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Biodiversity Net Gain

Lancashire Central



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This report has been compiled based on the methodology as detailed and the professional experience of the surveyor. Whilst the report reflects the situation found as accurately as possible, all of the protected species this survey covers are wild and can move freely from site to site. Their presence or absence detailed in this report does not entirely preclude the possibility of a different past, current or future use of the site surveyed.

We would ask all clients acting upon the contents of this report to show due diligence when undertaking work on their site and/or in their interaction with protected species. If protected species are found during a work programme, and continuing the work programme could result in their disturbance, injury or death, either directly or indirectly an offence may be committed.

If in doubt, stop work and seek further professional advice.

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1. INTRODUCTION

1.1 Purpose of this Report

In September 2021 Envirotech NW Ltd were commissioned to carry out an Ecological Appraisal of land at Lancashire Central, Cuerden, central grid reference SD553246, Figure 1. This was to include a Biodiversity Net Gain assessment (BNG). The aim was for an ecologist with botanical expertise to carry out a site visit to map the habitat types present at the site in order to establish the biodiversity baseline.

Following consultation with the local authority, due to an existing planning permission being partially implemented, baseline conditions were to be assessed as per pre-development conditions.

Simply Ecology (2012) undertook numerous field surveys between May and July 2012. From this a Phase 1 habitat map was prepared and presented in the reports submitted with planning application 07/2017/0211/ORM. This was the last time habitats were mapped prior to part implementation of planning consent.

Simply Ecology (2012) mapped each habitat type using the standard habitat mapping convention using Phase 1 habitat survey (JNCC, 2010).

This survey data was subsequently converted into the UK Habitat Classification (Butcher et al., 2020) by Envirotech in June 2022 for the purposes of using the Defra metric.

Using the findings of the baseline surveys by Simply Ecology (2012) and follow-up surveys by Envirotech in April and May 2022, the pre-construction ecological value of the site was measured. This was then assessed against proposed habitat changes arising from the proposed development based on the site layout (post-construction) provided by the client.

The scheme comprises a full planning application for Phase 1 Infrastructure for which a detailed landscape scheme has been prepared. The scheme also comprises an outline planning application with the layout and landscaping reserved. An indicative layout has been prepared for the outline application showing one of many potential development scenarios along with landscaping. This has been used to show one potential BNG outcome but cannot be taken as the final scheme.

This report presents the results of this desk-based study to assess net change in biodiversity 'units' in connection with the loss/ enhancement and creation of habitats for the proposed development at the site for both the Phase 1 Infrastructure and outline application areas combined.

1.2 Ecological Context

The area mapped for BNG onsite is 46.16Ha and *Figure 1* shows the site location.



Boundary

Figure 1
Site Location



1.3 Policy context

Biodiversity net gain (BNG) is an approach to development, and/or land management, that aims to leave the natural environment in a measurably better state than it was beforehand Local Government Association (2022).

The National Planning Policy Framework (NPPF) paragraphs 174, 179 and 180 makes provision for the delivery of biodiversity net gain. Additionally, there is a proposed 10% net gain requirement in the Environment Bill. There is currently no statutory requirement to deliver mandatory 10% biodiversity net gain as the secondary legislation to do so has not yet been brought in.

2. METHODS

2.1 Introduction

The biodiversity metric 3.1 is designed to quantify biodiversity to inform and improve planning, design, land management and decision-making (Panks et al., 2022).

This study has been carried out as a desk-based exercise, using the results of field surveys carried out at the site by Simply Ecology and Envirotech between 2012 and 2022 and a Landscape Plan for infrastructure works provided by the client.

Maps of the pre-construction habitats from the ecological appraisal in 2022 are shown in Appendix A. These are referenced Figure 7a-f.

The Phase 1 habitat map from Simply Ecology (2012) is also shown in Appendix A.

An indicative masterplan and landscape plan have also been prepared for the wider site which forms part of an outline planning application. Whilst the outline scheme is not fixed, calculations have been made based upon it. Landscaping plans SF 3236 LL01 Rev B, SF 3236 LL02 Rev B, SF 3236 LL03 Rev B, SF 3236 LL04 Rev A, SF 3236 LL05 Rev A, SF 3236 LL06 Rev A, SF 3236 LL07 Rev A are used for this assessment. These are included in Appendix B.

2.2 Biodiversity Assessment Methods

To calculate biodiversity units for the site and assess any changes arising from the proposed development this study uses methods set out the latest Biodiversity Metric 3.1 user guide (Panks et al., 2022).

The biodiversity metric uses three core measurements:

- Habitat area

- Length of linear terrestrial habitats
- Length of linear aquatic habitats.

Consequently, a site can have three biodiversity unit values, which are assessed using the same metric, but cannot be summed together.

Habitat area is multiplied by several factors that indicate its quality: distinctiveness, condition, strategic location and connectivity, and this gives its biodiversity unit value. This can be used for existing and future created habitats. In addition, when habitats are to be enhanced or newly-created, the risk of failure is accounted for by applying multipliers for risk factors (difficulty, time to target condition, and off-site risk).

Habitat Distinctiveness

Habitats are classified using the phase 1 habitat survey methodology (JNCC 2010) or the UK habitat classification system (Butcher et al., 2020).

The metric pre-assigns each habitat type to a distinctiveness band according to its distinguishing features, i.e. species richness, rarity (at local, regional, national and international scales), and the degree to which it supports species rarely found in other habitats. Under exceptional circumstances, professional judgement can be used, and the habitat distinctiveness of a habitat can be altered up or down from the preassigned value. Any alterations must then be fully explained using evidence relevant to the site, e.g. an increase in distinctiveness because of rare flora or fauna or a decrease in distinctiveness because of significant damage to the habitat.

Habitat Condition

Habitat condition measures the varying quality of similar habitats against what is perceived to be their optimal state. The biodiversity metric 3.1 technical supplement (Panks et al., 2022) contains condition sheets for all habitats to which the metric can apply. The condition sheets contain a habitat description, contextual information to aid the assessment, and the assessment criteria. The criteria describe what components need to be present for a habitat to be in good, moderate or poor condition.

Strategic Location

Strategic location - sometimes called 'strategic significance' - works at a landscape scale, allowing additional value to be added to habitats in 'priority' or 'biodiversity target areas'. They include statutory and non-statutory sites and other areas with biodiversity value or potential, and they are mainly identified from local plans and objectives. If a habitat is within such a target area, a multiplier is applied to increase its value.

Difficulty of Creation and Restoration

The risks associated with creating new or enhancing existing habitats, are known as difficulty factors; for example, where habitats fail to establish owing to natural changes in local conditions, incorrect management or for unknown reasons. The biodiversity metric 3.1 contains default values for each habitat based on the average difficulty of creating or enhancing a habitat. Under exceptional circumstances, these can be modified, but any deviation from the default value must be fully justified.

Time to Target Condition

There is often a lag between a habitat being removed and the new compensation habitats achieving their target condition. This gives reduced biodiversity value for a time. The biodiversity metric 3.1 preassigns the time to target condition based on good practice and typical conditions, and assigns a multiplier based on the number of years required to achieve it.

Using bespoke techniques under unique conditions, or creating compensation habitats prior to impacts taking place, the time to target condition can be adjusted. Any changes must again be fully justified.

Off-site Risk

Sometimes it is not possible to compensate adequately for loss of biodiversity within the site boundary, so off-site compensation is required. If the off-site compensation is a significant distance from the development site, then there will be a local loss of biodiversity and a multiplier is applied to any off-site compensation.

3. BIODIVERSITY ASSESSMENT

3.1 Biodiversity Baseline

The entire site was overflown with a drone in April 2022. This provided up to date, high resolution imagery of the site. An orthomosaic spatially referenced map was created from this imagery and the redline development boundary plotted to it.

Simply Ecology (2012) mapped habitats on the site at a low resolution and not onto a spatially referenced map. Google earth imagery from 2017, the last imagery taken before site development commenced, was therefore georeferenced against the orthomosaic spatially referenced map created in 2022. Due to the 2022 imagery being taken at a 90 degree angle directly downwards, and google earth being taken at an oblique angle, there is a slight discrepancy in the georeferencing to the site boundaries. The redline boundary was taken to be that plotted on the 2022 imagery.

The redline boundary is plotted to the inside edge of hedgerows to the site boundary, this is inside the redline planning boundary. This is undertaken so as not to account for the "area" taken by boundary hedgerows which is a linear rather than area habitat so subject to a differing treatment in the metric. Hedgerows on the redline boundary were included in the BNG calculations for linear habitats.

The habitats mapped by Simply Ecology (2012) were then plotted over the habitat areas visible on the 2017 imagery with the higher resolution 2022 imagery used for clarification of habitat areas where they appeared similar in 2022 as 2017.

Simply Ecology (2012) did not undertake habitat condition assessments. Habitat condition assessment for BNG were therefore based upon the habitat condition found in 2022, where the habitats were the same type and in the same location. Where they differed, the descriptions used by Simply Ecology (2012) were used to evaluate likely habitat conditions pre-development in 2017. Notably a number of hedges, ponds and woodland had been removed between 2017 and 2022 and retrospective condition assessments have been made.

Grassland areas were split between those inside and those outside the Lancashire Grassland Network.

Grassland habitat has been split into two categories.

Marshy grassland has been classified as "other neutral grassland" being wet meadow with frequent rush but not waterlogged, G3C8.

Improved and semi-improved grassland has been classified as "modified grassland"

"Palatable grasses dominate mainly Rye grasses Lolium spp., Timothy Phleum pratense, Cock's-foot Dactylis glomerata, Crested Dog's-tail Cynosurus cristatus, Yorkshire Fog Holcus lanatus. Grass cover usually over 75%. Broadleaved species restricted mainly to White Clover Trifolium repens, Creeping Buttercup Ranunculus repens, Greater Plantain Plantago major, Dandelion Taraxacum officinale, Broad-leaved Dock Rumex obtusifolius and Chickweed Stellaria media. Fertile but wetter situations may support occasional Soft Rush Juncus effusus or Hard Rush Juncus inflexus, Floating Sweet Grass Glyceria fluitans, Creeping Bent Agrostis stolonifera and Rough Meadow-grass Poa trivialis, but accompanying species will always indicate high fertility. Species poor <9 species m-2."

A number of hedges occur on the site, some of which have and or will be lost. Hedges are classified as linear habitats and measured by their length. The area hedges take up, once lost, must however be accounted for in the metric in order to ensure the pre and post area habitats match. To account for this area habitats were measured to the edge of hedge canopies. Bare ground, in poor condition, was then used as a proxy for the area hedges occur on. This bare ground would be converted to another habitat type as part of the metric calculations post development.

Pre-development 2017 habitats have been input into the Defra Biodiversity Metric 3.1 calculator and indicate a total of 128.99 Habitat units, 48.30 Hedgerow units and 0.72 River units. The full biodiversity assessment calculation can be found in the Excel document 'Biodiversity Metric 3.1 Lancashire Central Full Site 2017 R6'.

The condition assessments for each of the area, linear and river habitats are presented in Appendix C. No deviations have been made from the default methods for baseline habitats assessment

3.2 Post-development Habitat Creation and Enhancement

For the entire site, based on the 2017 habitats, the Illustrative layout has been used to identify that there will be one retained habitat area and 10 new habitat areas.

The habitat which is retained is scrub to the banks of the M65. This is outside the development area but within the redline boundary.

Whilst grassland and ponds will feature within the proposed scheme, it is likely these areas will be lost through ground works, then re-created. No habitats are therefore classified as "enhanced".

It is likely that some habitat areas could be retained and enhanced, which would generate a higher final net gain. A worst-case scenario of loss and recreation is however used in these calculations.

2.31km of hedge is lost, 3.22km retained, 3.64km of hedge is created. Whilst retained hedges, principally to the site boundary and footpaths could be enhanced, highways safety may not allow them to be grown taller or wider than existing. No hedgerows are therefore classified as "enhanced". Should retained hedgerows be enhanced this would generate a higher final net gain. A worst-case scenario of loss, retention and or creation is however used in these calculations

0.422km of ditch is lost and 0.68km of ditch is created. All of the ditches on site are liable to be re-aligned/ modified but overall lengths will increase. No ditches will be "enhanced".

All area habitats have been put into "moderate" condition where it is possible to condition score other than a default level. This is judged appropriate given the final layout is unknown and a management plan not yet prepared. It is likely that some areas could achieve a "good"

condition which would result in a higher net gain but also some isolated pockets may be on “poor” condition.

All new native hedgerows have been put into “moderate” condition and all ornamental hedges “poor” condition. This is judged appropriate given the final layout is unknown and a management plan not yet prepared. It is likely that some hedges could achieve a “good” condition which would result in a higher net gain.

All ditches have been put into “poor” condition given that they are associated with SUDS and built infrastructure. It is unlikely ditches could achieve a “moderate” or “good” condition due to encroachment.

The post development grassland areas are all recorded as outside the Lancashire grassland network, even though some grassland is likely to be within it. This lowers the final grassland habitat unit values but takes a worst-case scenario based on the final landscape scheme not being known.

These figures have been put in to the Biodiversity Metric 3.1 and would comprise a total of 158.06 Habitat units, 46.15 Hedgerow units and 0.98 River units (Table 1). This results in a small loss in hedgerow units and does not meet trading rules due to an overall loss of woodland and scrub habitat.

Based on the indicative layout, in order to show that a gain is possible in hedgerow units and trading rules are satisfied, offsite compensation may be required and or additional planting provided in the later, outline, phases of development.

3.3 Change in Biodiversity Value

Further to the request for additional information received from the councils’ ecological advisors, Jacobs, dated 26/01/2023, in respect of BNG calculations, we would hereby provide the information requested.

Jacobs comments are provided in italics, to place our response in context with the comments made

BNG General – Condition assessment sheets have been updated in this revision. BNG- Area Habitats

It is understood that there was significant habitat clearance when implementing planning permission 08/2017/0211 and the metric correctly uses the pre-clearance habitats in the baseline (in accordance with the scoping opinion provided by LCC on 8th March 2022). Given that the metric calculation is based on the original habitats, and they were cleared some time ago, the metric should allow for the delay in habitat creation. The current metric has this set at 0 years for on-site habitat creation, which suggests no delay, which is not accurate. The metric therefore requires amending to include a time delay for creation of these on-site habitats.

This is incorrect. Clearance of woodland on site was undertaken under a previous consent in 2018. Any BNG loss or gain, associated with those works, are tied to the previous application and need not form part of the current application for which a new BNG calculation is required. Each application should be taken on its own merits.

The applicant has asked that we account for the habitat cleared under a previous consent as this shows their willingness to engage with the principals of BNG, even though they need not do so.

Planning policy covering the current application site does not require a 10% BNG, only minimising impacts on and providing net gains for biodiversity, in accordance with the NPPF, i.e. no net loss.

The BNG V3.1 calculation tool does not allow for a calculation of habitat value to be made which has been lost prior to a planning application being determined. It only allows for existing habitat value to be input. Where habitat has been lost previously, its baseline value, as it would have been at the time the BNG calculation is made, is input.

There is a provision for delaying the start of habitat creation in the metric for created habitats. We can use the figures generated in this part of the metric to manually deduct the value of the woodland, up until the point habitats are created to replace it.

A BNG sheet has been used to show these calculations “Biodiversity Metric 3.1 Calculations for delays in habitat creation test sheet”

One must also decide upon what date is used for the woodland loss. Whilst it was lost in 2018, the BNG baseline date for habitat which is lost prior to assessment is January 2020.

One must also make an “informed assumption” at what point habitat to replace the woodland will be created and as the majority of the scheme is outline only, what type of habitats will be created. The type of woodland lost does not require a “like for like” replacement.

In respect of other habitats not having a delay for creation, this is also correct in its current form. Each phase will be left, in its current vegetated state, until the start of work. Habitat will then be cleared and the landscaped areas created in Year 1 (within 12 months) of each phase starting. The delay between clearance of existing and the creation of new habitat is therefore 0 years.

We appreciate that the valuation and use of the BNG metric is complicated when dealing with phased development. We therefore suggest the following amendments.

The baseline habitat for assessment for woodland and grassland remains based on the habitats present pre-clearance with condition scores derived from the ecology reports prepared by Simply Ecology for a previous the planning application submission.

Other baseline habitats remain as per assessments undertaken for the current application. Existing site conditions.

Woodland

The woodland on site was cleared in 2018, this area of the site is in Phase B, as per the submitted phasing strategy, which is proposed for clearance in 2024. This means woodland would have been “lost” for 6 years (2018-2024).

3.163Ha of woodland in poor condition = 12.65 Units

3.163Ha of woodland in poor condition delayed for 6 years = 8.55 Units. This values the woodland lost for 6 years is 4.1 Units (12.65 - 8.55)

We can either deduct this value from the final site BNG score to account for the delay in woodland creation/ replacement and or add it to the pre-start value. Either way the 6 years of having no woodland is accounted for.

We must however also assess what the woodland was replaced with. The replaced habitat has a BNG value above zero as it is not hardstanding/ building.

3.163Ha of woodland was lost, and was turned into marshy grassland. This is classified as Neutral Grassland in BNG terms. It will remain as neutral grassland until cleared in 2024, 6 years between creation and loss. This grassland is partly within the "Lancashire ecological grassland network"

1.36Ha of Neutral grassland in poor condition (we assume worst case as its condition cannot be assessed prior to 2022) inside grassland network = 5.83 Units.

1.803Ha of Neutral grassland in poor condition (we assume worst case) inside grassland network = 6.72 Units.

3.163Ha of Neutral Grassland created in poor condition = 12.55Units (the current site condition)

3.163Ha of woodland which is replaced in poor condition = 12.65Units (that which was previously lost)

The difference in BNG units as a result in accounting for previous loss of the woodland = 0.1Units

Grassland

Some grassland is within Phase A and some within Phase B, as per the submitted phasing strategy. In this case we will assume it is all within Phase B, which is a worst-case scenario.

The grassland on site was cleared in 2018, taking these areas of the site as being in Phase B which is proposed for clearance in 2024. This means grassland has been "lost" for 6 years.

0.668Ha of modified grassland in poor condition inside "Lancashire ecological grassland network" = 1.54 Units

1.917Ha of modified grassland in poor condition outside "Lancashire ecological grassland network" = 3.83 Units

0.668Ha of modified grassland in poor condition inside "Lancashire ecological grassland network" delayed for 6 years = 1.20 Units

1.917Ha of modified grassland in poor condition outside "Lancashire ecological grassland network" delayed for 6 years = 2.99 Units

This values the grassland lost for 6 years at 1.18 Units (5.37- 4.19)

We can either deduct this value from the final site BNG score to account for the delay in grassland creation/ replacement and or add it to the pre-start value. Either way the 6 years of having no grassland is accounted for.

We must however also assess what the grassland was replaced with. The replaced habitat in this case has a BNG value of zero as it is Artificial unvegetated, unsealed surface. A such no deduction is made from the calculated loss.

Summary

Each phase of development will result in area habitat loss, then replacement of green infrastructure within 1year. Habitat creations delays are therefore all set to 0 years.

There is no requirement to offset or account for habitat loss due to a previous planning application.

Under BNG guidelines, if clearance were to be accounted for, this need only be from January 2020.

We have however allowed for the loss of woodland and grassland 6 years prior to habitats being recreated to replace them. We have also valued the habitats which have been created in the interim period and deducted this value from that of the habitat which was originally lost.

Using worst case scenarios, the difference is a reduction in BNG post development of 0.1Units for woodland loss and 1.18 Units for grassland lost, total 1.28Units.

This would reduce the post development value from 158.06 to 156.78 for area habitats and % gain from +22.04% to +21.04%. This cannot be shown on Table 1 so must be manually calculated.

BNG- Linear Habitats

"The hedgerow calculations are based upon creating 3.65km of hedgerow on-site and 400m of hedgerow off-site. Paragraph 3.2.13 of the report states that the 400m of off-site hedgerow would be undertaken in the later phases of the development, however no delay in habitat creation has been accounted for in the metric, which again currently is at 0 years (i.e. no delay). While it is understood that the exact timing of implementation may not be known at this stage, an estimate needs to be included in the metric to allow for this time delay. The metric therefore requires amending to include a time delay for creation of off-site hedgerow."

We have specified that 0.4Km of hedgerow will be created offsite. This is because the indicative landscape scheme for the outline application areas does not provide sufficient hedgerow planting to show a BNG. As the future phases come forward it is anticipated hedgerow planting would be sufficient to deliver BNG onsite. At this stage however, based on the information to hand, offsite provision is needed.

0.935km of hedgerow was lost prior to January 2020. This linear habitat was replaced with an

area habitat (grassland). Whilst the grassland has a BNG value, it can not be exchanged for the loss of linear habitat.

In respect of other hedgerows not having a delay for creation, this is also correct in its current form. Each phase will be left, in its current vegetated state, until the start of work. Hedgerow will then be cleared and the landscaped areas created in Year 1 of each phase. The delay between clearance of existing and the creation of new hedgerow is therefore 0 years.

As with area habitats BNG does not require habitat lost before January 2020 to be assessed. The hedge lost prior to 2020 was also under a separate application which need not be accounted for in the current application. It is the applicants wish however to do so.

0.475km of Native Hedgerow with trees in moderate condition will be created offsite. With a 6 years delay in planting, to account for hedgerow loss under the previous consent, and assuming it will be planted in 2024.

This results in a 0% BNG for linear habitat which is policy compliant, i.e. no net loss.

BNG- Trading rules

"The metric states that trading rules are not satisfied, and the report correctly outlines this in paragraph 3.3.2 which states there is a deficit for mixed woodland and mixed scrub (habitats of medium distinctiveness). However, paragraphs 3.2.12, 3.2.13 and 3.3.1 state that with provision of 1.6ha of off-site habitat creation (1ha of broadleaved woodland and 0.6ha of mixed scrub in moderate condition) the trading rules would be satisfied and there would be a gain of 34.57 (+26.80%) biodiversity area units. This is not shown in the metric provided; no off-site calculation for area-based units has been included, and so it is unclear how this number has been calculated. An aerial photograph has been provided showing location of the offsite area, stating the baseline as improved grassland, but no off-site data has been included in the metric for area-based habitats. A metric should be provided showing how this off-site habitat creation has been accounted for to result in the 26.80% increase and that trading rules are satisfied; an estimated time delay in creation also needs to be included in accordance with this being implemented at later stages of the development".

The situation regarding off-site mitigation must be clarified. The BNG calculation method does not integrate particularly well with large, phased developments such as this. It is anticipated that BNG mitigation can be accommodated entirely within the red-line boundary of the Application Site, however the provision of such mitigation may need to wait until the details of future phases (including additional landscaping) of the development are approved. For that reason, there may be periods in which a net loss is calculated, which may in turn indicate a need for off-site mitigation.

The works proposed under this initial detailed phase of works (site access and strategic green landscaping) generate a 1.6ha deficit which is expected to be provided on Development Zones A, B, C, D and E. It is anticipated that a suitably worded planning condition or legal agreement would enforce this to ensure that there is no net loss in biodiversity terms.

As such, an offsite area for habitat creation has not been identified at this time but it is assumed such habitat would comprise modified grassland in poor condition outside the Lancashire Ecological Grassland Network.

We have amended the BNG calculation sheet to show 1.6Ha of modified grassland in poor

condition being planted with 0.9Ha of mixed scrub and 0.7Ha of Other woodland; broadleaved. There is no delay in creation as this can be undertaken within 1 year of the BNG credits being required for each phase of development.

Trading rules would be satisfied.

It is possible that a reduced area of woodland and scrub can be created onsite, in the phases of development which are outline, as this generates a higher BNG score. There would still be no delay in creation as this can be undertaken within 1 year of the BNG credits being required for each phase of development.

Table 1 shows the final scores allowing for delays in habitat creation associated with prior loss and offsite compensation. The Habitat units are reduced from 158.06 to 156.78 and % gain from +22.04% to +21.04%. This cannot be shown on Table 1 so must be manually calculated

On-site baseline	<i>Habitat units</i>	129.52
	<i>Hedgerow units</i>	48.30
	<i>River units</i>	0.72
On-site post-intervention (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	158.06
	<i>Hedgerow units</i>	46.15
	<i>River units</i>	0.88
On-site net % change (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	22.04%
	<i>Hedgerow units</i>	-4.45%
	<i>River units</i>	23.30%
Off-site baseline	<i>Habitat units</i>	3.20
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	9.31
	<i>Hedgerow units</i>	2.15
	<i>River units</i>	0.00
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	34.65
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.17
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	26.75%
	<i>Hedgerow units</i>	0.00%
	<i>River units</i>	23.30%
Trading rules Satisfied?	Yes✓	

Table 1. Change in Biodiversity Units Calculation entire site- landscape scheme and layout not fixed

Summary

Under the current proposals set out in the Illustrative Masterplan for the entire site, which is not currently fixed and indicative only, as well as the provision of 1.6ha of offsite area, there

will be a GAIN of 34.65 (26.75%) minus 0.1Units for woodland loss and 1.18 Units for grassland lost, total 1.28Units which cannot be directly calculated by the metric resulting in a GAIN of +33.37 (+26.1%) biodiversity area units, and a GAIN of 0.00 (0.0%) hedgerow units and a GAIN of 0.17 (+23.3%) River Units. This is shown in Table 1. Trading rules are satisfied.

Only one phase of development has been submitted with a full landscaping plan. Later phases of development are outline only. The later phases of development are in excess of 1Ha and as such additional landscaping including woodland and scrub can be provided within them, if required, as each phase is brought forward.

The calculations presented at this stage of the application do not account for habitat banking. That is to say that the significant infrastructure landscaping which is proposed, will result in a surplus in units over the initial phase of development and will also appreciate in value before the later phases are brought forward. Calculations presented are based on the habitat value at Year 0, rather than at a higher value, when later phases of development are brought forward. Overall we consider the later phases of development which remain in outline, more than provide sufficient scope for provision of the required BNG and habitat types.

3.4 Monitoring

Baseline values for the area of the site subject to a detailed application will be as per the current assessment. Additional assessment of later phases of work will be required to assess their baseline condition at the time each phase of development is brought forward. The condition of each habitat subject to BNG should be as at the time planning permission for each phase is determined.

During the construction phase, management of habitat areas will be the responsibility of the developer. Once handover has been achieved habitat areas will be the responsibility of a management company, setup and run by the site users. This management company will be ultimately responsible for management and funding of the habitat areas via a service charge. Monitoring of the habitat areas will be undertaken by a third-party ecological contractor to be appointed by the management company. It is envisaged monitoring will be undertaken in Yr1, Yr2, Yr3, Yr5, Yr10 and every 5 years thereafter. Habitat areas will be assessed against the pre-development target condition scores.

Reports on habitat condition and actions required to achieve target condition will be provided to the Local Authority.

4. REFERENCES

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- Local Government Association (2022). Biodiversity Net Gain FAQs - Frequently Asked Questions
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- Stephen Panks A, Nick White A, Amanda Newsome A, Mungo Nash A, Jack Potter A, Matt Heydon A, Edward Mayhew A, Maria Alvarez A, Trudy Russell A, Clare Cashion A, Finn Goddard A, Sarah J. Scott B, Max Heaven C, Sarah H. Scott C, Jo Treweek D, Bill Butcher E And Dave Stone A 2022. Biodiversity metric 3.1: Auditing and accounting for biodiversity - User Guide. Natural England.
- JNCC. (2010), Handbook for Phase 1 Habitat Survey (revised). JNCC, Peterborough.

APPENDIX A – BASELINE HABITATS

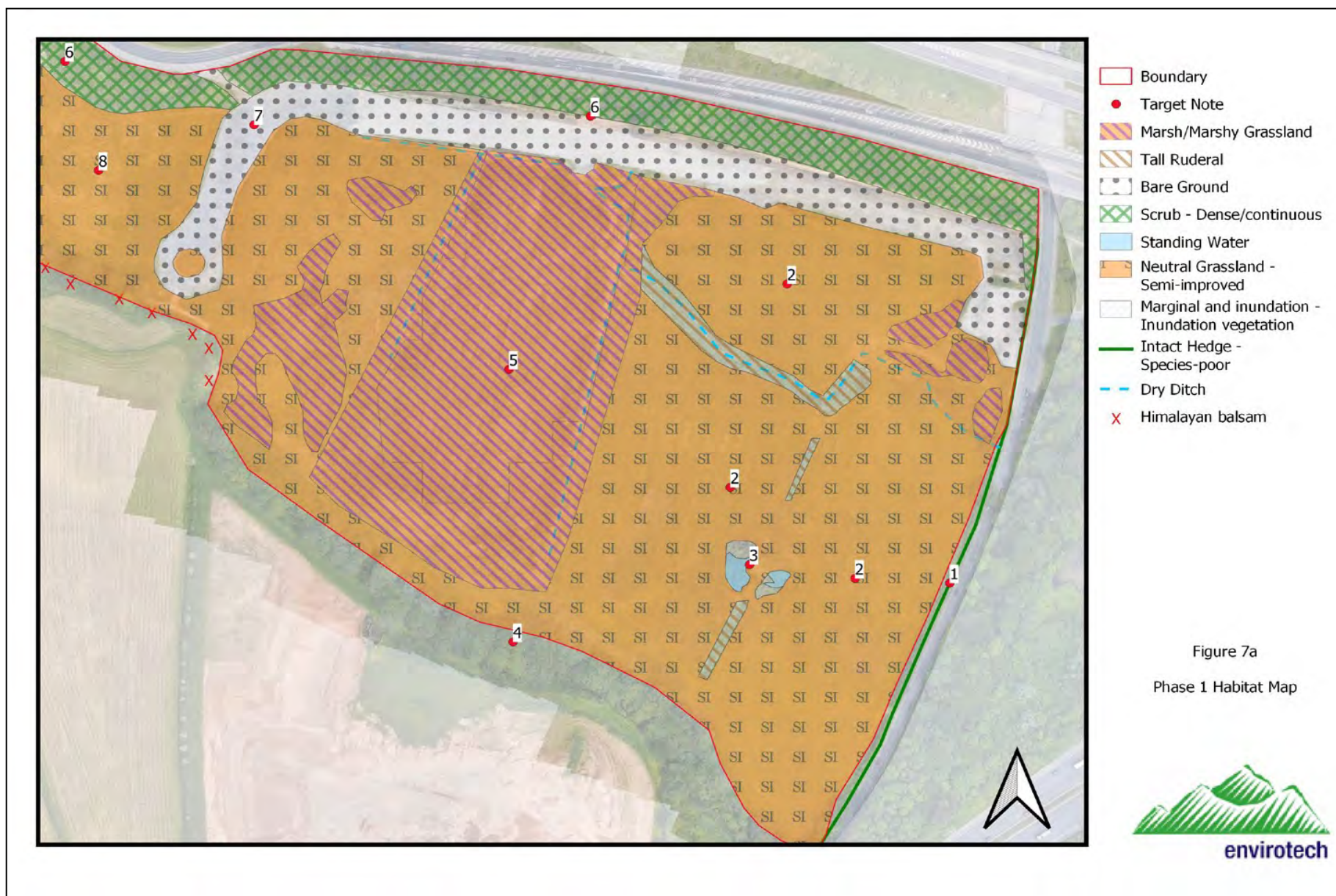


Figure 7a
Phase 1 Habitat Map



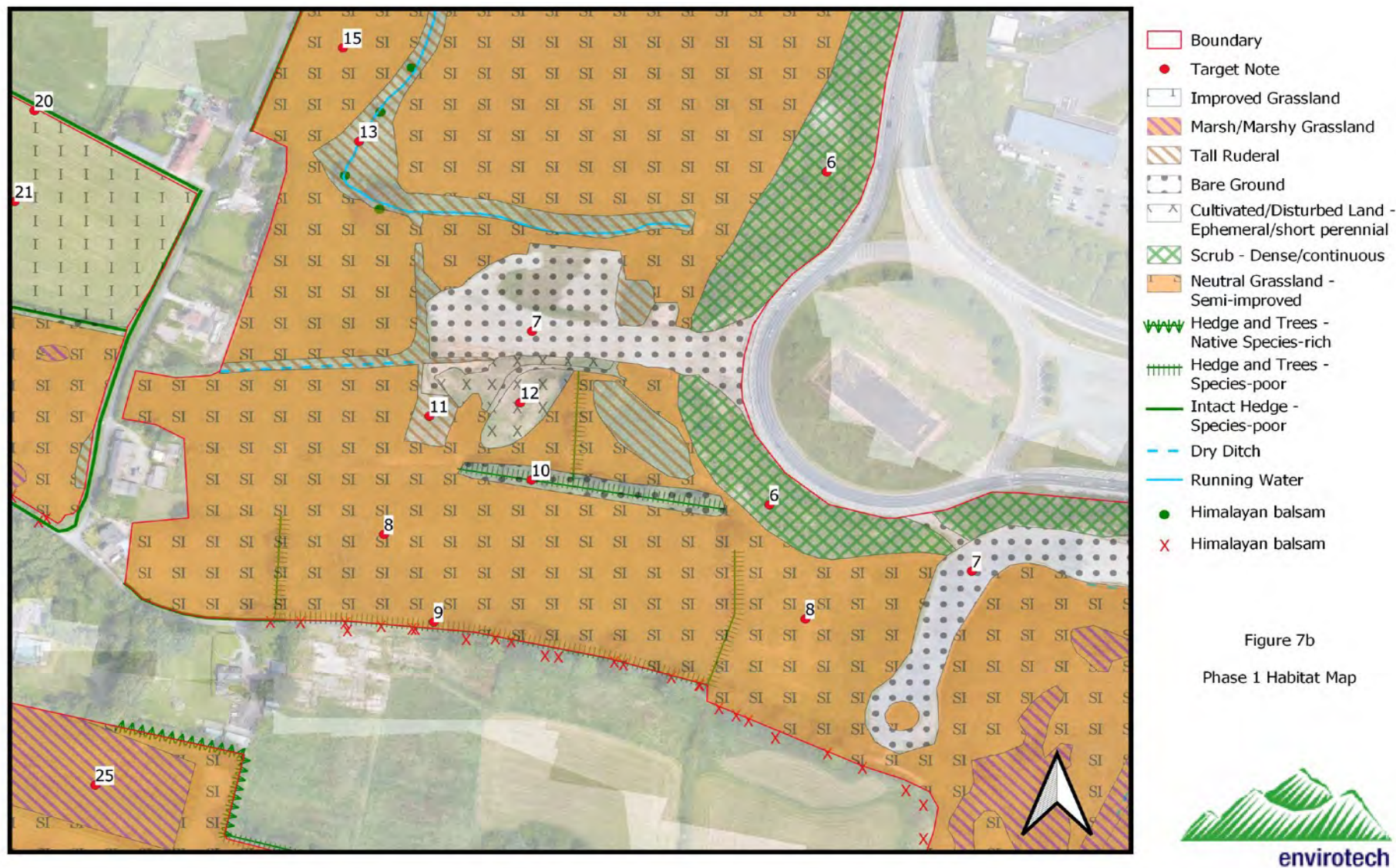




Figure 7c

Phase 1 Habitat Map

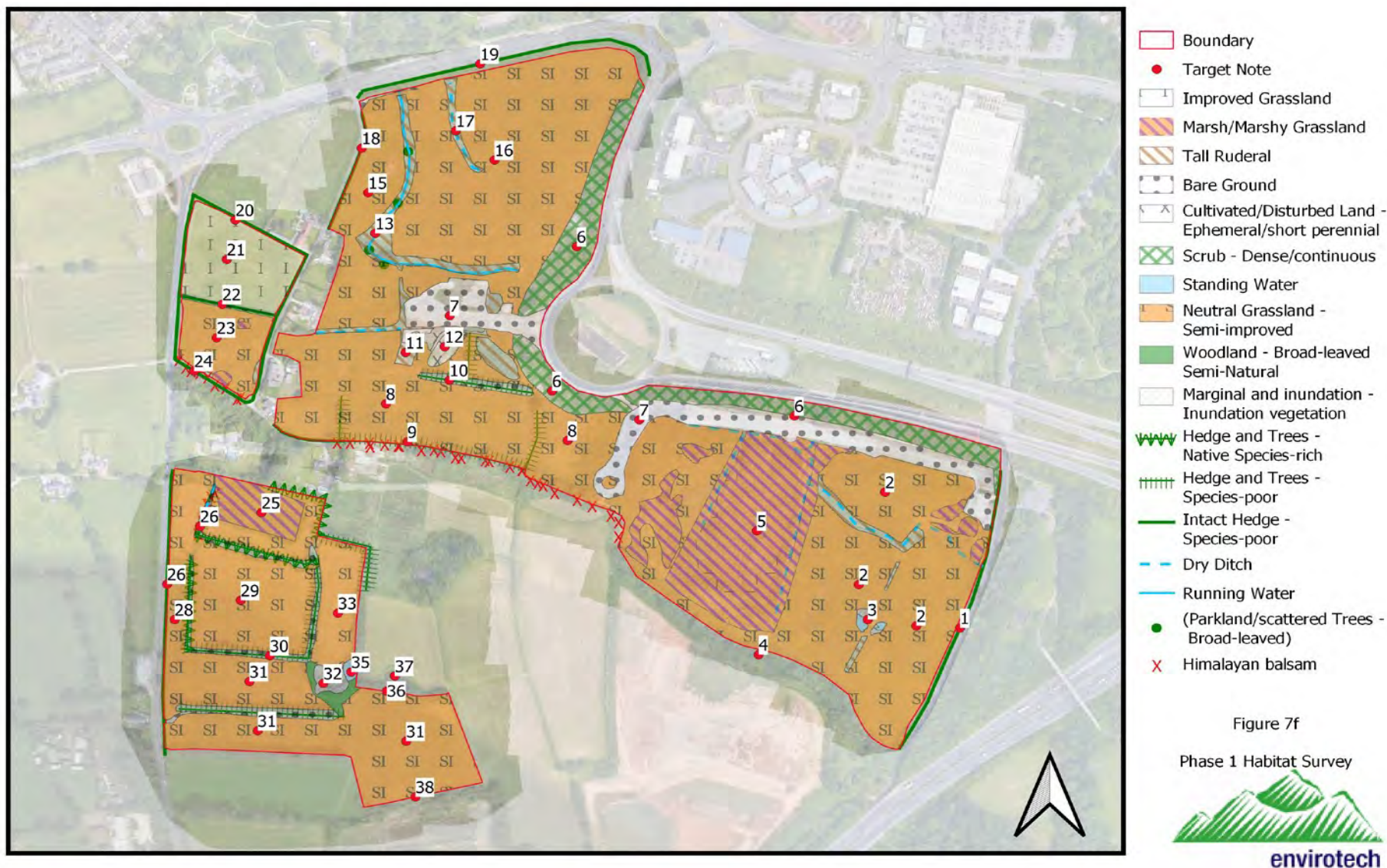






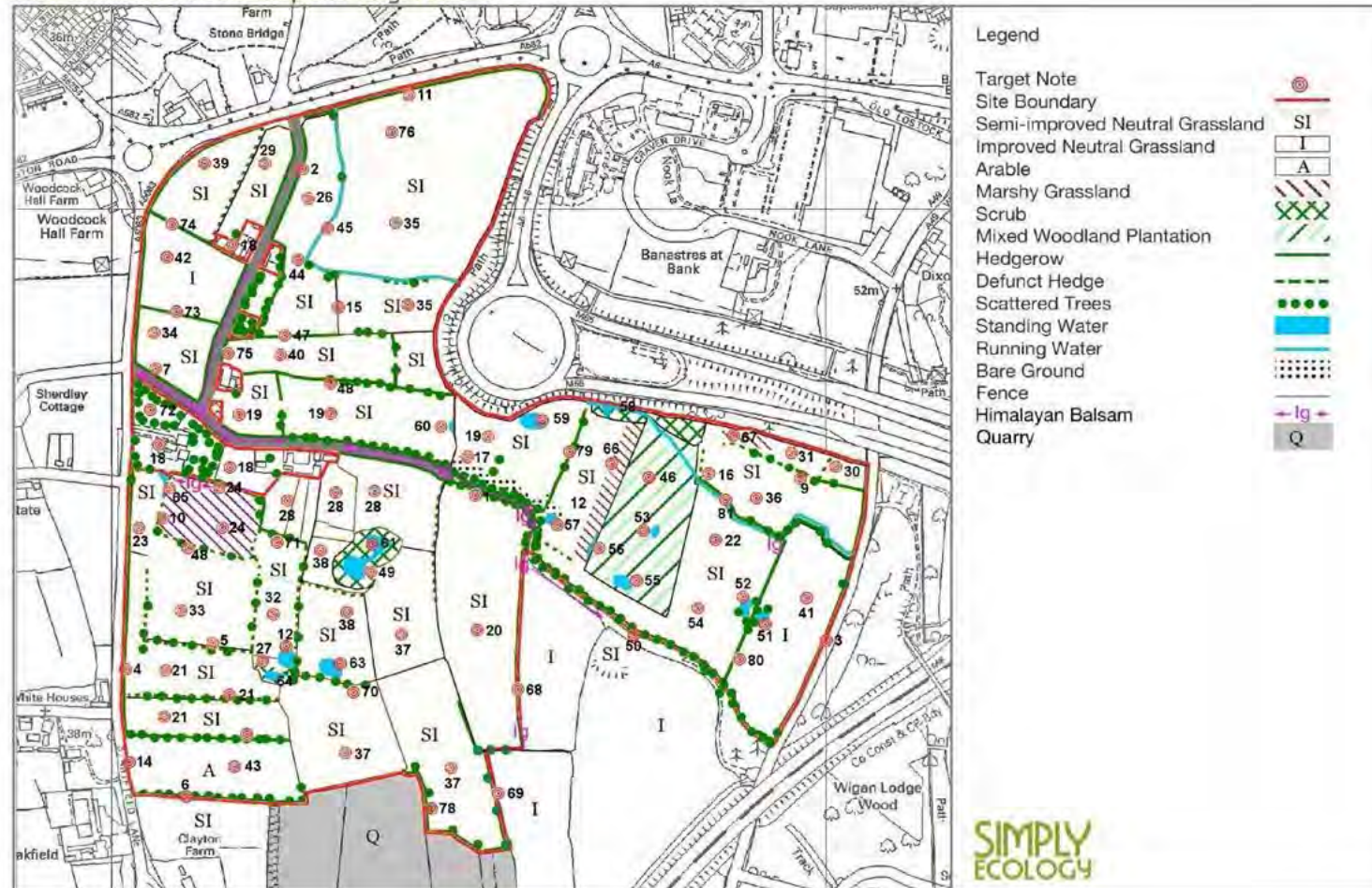
Figure 7e
Phase 1 Habitat Map





Cuerden Strategic Site

Plan 2: Phase 1 Habitat map and Target Notes.





- Boundary
- ||||| Hedge and Trees - Species-poor
- Intact Hedge - Species-poor
- Running Water
- ~~~~~ Hedge and Trees - Native Species-rich

Hedges and ditched
mapped
onto 2017 imagery

0 100 200 m



APPENDIX B – LANDSCAPE PLANS





APPENDIX C - CONDITION ASSESSMENT TABLES

Hedge Number	Phase 1 Habitat	UK Hab Equivalent	Hedgerow Criteria Score based on 2022 assessment										Condition Assessment
			A1	A2	B1	B2	C1	C2	D1	D2	E1*	E2*	
A	Intact Species-poor hedgerow	Native Hedgerow	P	P	P	P	P	P	P	P			Good
B	Intact Species-poor hedgerow	Native Hedgerow	P	P	P	P	P	P	P	P			Good
F	Intact Species-poor hedgerow	Native Hedgerow	P	P	P	P	P	P	P	P			Good
G	Intact Species-poor hedgerow	Native Hedgerow	P	P	P	P	P	P	P	P			Good
H	Intact Species-poor hedgerow	Native Hedgerow	P	P	P	P	P	P	P	P			Good
H1	Intact Species-poor hedgerow	Native Hedgerow	P	P	P	P	P	P	P	P			Good
K	Intact species-poor hedgerow with trees	Native Hedgerow with trees	P	P	P	P	P	P	P	P	P	P	Good
L	Intact Species-poor hedgerow	Native Hedgerow	P	P	P	P	P	P	F	P			Good
M	Intact Species-poor hedgerow	Native Hedgerow	F	F	P	F	P	P	F	P			Poor
N	Intact species-poor hedgerow with trees	Native Hedgerow with trees	P	P	F	P	P	P	P	P	P	P	Good
O	Intact species-poor hedgerow with trees	Native Hedgerow with trees	P	P	P	P	P	P	P	P	P	P	Good
P	Intact species-poor hedgerow with trees	Native Hedgerow with trees	P	P	F	F	P	P	F	P	P	F	Poor

R	Intact species-poor hedgerow with trees	Native Hedgerow with trees	P	P	P	P	P	P	P	P	P	P	Good
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Y	Intact Species-poor hedgerow	Native Hedgerow	P	P	P	P	P	P	P	P			Good
ZA	Intact Species-poor hedgerow	Native Hedgerow	P	P	P	P	P	P	F	P			Good
ZB	Intact species-poor hedgerow with trees	Native Hedgerow with trees	P	P	F	F	P	P	P	P	P	P	Poor
ZC	Intact species-rich hedgerow with trees	Native Species Rich Hedgerow with trees	P	P	P	P	P	P	P	P	P	P	Good
ZD	Intact species-poor hedgerow with trees	Native Hedgerow with trees	P	P	P	P	P	P	P	P	P	P	Good
ZE	Intact species-rich hedgerow with trees	Native Species Rich Hedgerow with trees	P	P	P	P	P	P	P	P	P	P	Good
ZF	Intact species-rich hedgerow with trees	Native Species Rich Hedgerow with trees	P	P	P	P	P	P	P	P	P	P	Good
ZG	Intact species-poor hedgerow with trees	Native Hedgerow with trees	P	P	P	P	P	P	P	P	P	P	Good
ZH	Intact species-poor hedgerow with trees	Native Hedgerow with trees	P	P	P	P	P	P	P	F	P	P	Good
ZJ	Intact species-poor hedgerow with trees	Native Hedgerow with trees	P	P	P	P	P	P	P	P	P	P	Good
ZK	Intact species-poor hedgerow with trees	Native Hedgerow with trees	P	P	P	P	P	P	P	F	P	P	Good

Hedge Number	Phase 1 Habitat	UK Hab Equivalent	Hedgerow Criteria Score based on 2012 assessment Hedges removed prior to 2022									Condition Assessment	
Q	Intact species-poor hedgerow	Native Hedgerow	Description and photos suggest relic gappy hedge.									Poor	

S	Intact species-poor hedgerow with trees	Native Hedgerow with trees	"The hedge was no longer functional and post and wire fence maintained the boundary between the fields. The ground flora was denuded and sparse with many areas of bare ground. The hedge was very narrow at its base due to the tall and leggy nature of the hawthorn and the hard grazing right up to and around the stems"	Poor
T	Intact species-poor hedgerow with trees	Native Hedgerow with trees	No information available assumed moderate	Moderate
U	Intact species-poor hedgerow with trees	Native Hedgerow with trees	Gappy hedgerow in the NE part of the site with dominant hawthorn and blackthorn and some occasional elder with rare holly, honeysuckle and dog rose. Mature trees scattered along the hedge were sycamore and Pedunculate oak	Moderate
V	Intact species-poor hedgerow with trees	Native Hedgerow with trees	Managed hawthorn hedge approximately 2m high with a scattering of pedunculate oak and mature sycamore. Here the hedge was not cut due to the presence of the trees, so the hawthorn had grown approx 4 metres high. The hedge had multi-layered stems showing signs of historical hedge-laying management. Ground flora was poor. very occasional common male fern, red campion and foxglove in the more protected areas away from grazing	Good
W	Intact species-poor hedgerow	Native Hedgerow	No information available assumed moderate	Moderate
X	Intact species-poor hedgerow	Native Hedgerow	Managed hedge approximately, 1.8m high dominated by hawthorn with a handful of elder and sycamore (cut so forming part of the hedge not over-storey).	Moderate

UK Hab Equivalent	Condition Sheet	Other Habitat Criteria Score									Total Score	Condition Assessment	Notes
		C1	C2	C3	C4	C5	C6	C7	C8	C9			
Ditch	Ditches	P	F	P	F	P	F	F	F		3	Poor	See appended sheet for details
Modified Grassland	GRASSLAND: Low distinctiveness	F	F	P	P	F	P	F			3	Poor	Improved grassland and poor semi-improved grassland. Regular management/ mowing. Drainage, species diversity poor.
Other neutral grassland	GRASSLAND: Medium-Very High distinctiveness	P	F	F	P	P	F				3	Moderate	Marshy grassland areas
Pond	Pond (woodland)	P	F	F	P	P	P	P	P	P	7	Moderate	Standing water- TN3
Pond	Pond	P	F	P	F	P	P	P			5	Moderate	Standing water- TN35
Pond	Pond	P	F	P	P	P	P	P			6	Moderate	Standing water- TN53 and 55 (SE)
Pond	Pond	F	F	P	F	P	P	P	F	F	4	Poor	Wet areas no ephemeral- TN32
Pond	Pond	P	F	P	P	P	P	P			6	Moderate	Standing water- TN57 and 59 (SE)
Scrub	Scrub	P	P	P	F	F					3	Moderate	Roadside Scrub - TN6
Vacant/derelict land/bareground	URBAN	F	F	P							1	Poor	Bare ground at access points to fields
Key: P - Criteria passed F - Criteria failed													
Appendix Table C2: Condition Assessment for Area Habitats													

Phase 1 Habitat	UK Hab Equivalen t	Condition Sheet	Other Habitat Criteria Score													Total Score	Condition Assessment	Notes
			C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13			
Semi-natural broadleaved woodland	Other woodland; broadleaved	WOODLAND AND FOREST	2	2	3	2	3	2	2	2	1	2	1	2	3	27	Moderate	
Mixed woodland	Other woodland Mixed	WOODLAND AND FOREST	2	2	3	2	3	1	1	2	1	2	1	1	2	23	Poor	
<p>Key to woodland condition assessment:</p> <p>3 (points) = Good</p> <p>2 (points) = Moderate</p> <p>1 (point) = Poor</p> <p>Total score >32 – Good</p> <p>Total score 26 – 32 – Moderate</p> <p>Total score <26 – Poor</p> <p>Appendix Table C3: Woodland Condition Assessment</p>																		

Condition Sheet: DITCH Habitat Type			
UKHab Habitat Type(s)			
Rivers and streams - Ditches			
Site name/location	Lancashire Central	Onsite/offsite	Onsite
Central grid reference of habitat	Ditch	Unique polygon reference	
Limitations (if applicable)		Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)	
Habitat Description			
<p>Artificially created, linear water-conveyancing features that are less than 5 m wide and likely to retain water for more than 4 months of the year. Their hydraulic function is primarily for land drainage, and although partially or fully connected to a river system, they would not have been present without human intervention</p> <p>[Note: some heavily engineered ditches may actually be part of the river system (usually part of the headwater system). If there is uncertainty, consult historic maps, LIDAR data and riverine specialists]</p>			
Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
1	The ditch is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.	Y	Clear water flow
2	A range of emergent, submerged and floating leaved plants are present. As a guide >10 species of emergent, floating or submerged plants in a 20 m ditch length.	N	No emergent vegetation
3	There is less than 10% cover of filamentous algae and/or duckweed (these are signs of eutrophication).	Y	No algae
4	A fringe of marginal vegetation is present along more than 75% of the ditch	N	No marginal vegetation, ditch steep sided
5	Physical damage evident along less than 5% of the ditch, such as excessive poaching, damage from machinery use or storage, or any other damaging management activities.	Y	No damaged
6	Sufficient water levels are maintained, as a guide a minimum summer depth of approximately 50 cm in minor ditches and 1 m in main drains.	N	Water very shallow
7	Less than 10% of the ditch is heavily shaded	N	Steel sided ditch fully shaded
8	There is an absence of non-native plant and animal species [†] .	N	Some Himalayan Balsam
Condition Assessment Result		Condition Assessment Score	Number of criteria passed
Passes 8 of 8 criteria		Good (3)	
Passes 6 or 7 of 8 criteria		Moderate (2)	
Passes 0, 1, 2, 3, 4 or 5 of 8 criteria		Poor (1)	X
Suggested enhancement interventions to improve condition score			
<p>Notes</p> <p>Footnote 1 - Any species included on the Water Framework Directive UKTAG GB High Impact Species List should be absent.</p> <p>* Frequently occurring non-native plant species include water fern <i>Azolla spp.</i>, Australian swamp stonecrop <i>Crassula helmsii</i>, parrot's feather <i>Myriophyllum aquaticum</i>, floating pennywort <i>Hydrocotyle ranunculoides</i>, Japanese knotweed <i>Fallopia japonica</i> and giant hogweed <i>Heracleum mantegazzianum</i> (on the bank).</p> <p>* Frequently occurring non-native animals include signal crayfish <i>Pacifastacus leniusculus</i>, zebra mussels <i>Dreissena polymorpha</i>, killer shrimp <i>Dikergammarus villosus</i>, demon shrimp <i>Dikergammarus haemobaphes</i>, carp <i>Cyprinus carpio</i>.</p>			

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)			
UKHab Habitat Type(s)			
Grassland - Modified grassland			
Site name/location	Lancashire Central	Onsite/offsite	Onsite
Central grid reference of habitat		Unique polygon reference	
Limitations (if applicable)		Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)	
Habitat Description			
<p>See UKHab</p>			
Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
1	There must be 6-8 species per m2. If a grassland has 9 or more species per m2 it should be classified as a medium distinctiveness grassland habitat type. NB - this criterion is essential for achieving moderate condition.	N	Species poor
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed	N	Sward all same length
3	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Y	No scrub
4	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Y	Limited damage
5	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	N	No bare ground
6	Cover of bracken less than 20%.	Y	No bracken
7	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).	N	Some Himalayn Balsam
		Essential criterion 1 achieved (Y/N)	N
		Number of criteria passed	3
Condition Assessment Result	Condition Assessment Score	Score Achieved	
Passes 6 or 7 of 7 criteria including passing essential criterion 1	Good (3)		
Passes 4 or 5 of 7 criteria including passing essential criterion 1	Moderate (2)		
Passes 0, 1, 2 or 3 of 7 criteria; OR 4, 5 or 6 of criteria but failing criterion 1	Poor (1)	X	
Suggested enhancement interventions to improve condition score			
<p>Notes</p>			

Condition Sheet: GRASSLAND Habitat Type (medium, high & very high distinctiveness)			
UKHab Habitat Types			
Grassland - Lowland calcareous grassland			
Grassland - Lowland dry acid grassland			
Grassland - Lowland meadows			
Grassland - Other lowland acid grassland			
Grassland - Other neutral grassland			
Grassland - Tall herb communities (H6430) [Note Tall herb habitat that does not meet the Annex 1 definition should be recorded as "Other neutral grassland"]			
Grassland - Upland acid grassland			
Grassland - Upland calcareous grassland			
Grassland - Upland hay meadows			
Sparsely vegetated land - Calaminarian grassland			
Site name/location	Marshy Grassland	Onsite/offsite	Onsite
Central grid reference of habitat		Unique polygon reference	TN24 (SE) 25 (Env)
Limitations (if applicable)		Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)	
Habitat Description			
See UKHab			
Condition Assessment Criteria	Condition Achieved (Y/N)	Notes/Justification	
1 The appearance and composition of the vegetation closely matches characteristics of the specific grassland habitat type (see UKHab definition). Wildflowers, sedges and indicator species for the specific grassland habitat type are very clearly and easily visible throughout the sward. NB - This criterion is essential for achieving moderate condition for non-acid grassland types only.	Y	Rushes present	
2 Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	N	Sward all same length	
3 Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	N	No bare ground	
4 Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%.	Y	No bracken	
5 There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981). Combined cover of species indicative of sub-optimal condition 1 and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.	Y		
Additional Group (Non-acid types only)			
6 There are greater than 9 species per metre squared. NB - This criterion is essential for achieving good condition (non-acid grassland types only).			
Criterion 1 Achieved (Essential for good condition for non-acid grassland) (Y/N)			
N			
Number of criteria passed 3			
Condition Assessment Result	Condition Assessment Score	Score Achieved %	
Acid Grassland Types			
Passes 5 of 5 criteria	Good (3)		
Passes 3 or 4 of 5 criteria	Moderate (2)		
Passes 0, 1 or 2 of 5 criteria	Poor (1)		
Non-acid grassland Types			
Passes 5 of 6 criteria, including essential criterion 1 and 6	Good (3)		
Passes 3 or 4 of 6 criteria, including essential criterion 1	Moderate (2)	X	
Passes 0, 1, 2 criteria of 6 criteria; OR Passes 3 or 4 criteria excluding criterion 1 and 6	Poor (1)		
Suggested enhancement interventions to improve condition score			
Notes			
Footnote 1 - Species indicative of sub-optimal condition for this habitat type include: Creeping thistle <i>Cirsium arvense</i> , spear thistle <i>Cirsium vulgare</i> , curled dock <i>Rumex crispus</i> , broad-leaved dock <i>Rumex obtusifolius</i> , common nettle <i>Urtica dioica</i> , creeping buttercup <i>Ranunculus repens</i> , greater plantain <i>Plantago major</i> , white clover <i>Trifolium repens</i> , cow parsley <i>Anthriscus sylvestris</i> .			

Condition Sheet: POND Habitat Type			
UKHab Habitat Type(s)			
Lakes - Ponds (priority habitat)			
Lakes - Ponds (non-priority habitat)			
Lakes - Temporary lakes, ponds and pools [Use this condition sheet for Temporary ponds and pools, use Lake condition sheet for Temporary lakes]			
Lakes - Ornamental lake or pond [Use this condition sheet for Ornamental ponds, use Lake condition sheet for Ornamental lakes]			
Site name/location		Onsite/offsite	Onsite
Central grid reference of habitat		Unique polygon reference	Target Note 51/52 (SE) 3 (Env)
Limitations (if applicable)		Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)	
Habitat Description			
<p>See UKHab</p> <p>Other than for non-priority ponds, which are those which do not meet either the definition of (i) priority habitat ponds or (ii) ornamental ponds</p>			
Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
CORE CRITERIA - applicable to all ponds (woodland¹ and non-woodland):			
1	The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.	Y	
2	There is semi-natural habitat (i.e. moderate distinctiveness or above) for at least 10 m from the pond edge.	N	
3	Less than 10% of the pond is covered with duckweed or filamentous algae.	N	
4	The pond is not artificially connected to other waterbodies, either via streams, ditches or artificial pipework.	Y	
5	Pond water levels should be able to fluctuate naturally throughout the year. No obvious dams, pumps or pipework.	Y	
6	There is an absence of non-native plant and animal species ² .	Y	
7	The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.	Y	
ADDITIONAL CRITERIA - only applicable to non-woodland ponds:			
8	In non-woodland ponds, plants, be they emergent, submerged or floating (excluding duckweeds) ³ , should cover at least 50% of the pond area that is less than 3 m deep.	Y	
9	The surface of non-woodland ponds is no more than 50% shaded by woody bankside species.	Y	
			Number of criteria passed
Condition Assessment Result		Condition Assessment Score	Score Achieved (4/4)
If 8 criteria assessed (woodland ponds):			
Passes 7 of 7 criteria		Good (3)	
Passes 5 or 6 of 7 criteria		Moderate (2)	
Passes 0, 1, 2, 3 or 4 of 7 criteria		Poor (1)	
If 10 criteria assessed (non-woodland ponds):			
Passes 9 of 9 criteria		Good (3)	
Passes 6, 7 or 8 of 9		Moderate (2)	X
Passes 0, 1, 2, 3, 4 or 5 of 9 criteria		Poor (1)	
Suggested enhancement interventions to improve condition score			

Condition Sheet: POND Habitat Type			
UKHab Habitat Type(s)			
Lakes - Ponds (priority habitat)			
Lakes - Ponds (non-priority habitat)			
Lakes - Temporary lakes, ponds and pools [Use this condition sheet for Temporary ponds and pools, use Lake condition sheet for Temporary lakes]			
Lakes - Ornamental lake or pond [Use this condition sheet for Ornamental ponds, use Lake condition sheet for Ornamental lakes]			
Site name/location		Onsite/offsite	Onsite
Central grid reference of habitat		Unique polygon reference	Target Note 12 (SE) 35 (Env)
Limitations (if applicable)		Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)	
Habitat Description			
<p>See UKHab</p> <p>Other than for non-priority ponds, which are those which do not meet either the definition of (i) priority habitat ponds or (ii) ornamental ponds</p>			
Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
CORE CRITERIA - applicable to all ponds (woodland¹ and non-woodland):			
1	The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.	Y	Clear water
2	There is semi-natural habitat (i.e. moderate distinctiveness or above) for at least 10 m from the pond edge.	N	Pond is next to modified grassland
3	Less than 10% of the pond is covered with duckweed or filamentous algae.	Y	No duckweed
4	The pond is not artificially connected to other waterbodies, either via streams, ditches or artificial pipework.	N	Connected to another pond
5	Pond water levels should be able to fluctuate naturally throughout the year. No obvious dams, pumps or pipework.	Y	
6	There is an absence of non-native plant and animal species ² .	Y	
7	The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.	Y	
ADDITIONAL CRITERIA - only applicable to non-woodland ponds:			
8	In non-woodland ponds, plants, be they emergent, submerged or floating (excluding duckweeds) ³ , should cover at least 50% of the pond area that is less than 3 m deep.		
9	The surface of non-woodland ponds is no more than 50% shaded by woody bankside species.		
			Number of criteria passed
Condition Assessment Result	Condition Assessment Score	Score Achieved (4/4)	
If 8 criteria assessed (woodland ponds):			
Passes 7 of 7 criteria	Good (3)		
Passes 5 or 6 of 7 criteria	Moderate (2)	X	
Passes 0, 1, 2, 3 or 4 of 7 criteria	Poor (1)		
If 10 criteria assessed (non-woodland ponds):			
Passes 9 of 9 criteria	Good (3)		
Passes 6, 7 or 8 of 9	Moderate (2)		
Passes 0, 1, 2, 3, 4 or 5 of 9 criteria	Poor (1)		
Suggested enhancement interventions to improve condition score			

Condition Sheet: POND Habitat Type			
UKHab Habitat Type(s)			
Lakes - Ponds (priority habitat)			
Lakes - Ponds (non-priority habitat)			
Lakes - Temporary lakes, ponds and pools [Use this condition sheet for Temporary ponds and pools, use Lake condition sheet for Temporary lakes]			
Lakes - Ornamental lake or pond [Use this condition sheet for Ornamental ponds, use Lake condition sheet for Ornamental lakes]			
Site name/location		Onsite/offsite	Onsite
Central grid reference of habitat		Unique polygon reference	Target Note 53 and 55 (SE)
Limitations (if applicable)		Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)	
Habitat Description			
<p>See UKHab</p> <p>Other than for non-priority ponds, which are those which do not meet either the definition of (i) priority habitat ponds or (ii) ornamental ponds</p>			
Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
CORE CRITERIA - applicable to all ponds (woodland¹ and non-woodland):			
1	The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.	Y	
2	There is semi-natural habitat (i.e. moderate distinctiveness or above) for at least 10 m from the pond edge.	N	Within woodland
3	Less than 10% of the pond is covered with duckweed or filamentous algae.	Y	
4	The pond is not artificially connected to other waterbodies, either via streams, ditches or artificial pipework.	Y	
5	Pond water levels should be able to fluctuate naturally throughout the year. No obvious dams, pumps or pipework.	Y	
6	There is an absence of non-native plant and animal species ² .	Y	
7	The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.	Y	
ADDITIONAL CRITERIA - only applicable to non-woodland ponds:			
8	In non-woodland ponds, plants, be they emergent, submerged or floating (excluding duckweeds) ³ , should cover at least 50% of the pond area that is less than 3 m deep.		
9	The surface of non-woodland ponds is no more than 50% shaded by woody bankside species.		
			Number of criteria passed
Condition Assessment Result		Condition Assessment Score	Score Achieved (4/4)
If 8 criteria assessed (woodland ponds):			
Passes 7 of 7 criteria		Good (3)	
Passes 5 or 6 of 7 criteria		Moderate (2)	X
Passes 0, 1, 2, 3 or 4 of 7 criteria		Poor (1)	
If 10 criteria assessed (non-woodland ponds):			
Passes 9 of 9 criteria		Good (3)	
Passes 6, 7 or 8 of 9		Moderate (2)	
Passes 0, 1, 2, 3, 4 or 5 of 9 criteria		Poor (1)	
Suggested enhancement interventions to improve condition score			

Condition Sheet: POND Habitat Type			
UKHab Habitat Type(s)			
Lakes - Ponds (priority habitat)			
Lakes - Ponds (non-priority habitat)			
Lakes - Temporary lakes, ponds and pools [Use this condition sheet for Temporary ponds and pools, use Lake condition sheet for Temporary lakes]			
Lakes - Ornamental lake or pond [Use this condition sheet for Ornamental ponds, use Lake condition sheet for Ornamental lakes]			
Site name/location		Onsite/offsite	Onsite
Central grid reference of habitat		Unique polygon reference	Target Note 57 and 59 (SE)
Limitations (if applicable)		Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)	
Habitat Description			
<p>See UKHab</p> <p>Other than for non-priority ponds, which are those which do not meet either the definition of (i) priority habitat ponds or (ii) ornamental ponds</p>			
Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
CORE CRITERIA - applicable to all ponds (woodland¹ and non-woodland):			
1	The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.	Y	
2	There is semi-natural habitat (i.e. moderate distinctiveness or above) for at least 10 m from the pond edge.	N	Adjacent modified grassland
3	Less than 10% of the pond is covered with duckweed or filamentous algae.	Y	
4	The pond is not artificially connected to other waterbodies, either via streams, ditches or artificial pipework.	Y	
5	Pond water levels should be able to fluctuate naturally throughout the year. No obvious dams, pumps or pipework.	Y	
6	There is an absence of non-native plant and animal species ² .	Y	
7	The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.	Y	
ADDITIONAL CRITERIA - only applicable to non-woodland ponds:			
8	In non-woodland ponds, plants, be they emergent, submerged or floating (excluding duckweeds) ³ , should cover at least 50% of the pond area that is less than 3 m deep.		
9	The surface of non-woodland ponds is no more than 50% shaded by woody bankside species.		
		Number of criteria passed	
Condition Assessment Result	Condition Assessment Score	Score Achieved (4/4)	
If 8 criteria assessed (woodland ponds):			
Passes 7 of 7 criteria	Good (3)		
Passes 5 or 6 of 7 criteria	Moderate (2)	X	
Passes 0, 1, 2, 3 or 4 of 7 criteria	Poor (1)		
If 10 criteria assessed (non-woodland ponds):			
Passes 9 of 9 criteria	Good (3)		
Passes 6, 7 or 8 of 9	Moderate (2)		
Passes 0, 1, 2, 3, 4 or 5 of 9 criteria	Poor (1)		
Suggested enhancement interventions to improve condition score			

Condition Sheet: SCRUB Habitat Type			
UKHab Habitat Type			
Heathland and shrub - Blackthorn scrub			
Heathland and shrub - Gorse scrub			
Heathland and shrub - Hawthorn scrub			
Heathland and shrub - Hazel scrub			
Heathland and shrub - Mixed scrub			
Heathland and shrub - Sea buckthorn scrub (Annex 1)			
Site name/location		Onsite/offsite	Onsite
Central grid reference of habitat		Unique polygon reference	Target Note 6 (Env)
Limitations (if applicable)		Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)	
Habitat Description			
See UKHab			
For sea buckthorn scrub see: Habitats Directive Annex 1 definition			
Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
1	Habitat is representative of UKHab description (where in its natural range). There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be up to 100% cover).	Y	
2	There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs.	Y	
3	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and species indicative of sub-optimal condition make up less than 5% of ground cover.	Y	
4	The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s).	N	Dense, hard edge
5	There are clearings, glades or rides present within the scrub, providing sheltered edges.	N	No glades
Number of criteria passed			
Condition Assessment Result	Condition Assessment Score	Score Achieved x/✓	
Passes 5 of 5 criteria	Good (3)		
Passes 3 or 4 of 5 criteria	Moderate (2)	X	
Passes 0, 1 or 2 of 5 criteria	Poor (1)		
Suggested enhancement interventions to improve condition score			

Condition Sheet: URBAN Habitat Type			
<p>Urban - Biodiverse green roof (Use Urban condition sheet as default. Where there are areas of grassland, scrub or other habitat above the minimum mappable area threshold, record and assess these as the relevant habitat type)</p> <p>Urban - Bioswale</p> <p>Urban - Cemetery and churchyard (Use Urban condition sheet as default. Where there are areas of grassland, woodland or scrub above the minimum mappable area threshold, record and assess these as the relevant habitat type)</p> <p>Urban - Facade-bound green wall</p> <p>Urban - Ground based green wall</p> <p>Urban - Intensive green roof</p> <p>Urban - Open mosaic habitats on previously developed land</p> <p>Urban - Rain garden</p> <p>Urban - Sustainable urban drainage feature (in the context of the Biodiversity Metric, this habitat type refers to open SUDS with vegetation and/or open water)</p> <p>Urban - Vacant / derelict land / bare ground</p>			
Site name/location	Lancashire Central	Onsite/offsite	Onsite
Central grid reference		Unique polygon reference	
Limitations (if applicable)	Access points at field entrances	Metric 3.1 survey reference (if condition assessment of this polygon relates to a wider habitat survey)	
<p>Character Description (if any)</p>			
<p>See L3C30</p>			
Condition has improved since last assessment	Condition is improved (Y/N)	Measure taken to improve	
<p>CORE CRITERIA - applicable to all urban habitat types:</p>			
1	Vegetation structure is varied, providing opportunities for insects, birds and bats to live and breed. A single sward (i.e. scrub, grassland, herbs) should not account for more than 80% of the total habitat area.	N	No vegetation
2	There is a diverse range of flowering plant species, providing nectar sources for insects. These species may be either native, or non-native but beneficial to wildlife.	N	No vegetation
<p>NB - To achieve GOOD condition, criterion 2 must be satisfied by native species only (rather than non-natives beneficial to wildlife). Note that Biodiverse green roofs are exempt from this requirement, and can include non-native sedums, as set out in footnote 1.</p>			
3	Invasive non-native species (Schedule 3 of WCA) cover less than 5% of total vegetated area.	Y	No vegetation
<p>NB - To achieve GOOD condition, criterion 3 must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).</p>			
<p>ADDITIONAL CRITERION - only applicable to open mosaic on previously developed land habitat types:</p>			
4a	The site shows spatial variation, forming a mosaic of at least four early successional communities (a) to (iv) PLUS bare substrate AND pools, (d) annuals (b) mosses/liverworts, (c) lichens, (d) rodents, (e) invasion species, (f) open grassland, (g) flower-rich grassland, (h) heathland.		
<p>ADDITIONAL CRITERION - only applicable to bioswale and SUDS habitat types:</p>			
4b	The water table is at or near the surface throughout the year. This could be open		
<p>ADDITIONAL CRITERION - only applicable to green roof habitat types (select as necessary):</p>			
4c1	Intensive green roofs - have a minimum of 50% native and non-native wildflowers - 70% of the roof area is soil and vegetation (including water features)		
4c2	Biodiverse green roofs - have a varied depth of 80 - 150mm at least 50% is at 150mm and is planted and seeded with wildflowers and sedums or is prepared with sedums and wildflowers. To achieve Good condition some additional habitat, such as sand piles, logs etc should be present.		
<p>Essential Standard 28.5 assessment (must be achieved to secure a good condition for non-functional green roof)</p>			
Condition Assessment	Condition	Score	Notes
<p>If 3 criteria assessed:</p>			
- Passes 3 of 3 core criteria AND - Meets the requirements for good condition within criteria 2 and 3	Good (3)		
- Passes 2 of 3 core criteria OR - Passes 3 of 3 core criteria but does not meet the requirements for good condition within criteria 2 and 3	Moderate (2)		
- Passes 0 or 1 of 3 core criteria	Poor (1)	X	
<p>If 4 criteria assessed:</p>			
- Passes 3 of 3 core criteria AND - Meets the requirements for good condition within criteria 2 and 3 AND - Passed additional criterion 4a or 4b	Good (3)		
- Passes 2 of 3 of 4 criteria OR - Passes 4 of 4 criteria but does not meet the requirements for good condition within criteria 2 and 3	Moderate (2)		
- Passes 0 or 1 of 4 criteria	Poor (1)		
<p>Supplemental assessment (if required to improve condition score)</p>			
<p>Notes:</p>			
<p>Footnote 1: For Biodiverse green roofs only- experience has shown that a range of sedum species (native, naturalised, and non-native) support wildflowers during hot periods. Therefore, for Criteria 2 a Biodiverse green roof can have non-native sedums and still achieve Good condition.</p>			
<p>Footnote 2: For Criteria 3 - For green roof habitat types only- Buddleja davidii should be assessed alongside Schedule 9 species. This species impacts the health of the local ecosystem and reduces the biodiversity potential of the roof. It is also a sign that a roof has not been planted and seeded correctly in subsequent years.</p>			

Condition Sheet: WOODLAND Habitat Type					
UKHab Habitat Type(s)					
Woodland and forest - Lowland beech and yew woodland Woodland and forest - Lowland mixed deciduous woodland Woodland and forest - Native pine woodlands Woodland and forest - Other coniferous woodland Woodland and forest - Other Scot's pine woodland Woodland and forest - Other woodland; broadleaved Woodland and forest - Other woodland; mixed Woodland and forest - Upland birchwoods Woodland and forest - Upland mixed ashwoods Woodland and forest - Upland oakwood Woodland and forest - Wet woodland					
Site name/location	Lancashire Central	Onsite/offsite	Onsite		
Habitat's Central Grid		Unique polygon	TN27 (SE) 32 (Env)		
Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)		Limitations (if applicable)			
Habitat Description					
See UKHab					
This condition sheet is based on the England Woodland Biodiversity Group (EWBG) Woodland Condition Survey Method, available here:					
Woodland Wildlife Toolkit (sylva.org.uk)					
Condition Assessment Criteria					
Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	Score per indicator	Notes/Justification
1 Age distribution of trees ¹	Three age classes present	Two age classes present	One age class present	2	
2 Wild, domestic and feral herbivore damage	No significant browsing damage evident in woodland ²	Evidence of significant browsing pressure is present in 40% or less of whole woodland	Evidence of significant browsing pressure is present in 40% or more of whole woodland	2	
3 Invasive plant species ³	No invasive species present in woodland	Rhododendron or laurel not present, other invasive species < 10% cover	Rhododendron or laurel present, or other invasive species > 10% cover	3	
4 Number of native tree species	Five or more native tree or shrub species found across woodland parcel	Three to four native tree or shrub species found across woodland parcel	None to two native tree or shrub species across woodland parcel	2	
5 Cover of native tree and shrub species	> 80% of canopy trees and >80% of understory shrubs are native	50-80% of canopy trees and 50-80% of understory shrubs are native	< 50% of canopy trees and <50% of understory shrubs are native	3	

6	Open space within woodland ⁴	10 – 20% of woodland has areas of temporary open space, unless woodland is <10ha in which case lower threshold of 10% does not apply	21- 40% of woodland has areas of temporary open space	More than 40% of woodland has areas of temporary open space	2	
7	Woodland regeneration ⁵	All three classes present in woodland; trees 4-7cm dbh, saplings and seedlings or advanced coppice regrowth	One or two classes only present in woodland	No classes or coppice regrowth present in woodland	2	
8	Tree health	Tree mortality less than 10%, no pests or diseases and no crown dieback	11% to 25% mortality and/or crown dieback or low risk pest or disease present	Greater than 25% tree mortality and or any high risk pest or disease present	2	
9	Vegetation and ground flora	Ancient woodland flora indicators present	Recognisable NVC plant community present	No recognisable NVC community	1	
10	Woodland vertical structure ⁶	Three or more storeys across all survey plots or a complex woodland	Two storeys across all survey plots	One or less storey across all survey plots	2	
11	Veteran trees ⁷	Two or more veteran trees per hectare	One veteran tree per hectare	No veteran trees present in woodland	1	
12	Amount of deadwood	50% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	Between 25% and 50% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	Less than 25% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	2	
13	Woodland disturbance ⁸	No nutrient enrichment or damaged ground evident	Less than 1 hectare in total of nutrient enrichment across woodland area and/or less than 20% of woodland area has damaged ground	More than 1 hectare of nutrient enrichment and/or more than 20% of woodland area has damaged ground	3	
Total Score					27	
Condition Assessment Result			Condition Assessment Score		Result Achieved	
Total score >32 (33 to 39)			Good (3)		Poor	
Total score 26 to 32			Moderate (2)			
Total score <26 (13 to 25)			Poor (1)			
Suggested enhancement interventions to improve condition score						

Condition Sheet: WOODLAND Habitat Type					
UKHab Habitat Type(s)					
Woodland and forest - Lowland beech and yew woodland Woodland and forest - Lowland mixed deciduous woodland Woodland and forest - Native pine woodlands Woodland and forest - Other coniferous woodland Woodland and forest - Other Scot's pine woodland Woodland and forest - Other woodland; broadleaved Woodland and forest - Other woodland; mixed Woodland and forest - Upland birchwoods Woodland and forest - Upland mixed ashwoods Woodland and forest - Upland oakwood Woodland and forest - Wet woodland					
Site name/location	Lancashire Central	Onsite/offsite	Onsite		
Habitat's Central Grid		Unique polygon	Felled Woodland		
Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)		Limitations (if applicable)			
Habitat Description					
See UKHab					
This condition sheet is based on the England Woodland Biodiversity Group (EWBG) Woodland Condition Survey Method, available here:					
Woodland Wildlife Toolkit (sylva.org.uk)					
Condition Assessment Criteria					
Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	Score per indicator	Notes/Justification
1 Age distribution of trees ¹	Three age classes present	Two age classes present	One age class present	2	
2 Wild, domestic and feral herbivore damage	No significant browsing damage evident in woodland ²	Evidence of significant browsing pressure is present in 40% or less of whole woodland	Evidence of significant browsing pressure is present in 40% or more of whole woodland	2	
3 Invasive plant species ³	No invasive species present in woodland	Rhododendron or laurel not present, other invasive species < 10% cover	Rhododendron or laurel present, or other invasive species > 10% cover	3	
4 Number of native tree species	Five or more native tree or shrub species found across woodland parcel	Three to four native tree or shrub species found across woodland parcel	None to two native tree or shrub species across woodland parcel	2	
5 Cover of native tree and shrub species	> 80% of canopy trees and >80% of understory shrubs are native	50-80% of canopy trees and 50-80% of understory shrubs are native	< 50% of canopy trees and <50% of understory shrubs are native	3	

6	Open space within woodland ⁴	10 – 20% of woodland has areas of temporary open space, unless woodland is <10ha in which case lower threshold of 10% does not apply	21- 40% of woodland has areas of temporary open space	More than 40% of woodland has areas of temporary open space	1	
7	Woodland regeneration ⁵	All three classes present in woodland; trees 4-7cm dbh, saplings and seedlings or advanced coppice regrowth	One or two classes only present in woodland	No classes or coppice regrowth present in woodland	1	
8	Tree health	Tree mortality less than 10%, no pests or diseases and no crown dieback	11% to 25% mortality and/or crown dieback or low risk pest or disease present	Greater than 25% tree mortality and or any high risk pest or disease present	2	
9	Vegetation and ground flora	Ancient woodland flora indicators present	Recognisable NVC plant community present	No recognisable NVC community	1	
10	Woodland vertical structure ⁶	Three or more storeys across all survey plots or a complex woodland	Two storeys across all survey plots	One or less storey across all survey plots	2	
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13	Woodland disturbance ⁸	No nutrient enrichment or damaged ground evident	Less than 1 hectare in total of nutrient enrichment across woodland area and/or less than 20% of woodland area has damaged ground	More than 1 hectare of nutrient enrichment and/or more than 20% of woodland area has damaged ground	2	
Total Score					23	
Condition Assessment Result			Condition Assessment Score		Result Achieved	
Total score >32 (33 to 39)			Good (3)		Poor	
Total score 26 to 32			Moderate (2)			
Total score <26 (13 to 25)			Poor (1)			
Suggested enhancement interventions to improve condition score						