Breeding birds: Timings implications apply for any management or loss of trees, scrub, rank grassland. Habitat management and provisional enhancement would improve the Site for this group.

Mammals: Introducing a habitat management plan presents no significant issues outside of standard pre-commencement checks prior to operational works for the presence of Badger setts, Brown hare resting sites, Hedgehogs in shelter, to avoid harm.

Amphibians: May use the site for terrestrial use; habitat management and provisional enhancement would improve the Site for this group.

Reptiles: May use the site; habitat management and provisional enhancement would improve the Site for this group.

Invertebrates: Site currently favourable for invertebrates; habitat management and provisional enhancement would improve the Site for this group.

Vegetation: No obvious implications by introducing a management plan. Habitat management would improve the Site for flora.

Difficulty rating: Easy

Ideal candidate site for this project.

Site 8 – Conifer Wood & Thicket

Likely ecological constraints:

Habitats: Some complex habitats but fairly easy to enhance/improve several areas, easy to create new habitat. Easy to connect this habitat to the other wider biodiversity hotspots.

Bats: Site currently provides optimal foraging and commuting value. Woodland may provide roosting habitat. Habitat management and provisional enhancement may improve the Site for this group.

Breeding birds: Timings implications apply for any management or loss of trees, scrub, rank grassland. Habitat management and provisional enhancement would improve the Site for this group.

Mammals: Introducing a habitat management plan presents no significant issues outside of standard pre-commencement checks prior to operational works for the presence of Badger setts, Brown hare resting sites, Hedgehogs in shelter, to avoid harm.

Amphibians: May use the site for terrestrial use, woodland may contain a water body; habitat management and provisional enhancement would improve the Site for this group.

Reptiles: May use the site; habitat management and provisional enhancement would improve the Site for this group.

Invertebrates: Site currently favourable for invertebrates; habitat management and provisional enhancement would improve the Site for this group.

Vegetation: No obvious implications by introducing a management plan. Habitat management would improve the Site for flora.

Difficulty rating: Easy

Ideal candidate site for this project.

Conclusions

- 7.10 From detailed assessment, sites 3, 4, 6, 7 and 8 provide the easiest opportunities for enhancement through habitat management and wildlife provisions; sites 1, 2 and 5 pose greater difficulty and are likely to have more ecological implications (further surveys, mitigation, possible licencing requirements) and require further work, money and time to improve.
- 7.11 Based on their respective broad primary habitat types, **TA4 – Biodiversity Management Advice (see external Appendices)** introduces habitat management and enhancement advice as well as species provisions to consider what would improve the candidate sites for biodiversity. Once candidate sites have been selected and approved a bespoke Habitat Management Plan is recommended, it can be secured by a suitably worded condition of planning permission in association with a planning obligation.
- 7.12 Mechanisms for securing habitat management and enhancement include planning obligations such as a section 106 agreement (Town & Country Planning Act, 1990) or via a unilateral undertaking entered into by a person with an interest in the land without the local planning authority.

Appendix I: Site Photographs

Site 1 – Brook Lodge

Refer to TA1 / TA2 for Photographs of Brook Lodge

Site 2 – Taylors Farm



Plate 1 – Nature of the grasslands at Site 2



Plate 2 – Shows the areas whereby vehicles have accessed the north of the site

Site 3 – Finchcroft Wood & Fields



Plate 3 – Shows the absence of management in existing grasslands



Plate 4 – Grassland in the north of the Site



Plate 5 – Grassland in the south of the Site

Site 4 – Wyreside Hall Thicket



Plate 6 – Observing the wooded thicket from the outside



Plate 7 – Within the thicket there is a largely shaded pond and density of wooded species

Site 5 – River Wyre Corridor



Plate 8 – Nature of the riverine corridor eastern side; scrub grades into grassland



Plate 9 – Building in the south of the surveyed area (left); scrub and treeline height (right)



Plate 10 – Northern woodland glade (left); tree with potential roost feature (right) in north of site

Site 6 – Wyreside Hall Treeline



Plate 11 – Treeline as observed from the outer perimeter



Plate 12 – Sub-canopy within the treeline

Site 7 – Wyreside Hillside



Plate 13 – Overview of the woodland west facing grassland/wooded edge



Plate 14 – Woodland observed from the east looking west (left); treeline along the western boundary (left)



Plate 15 – Scrub/tall herb and grassland matrix on the outer western edge of the woodland

Site 8 – Conifer Wood & Field



Plate 16 – Outer expanse of the conifer woodland near to the River Wyre



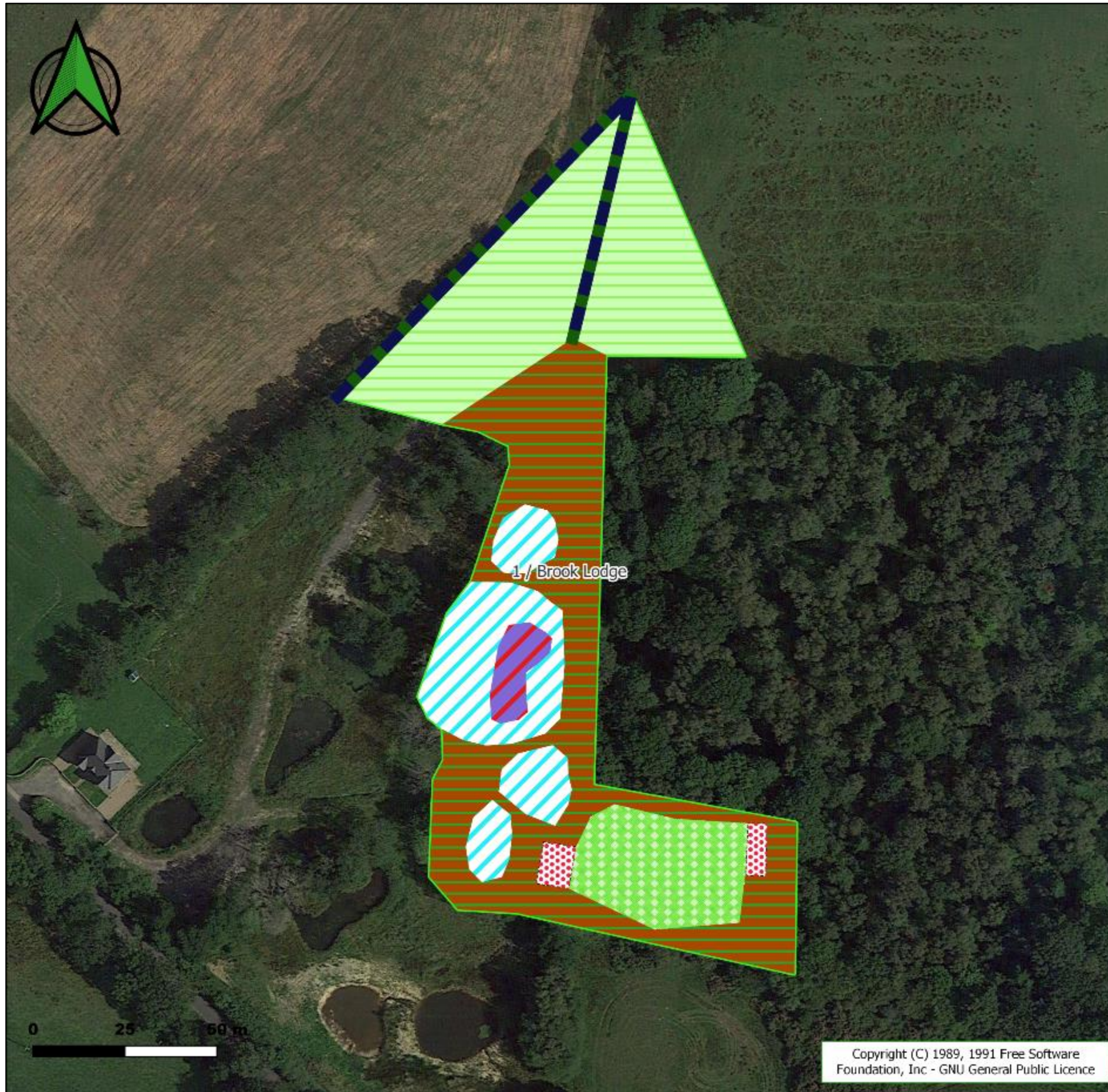
Plate 17 – Glades within the mixed woodland on the southern outer edge



Plate 18 – Photographs within the woodland

Appendix II: UK Habitats Maps – Sites 1-8

Site 1 – Brook Lodge



UK Habitats Map

-  Site Boundary
-  w1g6 - line of trees
-  g3c - other neutral grassland
-  g3c 10 11 16 - other neutral grassland; scattered scrub scattered trees tall herbs
-  h3 - dense scrub
-  r1 - standing open water and canals
-  u1b5 - buildings
-  w1f - lowland mixed deciduous woodland

Site 1 - Brook Lodge

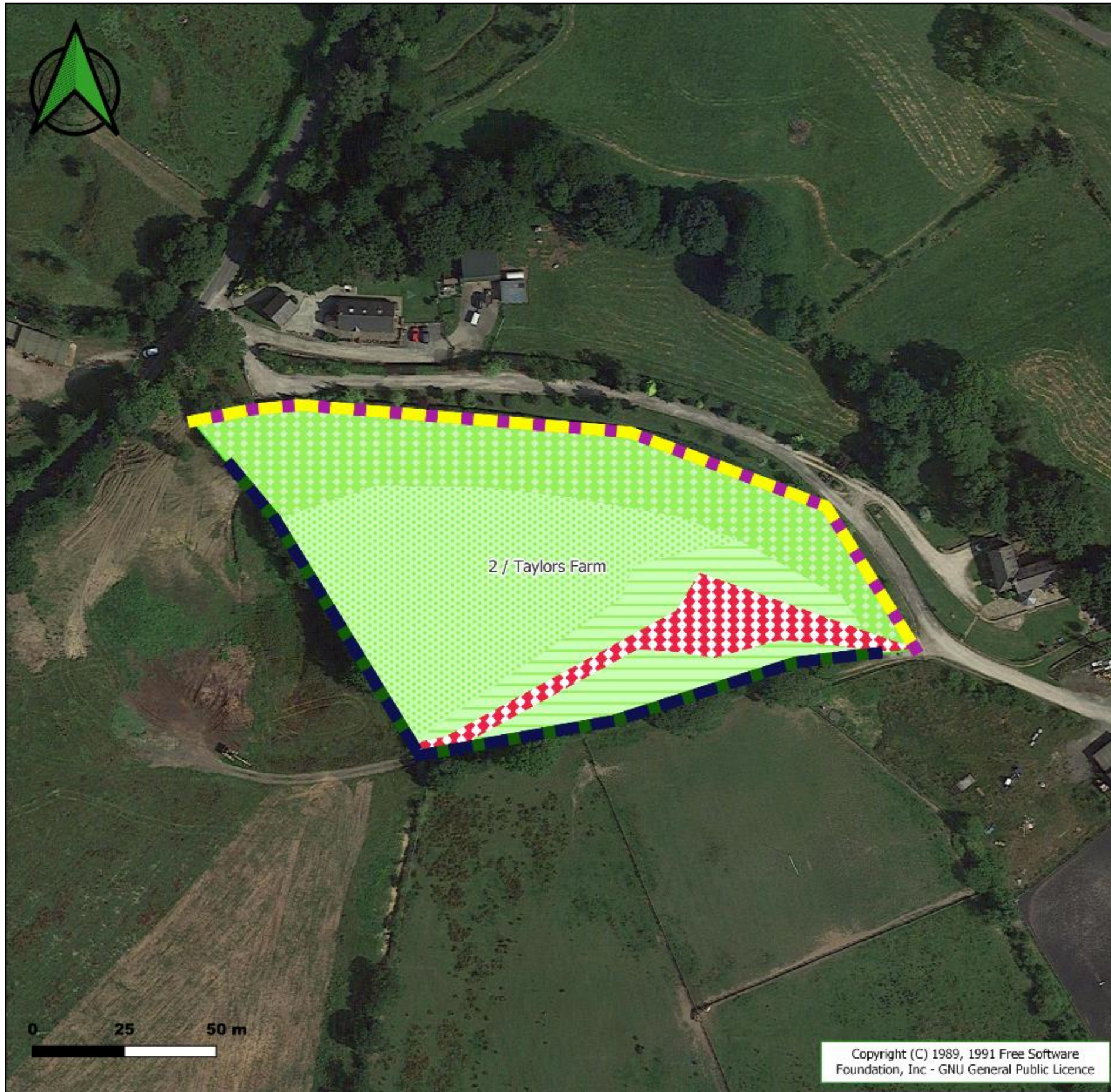
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Site 2 – Taylors Farm



UK Habitats Map

-  Site Boundary
-  h2 - hedgerow
-  w1g6 - line of trees
-  g3c - other neutral grassland
-  g3c 10 11 - other neutral grassland; scattered scrub scattered trees
-  g3c 16 80 - other neutral grassland; tall herb unmanaged
-  u1b6 - other developed land

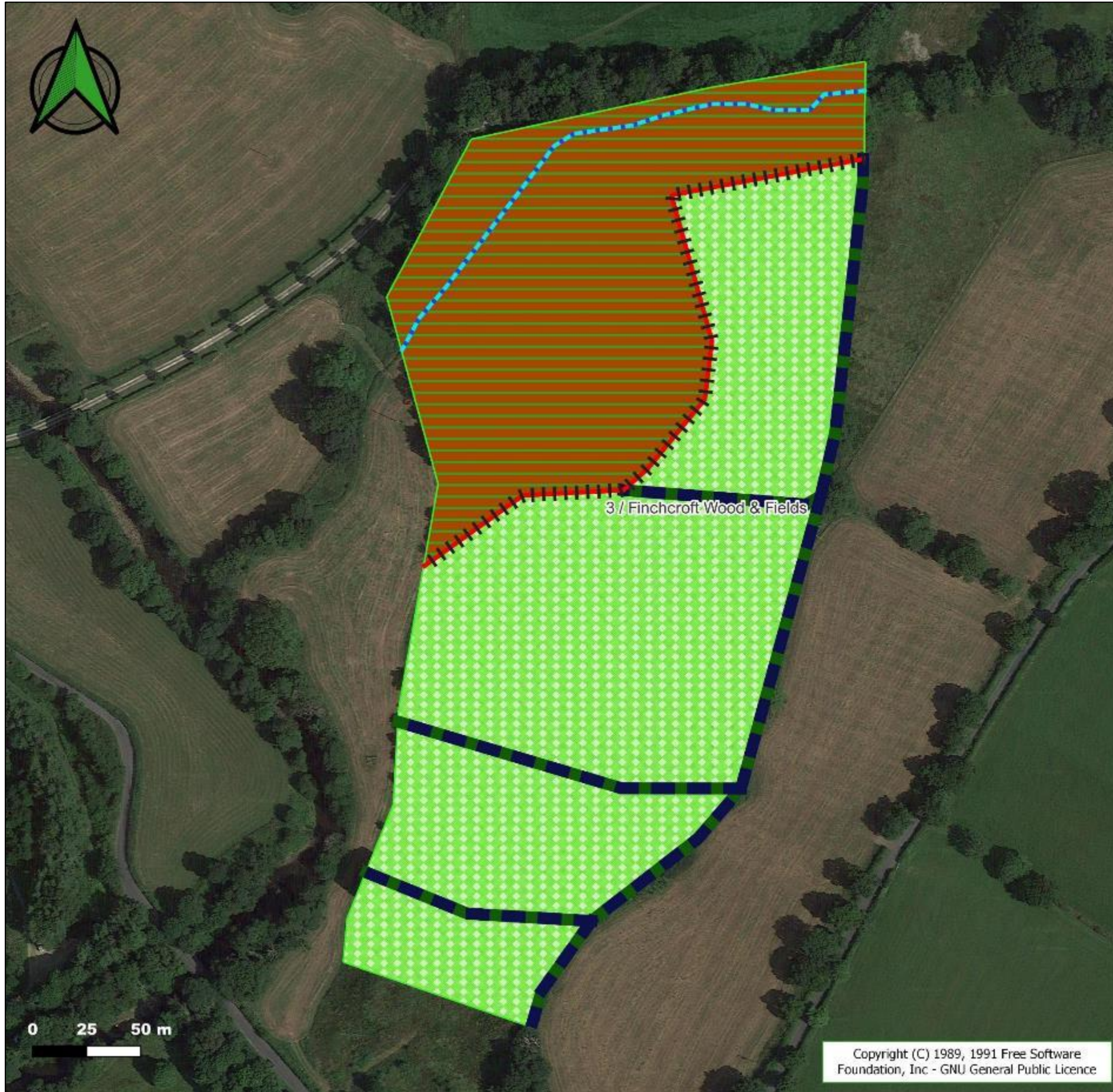
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Site 3 – Finchcroft Wood & Fields



UK Habitats Map

-  Site Boundary
-  r2 - rivers & streams
-  u1e 69 - fence
-  w1g6 - line of trees
-  g3c 10 11 16 - other neutral grassland;
scattered scrub
scattered trees
tall herbs
-  w1f - lowland mixed deciduous woodland

Site 3 - Finchcroft Wood & Fields

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Site 4 – Wyreside Hall Thicket



UK Habitats Map

-  Site Boundary
-  h3h - Mixed scrub
-  r1 - standing open water and canals
-  w1g - other woodland-broadleaved

Site 4 - Wyreside Hall Thicket

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Site 5 - River Wyre Corridor



UK Habitats Map

-  Site Boundary
-  w1g6 - line of trees
-  g3c - other neutral grassland
-  u1b5 - buildings
-  w1f - lowland mixed deciduous woodland
-  h3e - gorse scrub

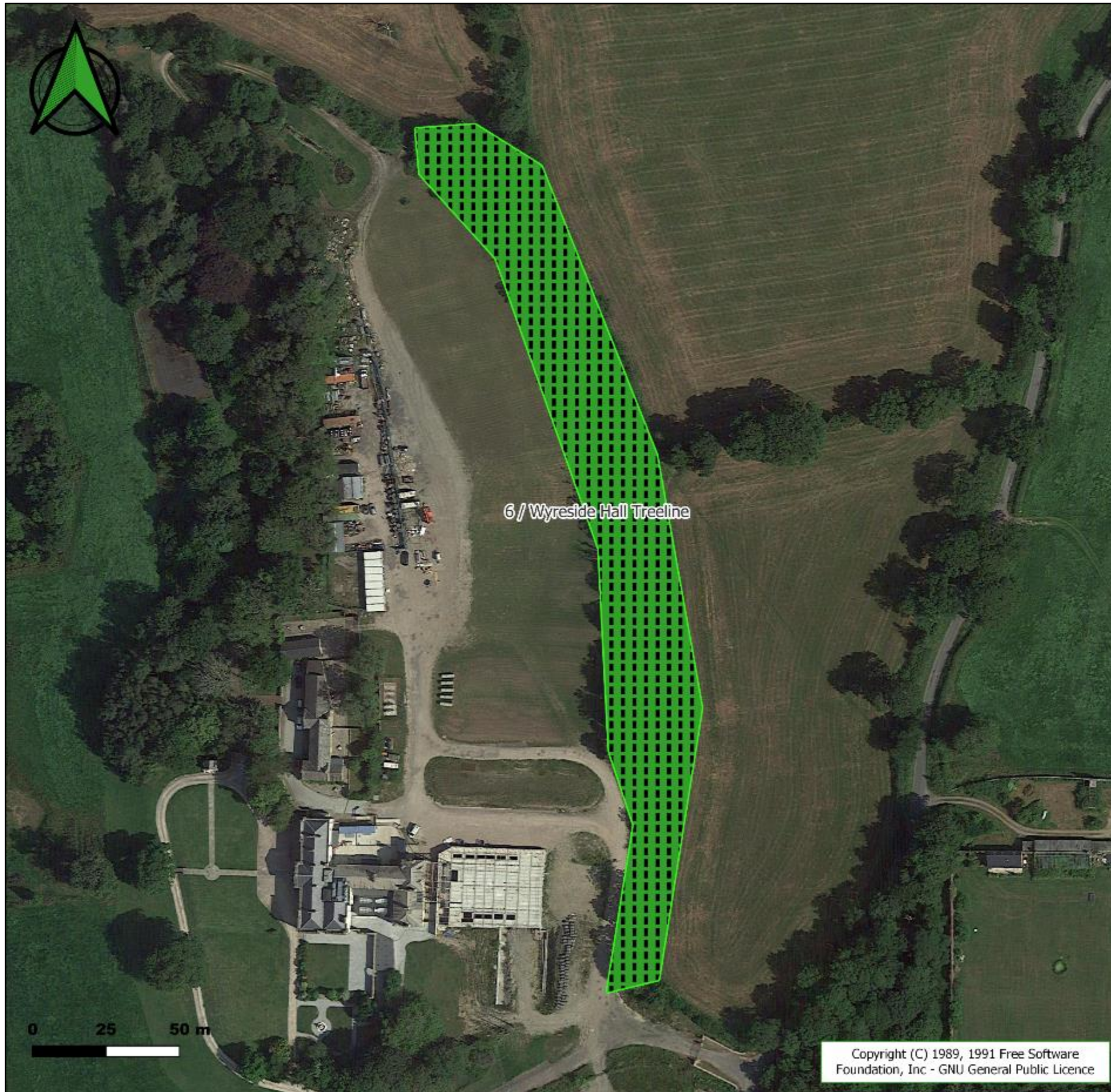
Site 5 - River Wyre Corridor

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Site 6 - Wyreside Hall Treeline



UK Habitats Map

-  Site Boundary
-  w1g6 - line of trees

Site 6 - Wyreside Hall Treeline

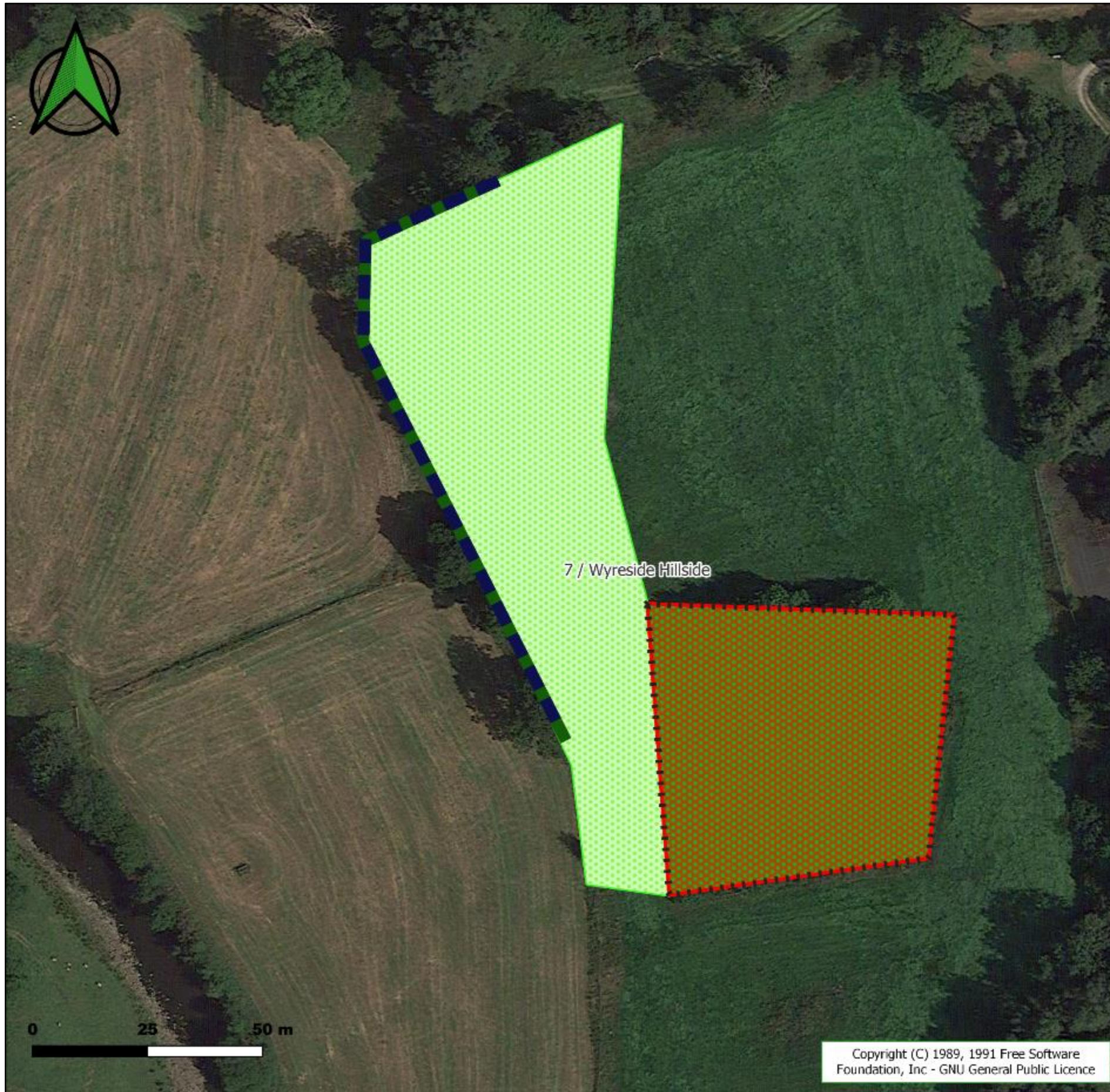
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Site 7 - Wyreside Hillside



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UK Habitats Map

- Site Boundary
- u1e 69 - fence
- w1g6 - line of trees
- g3c 10 14 - other neutral grassland
scattered scrub
scattered rushes
- w1h5 - other woodland; mixed;
mainly broadleaved

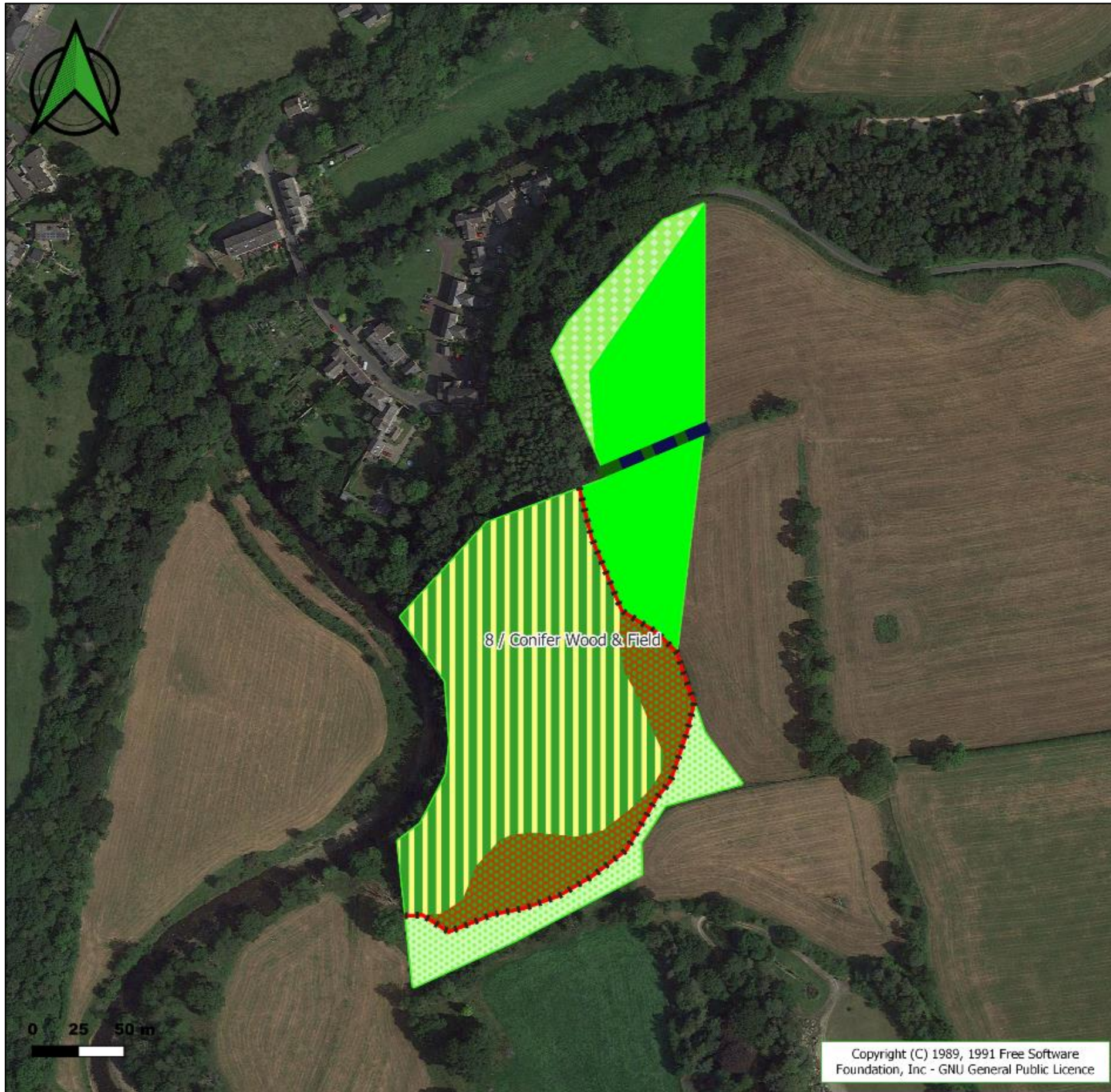
Site 7 - Wyreside Hillside

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Site 8 - Conifer Wood & Field



UK Habitats Map

-  Site Boundary
-  u1e 69 - fence
-  w1g6 - line of trees
-  g3c 10 11 - other neutral grassland; scattered scrub scattered trees
-  g3c 10 14 - other neutral grassland scattered scrub scattered rushes
-  g4 - modified grassland
-  w1h - other woodland mixed
-  w2b - other scots pine woodland

Site 8 - Conifer Wood & Field

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