Habitat Management and Monitoring Plan

FOR MANAGEMENT PRESCRIPTIONS, GO STRAIGHT TO SECTION 2: PLANNED MANAGEMENT ACTIVITIES

Site Name:	Ells Farm
Date:	14/05/2025
Version:	V2.2

Author: TOE

Client: The Family

Template Version 1.0 November 2023

Contents

Version Control

The version control is used for updates to the content. Record the initial version and further version control details in this table each time the management plan is altered throughout the management and monitoring period.

Version	Issue Status	Prepared by / Date	Approved by / Date
1	Pending	TOE / 12.01.24	
2	Submitted	TOE / 12.05.25	
2.1	Submitted	TOE / 28.05.25	
2.2		TOE / 22.09.25	

Document Details

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Authorship Details
Trust for Oxfordshire/'s Environment The Old Counting House 82e High Street Wallingford OX19 0BS 01865 407003

1. Project Background

Summarise the key aspects of your management plan in this section. Table PB-B01 can be extended to suit the specific needs of individual projects.

Site Overview PB-B01	
Project type	Habitat Bank
Development Name and Address	N/A
BNG Project Name and Address	Ells Farm
Author Organisation	Trust for Oxfordshire's Environment (TOE)
Landowner	
Land Manager	
Responsible person/organisation for creating or enhancing the habitat	
Period covered by this management plan	2027-2057
Planning authority	Cherwell District Council
Planning reference (if applicable)	N/A
BNG register reference (if applicable)	Applicable for off-site only – N/A if using for on-site
Central OS grid reference	SP 42273 37412
Metric revision/title	Metric 4.0
Are any Irreplaceable Habitats present onsite	Yes: ☐ No: ☒

Summary of Management Plan

Habitats to be Retained, Created and Enhanced PB-B02

Enhancing modified grassland to other neutral grassland. Creating scrub habitat and temporary ponds. Creating and enhancing hedgerows.

Timescales for Actions PB-B03

Habitat creation and enhancement works in the first two years (2025-2057), ongoing management and monitoring throughout the 32 year agreement (2025-2057)

Monitoring Requirements PB-B04

The site will be subject to a full botanical survey by a competent ecologist once per year in years 1-5, and the once per year in years 10, 15, 20, 25, 30.

This information will be collated into an annual report by the land manager and sent to TOE for evaluation for each year of the project.

Required Consents and Licences PB-B05

No consents or licences are required as part of this HMMP.

The Sor Brook at Ells Farm is a main river and therefore any work on site is regulated by environmental permitting. TOE intends to register for an exemption to environmental permitting under Exemption 25: Excavating ponds and shallow wetland features totalling 0.1ha in a flood plain (FRA25). We are confident the planned work meets the description and conditions required for that exemption, and that it will not negatively impact any protected species. No planning permissions are required for this work.

Funding PB-B06

By setting the land up as a Habitat Bank, the project will deliver biodiversity units that will be sold to fund the delivery of this HMMP.

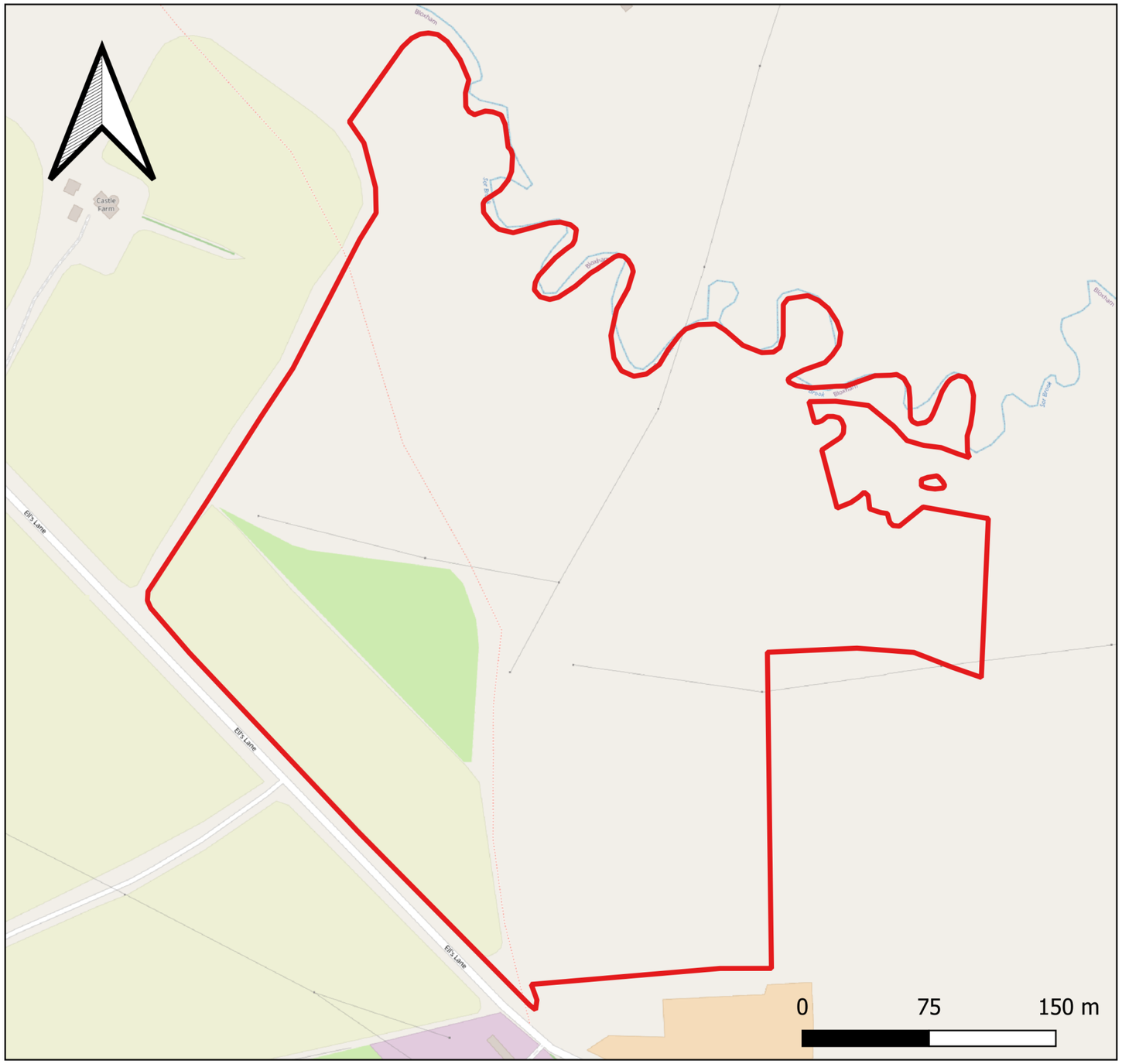
Funding has been secured by using the Trust for Oxfordshire's Environment as a 'broker', who will arrange the sale of Biodiversity Units.

Legal Agreement PB-B07

The delivery of this HMMP is secured by two legal agreements. The first is between the landowner and Cherwell DC in the form of a s106 agreement. The second is between the landowner and TOE

in the form of a landowner agreement, in which TOE will sell the Biodiversity Units on behalf of the landowner and will secure the delivery of this HMMP.

Plan 1: Site Boundary Plan PB-F01



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Legend

Site boundary

Measurements for indicative purposes only and should be checked on site.

Projection: OSGB36 / British National Grid - EPSG: 27700

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Site Context Plan PB-F02

This plan should show the location of the site, including the LPA, boundary, national character area, and any relevant landscape scale policy or guidance information.

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Legend

- Site boundary
- Conservation Target Areas
- Local Planning Authority boundary
- Water course
- Priority Habitat
- NRN Core Zone
- NRN Recovery Zone

National Character Areas

- Cotswolds
- Northamptonshire Uplands

Google Satellite, N.D.

Phasing strategy

Will the proposed work measures be delivered in phases? PB-B08	**Yes: ☐ No: ☒**

The project will not be delivered in phases.

All habitat creation works will take place in the first two years of the project. In the subsequent 30 years, the project will be monitored annually by qualified professionals to ensure that the management measures set out in this HMMP are delivered on the ground. TOE will be responsible for organising the ecological surveys and reporting the results to Cherwell District Council.

This HMMP is a site wide management plan.

Roles and Responsibilities

Provide details of the responsible persons and organisation(s) for delivering this management plan.

Ecologist or Other Professional Responsible for HMMP PB-B09

Name or Initials		George Lewis		
Organisation		Trust for Oxfordshire's Environment (TOE)		
Responsibility	Start Date:	Sept 2023	End Date:	Ongoing

TOE is responsible for collating information from the relevant professionals (ecologists, contractors, etc) to produce this HMMP. Through ongoing consultation with these other professionals, and the landowners/land manager, the HMMP will be implemented. TOE is responsible for organising the ecological monitoring of the site and evaluating the annual reports from the project that are produced by the land manager.

Statement of Competency

Trust for Oxfordshire's Environment has been at the forefront of Biodiversity Net Gain since 2018 and is considered a trusted and competent provider by the eNGO community, with a proven record both in BNG and other environmental projects. TOE has contributed to BNG policy development, commenting on all consultations, undertaking a Test and Trail project for Defra and collaborating with other BNG drivers such as the Wildlife Trusts and other LPA's. TOE is the secretariat for the county-wide Task and Finish Group to help address implementation issues and work towards a consistent approach to good practice at a county level. TOE continues its membership of the Natural England Market Advisory Group and reports key policy and guidance information back to the BNG Task and Finish Group.

The staff have relevant degree-level qualifications and up to 25 years of experience working with landowners to develop and implement land management and long-term land use change (such as Two Moors Threatened Butterfly Project, River for Life). TOE staff are supported by an Advisory Panel, a voluntary group of specialists who contribute to project design. Where outside expertise is required, TOE has a list of preferred ecologists to call on and outsourced legal and business advice. BNG staff have completed relevant training for the use of the Metric, and all work is reviewed by independent 3rd parties with CIEEM membership.

Landowner or Land Manager PB-B10

Name or Initials		(Landowners), (Land Manager)		
Organisation				
Responsibility	Start Date:	2025	End Date:	2057

The land manager is the designated Land Manager for this project and will be responsible for all habitat creation and maintenance activities on the site.

These responsibilities will include carrying out or overseeing:

- Overseeing all habitat creation and enhancement works, either doing the work personally or using professional contractors
- Finding suitably competent contractors to undertake habitat creation works.
- Submitting annual reports to TOE to ensure that the management measures are being undertaken and for TOE's evaluation as to whether they require any adjustments. This will feed into the adaptive management strategy to alter the HMMP to suit on-site conditions.

The landowner must ensure that these activities are conducted in a way which is environmentally sensitive to the surrounding ecosystems and cultural landscape. Work is to be safely carried out by trained and competent individuals to maximise the benefits of this project for the environment and the local community.

Statement of Competency

, the land manager, leads LDA Design's Environmental Impact Assessment and Environmental Management System. He is an environmental leader with over 15 years experience, providing strategic environmental advice on projects ranging from small scale residential developments, garden villages, urban regeneration developments, renewable energy

schemes to nationally significant infrastructure projects. The site is owned by the land manager's parents, securing his investment in the project and its success.

, the land manager's parents, have been farming the site for over 25 years and are experienced land managers, with a sound knowledge of the on-site conditions and livestock husbandry.

Management Organisation(s) Responsible for Implementing the HMMP PB-B11

Name or Initials		N/A		
Organisation				
Responsibility	Start Date:		End Date:	

Statement of Competency

LPA or Responsible Body for Reviewing HMMP PB-B12

Name or Initials				
Organisation		Cherwell District Council		
Responsibility	Start Date:	Spring 2024	End Date:	2057

Summarise the agreed relevant responsibilities of the LPA or Responsible Body in the review, auditing and, or, long-term involvement in the implementation of this HMMP (if applicable)

Cherwell District Council (the LPA for this project) are responsible for the following:

- Assessing applications to set up a Habitat Bank in the district.
- Reviewing and approving this HMMP provided by TOE and the Habitat Bank owner.
- Sign the Planning condition to secure the site and its creation, management, and monitoring for the full term.
- Register the site on the local land charges register.
- Receive monitoring reports.

Land Use Summary

Overview of Baseline Site Use PB-B13

The site is composed of six parcels. It is surrounded on three sides by hedgerows, which also run throughout the Site and separate the parcels from one another. The final side (northern boundary) borders Sor Brook. Five of the compartments are grassland fields used to graze livestock on throughout the year. There are three sections of wooded areas. Adjacent to the north and easterly corner of the site, a fen containing a pond exists. The grazing fields are predominantly modified grassland, with one area of other neutral grassland in the south and eastern compartments. The compartments are bordered by hedgerows in varying conditions.

Overview of Proposed Site Use PB-B14

The grassland compartments will be managed with the aim of increasing the species diversity of the grasslands. This will be done by either spreading green hay or broadcast sowing a suitable seed mix, or a combination of both depending on seed availability and seedling uptake. The grassland fields will continue to be grazed by livestock, removing them during the summer months to allow the wildflower species to mature and set seed. The site will then be managed as a hay meadow, cut in the late-summer and after-math grazed with livestock.

The wooded areas will be managed with the aim of improving their health. This will be done through activities such as planting and thinning.

The hedgerows on site will be managed to improve their value for biodiversity. This will be achieved by implementing a less intensive cutting regime (rotationally, every three years), hedge laying where necessary, and ‘gapping up’ of any hedgerow gaps to increase the canopy cover and species diversity of the hedges.

Site Context Photos PB-F03

Please include two overview photographs of the site in its current form here. Include additional photographs in an appendix if needed. Tick if additional photographs are provided in the Appendices

☐ Reference: Click or tap here to enter text.

Site Baseline, Environmental Information and Associated Impacts Checklist PB-T01

Consider the Baseline and Environmental Information listed below. These are likely to be appropriate factors informing your proposals and project design. They can provide the reviewer with important contextual information for the management prescriptions provided later in this document. Use your professional judgement to determine which factors are relevant to your specific project.

Please use the check box to indicate which are included in your plan. For any not included, provide brief reasons why the factor is not relevant to your project using your professional judgement. Where this information is provided elsewhere, you can reference existing reports and, or, plans that have informed your decisions. For the templates for each heading see pages 3-20 of the Companion Document.

Baseline and Environmental Information	**Prompts for when these may be relevant.** This is not an exhaustive list. Use your professional judgement to determine which are required for your HMMP	**Check box if included**	**Document Reference or Reason if not included**
Statutory / Non-statutory Designated Sites	Will your proposals lead to direct or indirect effects on designated sites?	☐	No designated sites will be affected
Protected and Notable Species	Does the presence or proximity of specific species on or near your site present any constraints or opportunities to project design or management?	☐	No evidence of protected or notable species were found during the desk-based and field surveys of this site. By managing the site for biodiversity over 30 years it is assumed that any changes made will benefit wildlife on the site.
Invasive Non-Native Species (INNS)	Are any INNS present onsite that could affect the proposals?		5-10 orange balsam plants were found in the west of the fen habitat adjacent to this site.
Biological Records Plan - Sites and Species	Does the presence of designated sites or specific species on or near the site present any constraints or opportunities to proposals?	☐	None – as above.
Baseline Habitats Survey	Is this current and important HMMP information located in a separate document? If so, provide details on where it is located.	☒	See Appendix 1
Public Access	Has public access, or proposals to allow public access, influenced your management prescriptions? If so, how?	☒	Public Access
Climate	Are local climate conditions and, or, climate change likely to impact the target habitat retention, creation or enhancement?	☒	Climate
Geology and Topography	Any geological or topographical constraints or opportunities?	☒	Geology and Topography
Agricultural Land Status	Does the site support any land favourable for agricultural management? Could this affect the proposals?	☐	The land currently supports a low-intensity livestock farming system. Due to the proximity of the northern two fields to the Sor Brook floodplain, the land is classed as Grade 4 agricultural land.
Soils and Substrates	Do soils and substrates present any constraints or opportunities?	☒	Soils and Substrates (EI-T02)
Contaminated Land	If there is any contaminated land, will this present any constraints?	☐	There is no contaminated land at the site.
Hydrology and Drainage	Will the site hydrology present any constraints or opportunities?	☒	Hydrology and Drainage
Flood Risk Zones	Is the site within a flood risk zone? Will that present any site management risks?	☐	The northernmost border of the site sits within Flood Risk Zones 2 and 3 adjacent to the Sor Brook but this does not pose any risks to the management of the site because the site will continue to be managed as floodplain grazing.
Landscape Character and Designations	Does the landscape character of the site present any constraints or opportunities?	☐	The land sits on the border of the Cotswolds AONB, which prizes rolling hills, hedgerows, and grazing livestock. The proposed habitats will add to the character of the area.
Historic Land Use	Does the historic land use present any constraints or opportunities?	☒	Historic Environment and Earth Heritage

Historic Environment and Earth Heritage	Are there any historic environment designations? What are the implications for your plan?	☐	There are no historic environmental designations at the site.
Other – please specify	Any other details - for example underground services or overhead powerlines, which may impact habitat management.	☒	National Grid have wayleave rights that they can access the land at any time to undertake inspections and repairs of overhead and underground cables. The Environment Agency has rights responsibilities for managing the Sor Brook as it is a main river.

Baseline and Environmental Information

Land Tenure and Public Access

Relevant Land Tenure Information (EI-B01)

The land is owned by , who live onsite. During the life of this HMMP, the land will be passed down to their two children, one of whom is (the designated land manager for the entirety of the project). and his family also live onsite.

Potential Impact to Scheme (EI-B02)

Although the landowner for the site might change from to their children, this should not adversely affect the prescriptions contained within this HMMP because (son) will have been the designated land manager from the outset. All parties are aware that this BNG scheme is a long term land management change and any subsequent owners of the land will be legally required to continue to carry out the prescriptions named in this HMMP for the duration of the project.

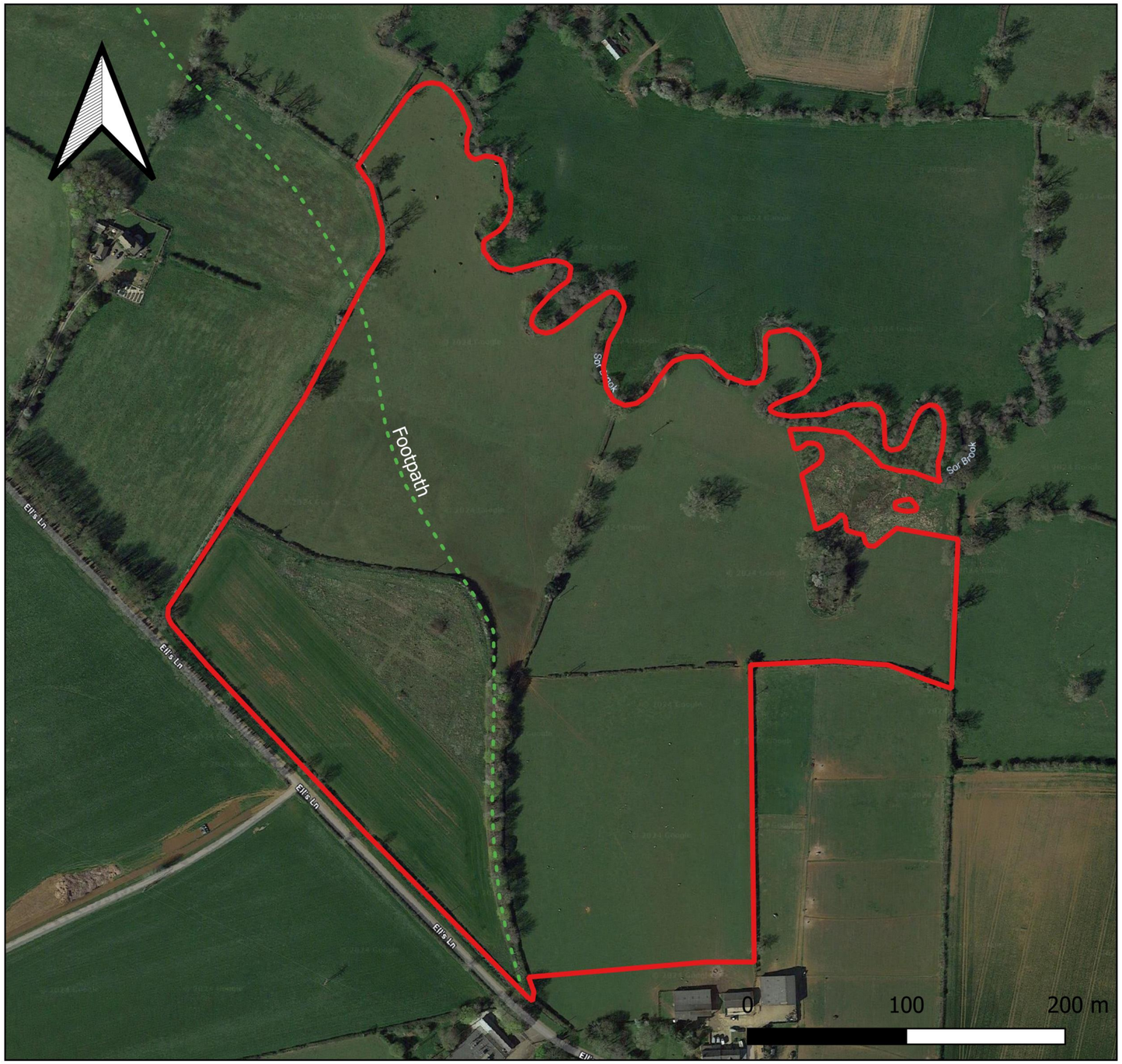
Public Access Information (EI-B03)

A Public Right of Way footpath currently runs through the site, from the main road on the southern boundary, through the western two parcels and out the other side. This is not expected to change or be hindered throughout the life of this HMMP.

Potential Impact to Scheme (EI-B04)

The Public Right of Way will continue to be maintained throughout the life of this HMMP. The footpath will be fenced on the western edge through parcel G5 from the road at the southern border of the site to the northwest parcel (G3). This will reduce disturbances to wildlife, particularly from humans and dogs while still enabling the local community to enjoy the increasingly biodiverse surroundings. The path will not be fenced on either side through the northwest parcel (G3).

Land Tenure and Public Access Plan (EI-F01)



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Legend

- Site boundary
- Oxfordshire PRoW

Google Satellite, N.D.

Climate

Current Climate Information (EI-T01)	
Nearest weather station details	Wellesbourne
Days of rain per year	117.6
Average annual rainfall mm	630
Average temperature °C	Av max = 14.75, Av min = 6.25
Highest temperature – Month and temperature °C	July, 22.84
Lowest temperature – Month and temperature °C	January, 7.7
Average annual hours of sunshine	1564.77
Sunniest month and average hours of sunshine	July, 199.84
Average number of days with air frost	44.29
Frostiest month and number of days	January, 10.03

Potential impact of current climate on project (EI-B05)

Provide a concise assessment of how the current climate will influence the habitat retention, enhancement and creation aspirations set out in this HMMP.

The site has been designated as ‘medium’ in the National Biodiversity Climate Change Vulnerability Model (NBCCVM). The area has been designated as more vulnerable than other areas because of the presence of the Coastal and Floodplain Grazing Marsh Priority Habitat found either side of the Sor Brook surrounding the proposed site. This model aims to target action that could benefit from building biodiversity resilience in the area to help mitigate the impacts of Climate Change. The management prescriptions described in the HMMP are directly aimed increasing biodiversity in the land surrounding these priority habitats which will help buffer them from the impacts of Climate Change.

Drier conditions will favour stress-tolerant (e.g., deep-rooted) and ruderal species (such as common knapweed, great burnet, and bird’s-foot-trefoil) due to increased gaps/bare ground in swards. Drier conditions might result in changes in species communities and composition, including possible movement towards MG5 vegetation types (Carey, 2013).

Potential Impact of Climate Change on Proposals (EI-B06)

Provide an overview of how climate change could influence the habitat retention, enhancement and creation aspirations proposed in this HMMP.

Prolonged periods of drought caused by climate change could negatively influence the proposals in this HMMP, particularly for the tree/shrub planting. Contingency for replacing failures in the planting scheme has been accounted for in the costings of the project to ensure that there will be sufficient funding to achieve the planting aims of the site.

Increased frequency and intensity of rainfall is predicted to be another consequence of climate change. The proposals described in this HMMP will increase the vegetation cover across the site, increasing interceptions rates and slowing down the run-off water towards the Sor Brook at the northern boundary of the site. By increasing interception rates the risk of flooding further downstream is reduced. The creation of the ditch along the new hedgerow in field G3 will hopefully break through the field drains and further slow water discharge into the Sor Brook.

Geology and Topography

Geological Information (EI-B07)

Potential Impact to Scheme (EI-B08)

Topography (EI-B09)

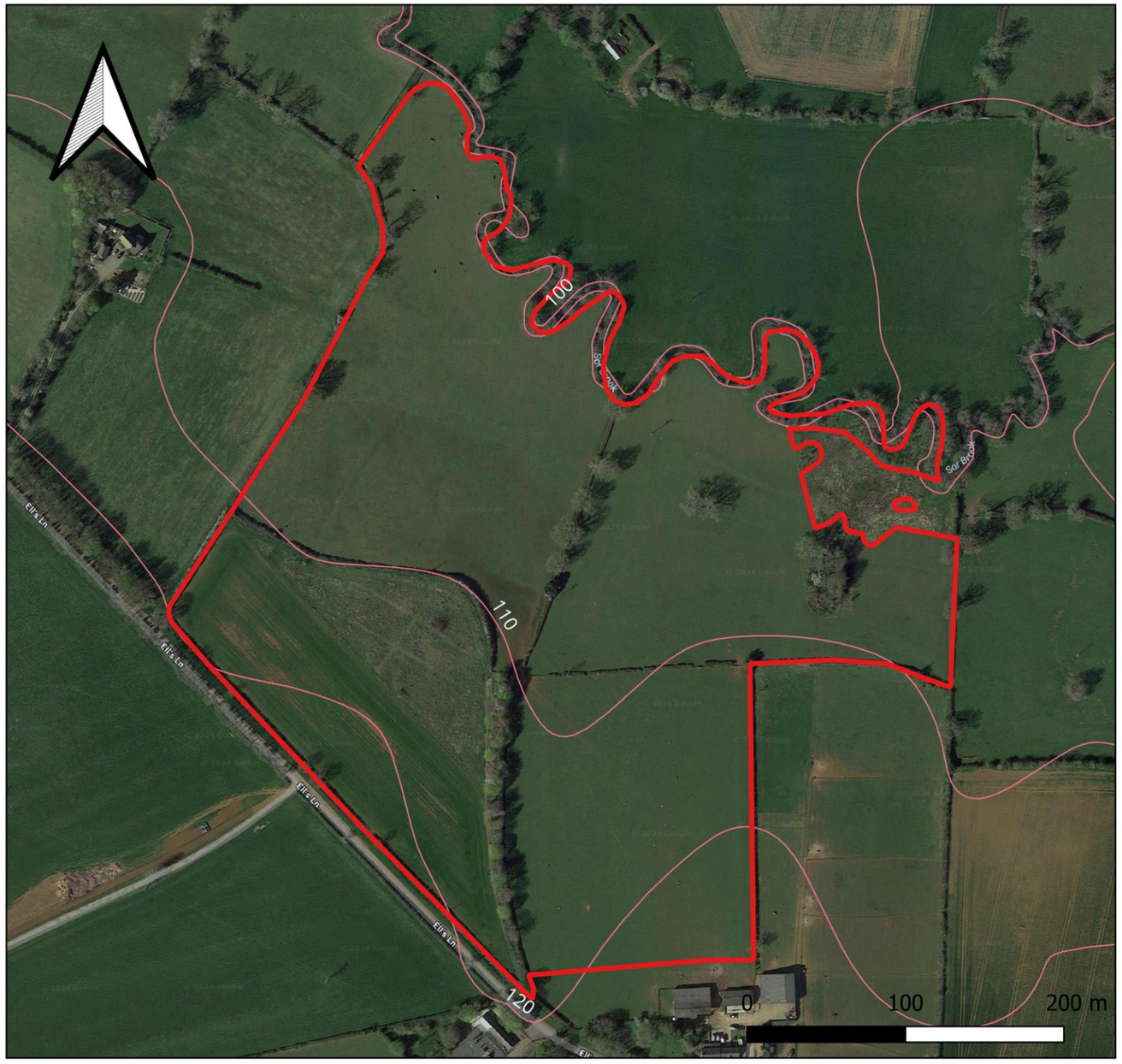
The current topography of the site is as follows: The three field parcels nearest the road and house (G2, G4 and G5) sit at 125 m.a.s.l. The land then slopes down and eventually flattens out towards the Sor Brook, which sits at around 103 m.a.s.l.

Potential Impact to Scheme (EI-B10)

The topography of the site presents an opportunity for habitat creation. The proposed temporary ponds in fields G1 and G3 will, being at a similar elevation to the Sor Brook, as well as receiving run off from the fields uphill of them, retain water well. These ponds and the surrounding species-rich grasslands will mimic the Priority Habitats of Coastal and Floodplain Wetland Mosaic habitat that surround the site, buffering them as well as while providing suitable habitat for the species who rely on them in the local area.

We don't expect the ditch to affect the ponds because of where the water currently lies. However, if we find that the ditch is drawing water away from the scrape,, it would be possible to put a break in the ditch leading down to the ponds.

Geology and Topography Plan (EI-F02)



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Legend

- Site boundary
- Contour line (m.a.s.l.)

Google Satellite, N.D.

Soils and Substrates (EI-T02)

Parcel Refs	Texture	pH	Potassium (K)	Phosphorous (P)	Magnesium (Mg)
G2	Clay	5.6	10.4 (Index 1)	243 (1)	163 (3)
G1 (North)	Sand	6.5	5.8 (0)	55.6 (1)	243 (3+)
G1 (south)	Sand	5.8	8.8 (0)	194 (2+)	208 (3+)
G3	Sand	6.1	5.8 (0)	54.8 (1)	131 (3)
G4/5	Sand	6.6	34.2 (3)	660 (5)	148 (3)

See map below for parcel references.

Summary of Soils Information (EI-B13)

The soils on site are predominantly sandy in texture, apart from field G2. Most of the fields have not received fertiliser application in recent history (10+ years), and this shows in the relatively low K and P levels in the soil tests. The only field that received fertilisers was parcel G4/G5, and this would explain the comparatively higher levels of K and P in the soil test results.

Potential Impact on Project (EI-B14)

The soils at the site present an opportunity for habitat creation. Most of the land in the project is targeted at creating a species-rich grassland. This habitat is most easily created in nutrient-poor soils. Results from the soil analysis show the soils to be relatively nutrient poor, creating stress on the plant community and leading to a higher botanical diversity The sandy texture of parcel G4/5, combined with the rotational grazing regime that will be implemented, should strip the nutrients of the soil over time to an acceptable level. Overall, the site is considered suitable for the creation of species-rich grasslands.


Legend
Site boundary
Survey boundary
Trees
Quadrat
orange balsam (Impatiens capensis)
Native Hedgerow (h2NE5)
Native Hedgerow with trees (h2NE4)
Native Species Rich Hedgerow (h2NE2)
Native Species Rich Hedgerow with trees (h2NE1)
Fens (upland and lowland)
Lowland mixed deciduous woodland
Modified grassland
Other neutral grassland
Other woodland; broadleaved
Ponds (Priority Habitat)
G1
G2
G3
G4
G5
G6
W1
W2
W3
H1
H2
H3
H4
H5
237600
237400
237200
0
100
200
300 m
BSG ecology
PROJECT TITLE
ELLS FARM
DRAWING TITLE
Figure 1: Baseline Habitats

Hydrology and Drainage

Summary of Hydrological Information (EI-B17)

The northern border of the proposed site is the Sor Brook, a main river. The northern two field parcels (G1 and particularly G3) lie wet during the winter months.

Image 1 (below) is taken from field G2, looking in a NW direction. It is difficult to make out in the photo but behind the hedgerow trees a body of water sits in field G3 in the floodplain of the Sor Brook (photo taken January 2024).

Potential Impact on Project (EI-B18)

The proximity of the site to the Sor Brook has directly influenced prescriptions in this HMMP. With the northern two fields being in the Sor Brook floodplain, biodiversity in the area could be increase by creating shallow ponds of varying depths that will temporarily hold water and provide habitat various floral and faunal species, and the animals that prey on them.

Hydrology and Drainage Plan (EI-F06)

Image 1

Historic Environment and Earth Heritage

Summary of Historic Environment and Earth Heritage (EI-B22)

Image 2 (attached) shows the hedgerow that used to exist dissecting the two northern fields adjacent to the Sor Brook in at least 1961 (and perhaps more recently).

Potential Impact on Project (EI-B23)

This hedgerow will be reinstated as a species-rich native hedgerow with trees, as per the prescriptions in this management plan.

Image 2. Source: Fairey 1:8000 scale black and white photographic survey of Oxfordshire - sortie 36, frame 14

Historic Environment and Earth Heritage Plan (EI-F09)

Image 2: Historic aerial footage of the site from 1961

2. Planned Management Activities

Provide the site-wide aims and objectives. These should consider the Project Background information section outlined above as well as the outcomes of the Metric.

Management Plan Aims and Objectives PM-B01

Provide an overview only in this box. The purpose is to explain the overarching aims of the management plan to the reviewer. Spaces are provided later in the template to provide more specific management targets prescriptions.

The aim is to achieve maximum gains for biodiversity within the farm and surrounding landscape by enhancing the existing grassland to expand the area of other neutral grassland and reinstate and enhance the historic network of hedges increasing linear habitats.

This will be done through:

- Reinstatement of two historic hedgerows (420m) • Managing existing hedges to improve conditions.
- Strengthen and enhance the field pattern by planting up gappy hedges using locally characteristic species such as hawthorn, and hedgerow trees such as oak and ash.
- Promote environmentally sensitive maintenance of hedgerows, including coppicing and layering when necessary, to maintain a height and width appropriate to the landscape type, particularly along roadsides.
- Enhancement of woodland alongside the brook.
- Creation and enhancement of other neutral grassland across the site.
- Creation of a back ditch along the alignment of a historic hedgerow connected to the Sor Brook.
- Creation of ponds to temporarily hold water throughout the year. Blocking up of land drains to raise the water table.
- Establishment of Orchard / Fruiting Trees along the alignment of the footpath and permissive path extension (Blossom Walk).
- Enhancement of existing Sor Brook watercourse • Conserve the surviving areas of permanent and ridge and furrow pasture on the steeper slopes and hillsides.

Principle 1. Apply the Mitigation Hierarchy Principle This project will be used to offset biodiversity losses required as a last resort by developments that have applied the mitigation hierarchy.

Principle 2. Avoid losing biodiversity that cannot be offset by gains elsewhere No irreplaceable habitats will be lost. The current habitats of medium-very high distinctiveness will either be enhanced or enlarged. Gains follow the trading rules.

Principle 3. Be inclusive and equitable Engage stakeholders early, and involve them in designing, implementing, monitoring and evaluating the approach to Net Gain.

Principle 4. Address risks By aiming for a lower level of condition this mitigates slow sward establishment, having to refine the scape creation and allow for any re-planting/seeding that may be required. As an offset site there is minimal time between any loss of existing habitat and the creation of the new habitat. Baseline surveys have been undertaken by competent providers and metrics are assessed by competent third parties. The landowner is an experienced land manager and has the skills and capabilities to deliver the project as set out.

Principle 5. Make a measurable Net Gain contribution High level of gain predicted with suitable habitats being created for both the location and ecological connectivity.

Principle 6. Achieve the best outcomes for biodiversity Compliance with trading rules on site. Payments from developments requiring offsite BNG will be taken only where the trading rules are satisfied. The habitat bank will provide the biodiversity uplift before any losses occur for which payments are taken. Providing habitat gains of the correct type. Creating, restoring and enhancing new habitat adjacent to existing high-quality network. Contributing to increasing connectivity between areas of high-quality priority habitats. The site is adjacent to the local Conservation Target Area and priority habitats which means this site is well placed to buffer existing areas of ecological importance, as identified in the local strategy.

Principle 7. Be additional This habitat work would not happen without the funding provided through BNG.

Principle 8. Create a Net Gain legacy An adaptive management plan has been prepared and suitable legal agreements to ensure the long-term nature of the works laid out. By owning the land above the site inputs and activities that may impact the habitat bank can be controlled. The landowner has a clear long-term vision for the whole farm, of which this project is an integral part. The aim is for the site to be of high quality by the end of the 30-year term. It is expected that this provides some ongoing protection for the habitats created on site.

Principle 9. Optimise sustainability TOE is a charity working to enhance biodiversity and access to the countryside. Working with TOE supports the broader aims of the charity. Income from this BNG plan provides a sustainable, alternative source of revenue for the landowner. By diversifying and strengthening the landowner's economic portfolio, this project increases the likelihood that the site will be managed for biodiversity for the foreseeable future. The successful implementation of this project will inspire other landowners in the proximity to follow the lead of this innovative landowner.

Principle 10. Be transparent Require an annual Landowner report and maintain contact throughout the year, with TOE providing reports as required to Cherwell County Council. The ecological monitoring reports will be carried out by an independent ecologist rather than in-house at TOE. All Metrics are verified by competent and/or qualified 3 rd parties. TOE is open to audit and Charity law.

Principles Informed by Design Stage

The project's BNG target(s) should be set and documented early in the design process. Outline how background and baseline information influenced key design principles for the project from an early stage. This can provide useful context for the proposed retention, creation and enhancement measures.

Design Principles Informed by Baseline Information PM-B02

Hydrology

The proximity of the site to the Sor Brook has directly influenced prescriptions in this HMMP. With the northern two fields being in the Sor Brook floodplain, biodiversity in the area could be increased by creating shallow ponds of varying depths that will temporarily hold water and provide habitat various floral and faunal species, and the animals that prey on them.

Access

The Public Right of Way will continue to be maintained throughout the life of this HMMP. The footpath will be fenced on the western edge through parcel G5 from the road at the southern border of the site to the northwest parcel (G3). This will reduce disturbances to wildlife, particularly from humans and dogs while still enabling the local community to enjoy the increasingly biodiverse surroundings. The path will not be fenced on either side through the northwest parcel (G3).

Soils and substrates

The soils at the site present an opportunity for habitat creation. Most of the land in the project is targeted at creating a species-rich grassland. This habitat is most easily created in nutrient-poor soils. Results from the soil analysis show the soils to be relatively nutrient poor, creating stress on the plant community and leading to a higher botanical diversity The sandy texture of parcel G4/5, combined with the rotational grazing regime that will be implemented, should strip the nutrients of the soil over time to an acceptable level. Overall, the site is considered suitable for the creation of species-rich grasslands.

Climate change

Prolonged periods of drought caused by climate change could negatively influence the proposals in this HMMP, particularly for the tree/shrub planting. Contingency for replacing failures in the planting scheme has been accounted for in the costings of the project to ensure that there will be sufficient funding to achieve the planting aims of the site.

Increased frequency and intensity of rainfall is predicted to be another consequence of climate change. The proposals described in this HMMP will increase the vegetation cover across the site, increasing interceptions rates and slowing down the run-off water towards the Sor Brook at the northern boundary of the site. By increasing interception rates the risk of flooding further downstream is reduced.

Topography

The topography of the site presents an opportunity for habitat creation. The proposed temporary ponds in fields G1 and G3 will, being at a similar elevation to the Sor Brook, as well as receiving run off from the fields uphill of them, retain water well. These ponds and the surrounding species-rich grasslands will mimic the Priority Habitats of Coastal and Floodplain Grazing Marsh habitat that surround the site, buffering them as well as while providing suitable habitat for the species who rely on them in the local area.

Historic environment and land use

The land has, at least for the past 20 years, been grazing pasture, grazed by experienced farmers. By retaining the land use as grazing pasture, albeit with a slightly adapted management strategy, we can be confident that the systems are in place for this project to achieve its goals.

A hedgerow with trees used to exist dissecting the two northern fields adjacent to the Sor Brook in at least 1961 (and perhaps more recently). This hedgerow will be reinstated as a species-rich native hedgerow with trees, as per the prescriptions in this management plan.

Habitat and Condition Targets PM-T01

This table presents a summary record of what you have agreed to deliver based on the biodiversity metric. These habitat condition targets form the basis of what the management plan is setting out to achieve. Include the relevant ‘Area’, ‘Hedgerow’, and ‘Watercourse’ types to be implemented and managed throughout the period of 30 years or more.

Baseline Habitat Type	Target Habitat Type	Parcel / Feature Refs	Baseline Condition	Targeted Condition	Standard time to reach target condition	Condition Assessment Targets	Comments
Modified grassland	Other neutral grassland	G1, G5	Poor	Moderate	10	A – yes, B – yes, C – yes, D – yes, E – yes, F - yes	
Modified grassland	Other neutral grassland	G2, G3	Good	Good	15	A – yes, B – yes, C – yes, D – yes, E – yes, F - yes	
To be created	Ponds (non-priority habitat)	G1a, G3a	N/A	Moderate	3	A – yes, B – yes, C – yes, D – yes, E – yes, F – yes, G – yes, H – yes, I - yes	
Other neutral grassland	Mixed scrub	G4	Poor	Moderate	10	A – yes, B – no, C – yes, D – yes, E – yes	
Other broadleaved woodland	Other broadleaved woodland	W2	Poor	Moderate	10	A - good, B – good, C – good, D – good, E – good, F – good, G – good, H – good, I – poor/moderate, J – good, K – poor/moderate, L – good, M – good.	20 years to condition might be more realistic
Other broadleaved woodland	Other broadleaved woodland	W3	Poor	Moderate	10	A - moderate, B – good, C – good, D – good, E – good, F – good, G – moderate, H – good, I – poor, J – moderate, K – poor, L – moderate, M –moderate	20 years to condition might be more realistic
Lowland mixed deciduous woodland	Lowland mixed deciduous woodland	W1	Moderate	Good	10	A - good, B – good, C – good, D – good, E – good, F – good, G – good, H – good, I – poor/moderate, J – good, K – poor/moderate, L – good, M – good.	20-30 years to condition might be more realistic
To be created	Species-rich native hedgerow with trees	H11, H12, H13	N/A	Good	20	No more than 2 failures for condition in total AND no more than 1 failure in any function group (i.e., at least one pass in A, B, C, and D)	
Native hedgerow	Species-rich native hedgerow	H2	Good	Good	N/A	No more than 2 failures for condition in total AND no more than 1 failure in any function group (i.e., at least one pass in A, B, C, and D)	
Native hedgerow	Species-rich native hedgerow	H3, H4	Moderate	Good	2-5 years	H3: one criterion is failed in all classes A to D. H4: Two criteria in class C are failed.	
Native hedgerow with trees	Species-rich native hedgerow with trees	H5	Poor	Good	2-5 years	No more than 2 failures for condition in total AND no more than 1 failure in any function group (i.e., at least one pass in A, B, C, and D)	
Native hedgerow with trees	Species-rich native	H7	Moderate	Good	2-5 years	No more than 2 failures for condition in total AND no more than 1 failure in any function group (i.e., at least one pass in A, B, C, and D)	

Baseline Habitat Type	Target Habitat Type	Parcel / Feature Refs	Baseline Condition	Targeted Condition	Standard time to reach target condition	Condition Assessment Targets	Comments
	hedgerow with trees						
Native hedgerow with trees	Species-rich native hedgerow with trees	H10	Good	Good	2-5 years	Only criterion C2 is failed – this will be targeted	
Species-rich native hedgerow	Species-rich native hedgerow	H1	Moderate	Good	2-5 years	Two criteria in class C failed – these will be targeted.	

Habitat and Condition Targets Further Comments
Use this section to provide further details relevant to achieving the habitat and condition targets set out above. Also, include any additional objectives that are relevant to the proposals but outside of the scope of the statutory biodiversity metric calculations.

Target UKHab Map

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Legend

HEDGEROWS

Hedgerows Proposed EDIT ME

- Species-rich native hedgerow
- Species-rich native hedgerow with trees
- Species-rich native hedgerow with trees - associated with ditch

HABITATS

- Lowland mixed deciduous woodland
- Mixed scrub
- Other neutral grassland
- Other woodland; broadleaved
- Ponds (non-priority habitat)

Google Satellite, N.D.

Habitat Retention

Provide a concise description of the habitats that are to be retained in their baseline condition. Habitats being retained may still require ongoing measures to maintain their baseline condition.

Measures to be Implemented to Protect Retained Habitats PM-03

Specification of Protective Measures to be Used PM-04

Habitat Retention Plan PM-F01

Provide a plan with the locations of habitats to be retained (including whether to be protected and, or, enhanced) and those to be created under this HMMP. Include parcel references if needed. Tick box if any additional plans are provided in the Appendices ☐ . Reference: Click or tap here to enter text.

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Legend

HEDGEROWS

Hedgerow Retention

- Created
- Enhanced

Proposed Hedgerow Condition

- Good

HABITATS

Habitats Retention

- Enhanced
- Lost

Proposed Habitats Condition

- Good
- Moderate

Google Satellite, N.D.

Creation, Enhancement and Management Targets and Prescriptions:

Ponds (non-priority habitat)

A network of three interlinked shallow scrapes of varying surface water area and depth will be created in fields G1 and G3. These will maximise the diversity of the site for wetland birds, plants, aquatic and semi-aquatic invertebrates, and amphibians.

The site will be registered for the following exemption: 25. Excavating scrapes and shallow wetland features totalling 0.1ha in a flood plain (FRA25), ensuring:

- the area of the excavation is no more than 0.1ha and takes place at least 100m from any other excavation in the flood plain
- the excavation is no more than 500mm deep at any point
- where spoil from the excavation is spread on the floodplain, the spoil is spread to a depth of no more than 100mm
- the excavation is at least 8m from any structure forming part of a flood defence and from the landward side of each bank of the main river.

The scrapes will be dug when the ground conditions are sufficiently dry so as limit damage to the soils during construction.

Other neutral grassland

Creation timeline: Year 1-2

Creation task	Frequency	Ja	F	M	A	Ma	Ju	J	Au	S	O	N	D
Cut (to 50mm) and remove grass or graze livestock	Once							x					
Create 50-75% bare ground through grazing (pulse at high density or extensive at lower densities) and/or disc/power harrowing	Once							x	x				
Option 1: Spread green hay	Once (timing is method dependent)								x	x			
Option 2: Broadcast wildflower seed mix	Once (timing is method dependent)								x	x			
Roll fields to ensure seeds make contact with soil	Once (after sowing)								x	x			
Graze with livestock, removing livestock if poaching levels exceed 20%	After sowing and/or annual hay cut	x	x	x	x				x	x	x	x	x
Top if perennial weeds/grasses have grown too vigorously over winter	Once				x								
Remove livestock to allow flowers to grow and set seed	During late spring/early summer of year 1					x	x	x	x				
To reduce phosphorus levels in parcel G5, manage as a hay meadow for first 5 years. Cut to 150 mm. Leave cut material in situ for a week to drop seeds.	Once						x	x					

The area proposed for Other Neutral Grassland creation currently supports modified grassland. The sward diversity will be increased over time through a combination of green hay spreading and the addition of a suitable seed mix (if necessary). The grassland will be managed as grazing pasture/hay meadows throughout the lifetime of the project.

Note: Across most of the site the soil nutrient levels are suitable for the creation of species-rich grasslands. The soil nutrient levels in parcel G4/G5 are slightly higher than the rest of the site but the sandy texture of parcels G4/G5, combined with the cutting and rotational grazing regimes that will be implemented, should strip the nutrients of the soil over time to an acceptable level (see tables in Appendix 3 for target soil nutrient levels). All arisings will be removed from Site during the initial cutting phase to maximise the amount of nutrients being stripped from the soil.

June – September: 2025

June – mid-July: Create 50% bare ground in field G1, G2, G3, and G5.

- Prior to seeding, take a hay cut to 50mm during this time, followed by aftermath grazing (sheep or cattle) to minimize sward height.
    - Post-hay cut, fields can be grazed either by extensive grazing at 0.5 lu/ha for longer periods or pulse grazing at high densities for shorter periods of time.
    - Remove livestock in very wet weather or if poaching levels exceed 20%. **Be particularly aware of livestock damage in field G2, which are clay-based soils.**
    - Do not supplementary feed livestock in these fields where possible to reduce nutrient build up.
- If 50% bare ground is not achieved, increase livestock density, or use mechanical means (disc/power harrow).

Sowing seeds using green hay by the **end of August**

Option 1 – if locally sourced green hay is available.

Target a sowing rate of 1 ha donor site for 5 ha recipient site.

Green hay relies on taking a hay cut just as most flowering plants begin to set seed.

Ensure green hay is cut and spread on the same day and preferably within an hour or two. If the hay heats up. The viability of the seed is reduced.

- Use a muck spreader/haybob/tedder-rake/strawcopper towed by a tractor to spread the material across bigger fields.
    - Make sure to scatter any clumps for an even layer of green hay.
- To help the seeds in the green hay grow, they need contact with the soil. Roll the field right after spreading the seed or by letting livestock, especially cattle, graze the area.
- Continue grazing over autumn to keep grass sward low and enhance germination rates.

Limit vegetation growth in the first autumn to avoid seed competition. It's crucial in fields with clump-forming grasses like cock's-foot and Yorkshire fog, which can overshadow new seeds. To manage this, consider letting cattle or sheep graze the grass if it grows tall. Alternatively, an additional late autumn cut can be done. But avoid grazing or cutting if it might damage the ground, such as in wet fields susceptible to livestock damage or heavy machinery compaction.

Option 2 – if locally sourced green hay is not available OR seed bank needs topping up in subsequent years.

Sowing using seed mixture **between late-July and early September**

- Sew using British native-origin wildflower seed at a rate of 7.5 kg/ha. A suitable seed mix should be used, one which includes Yellow rattle (yellow rattle competes with grasses and helps less-dominant wild flower species establish). A example species list for this mix can be found in appendix 2.
- seed should be scattered on the surface and not drilled into the soil like a crop. This replicates natural processes.
- To help the seeds grow, they need contact with the soil. Roll the field right after spreading the seed or by letting livestock, especially cattle, graze the area.
- Continue grazing over autumn to keep grass sward low and enhance germination rates.

Spring 2026:

- Assess seedling growth
- If there's substantial winter vegetation growth, introduce a small number of livestock to the restored site in the first year. The aim is to limit vegetation without creating bare ground.
    - cut or graze to prevent out-shading if grass grows too vigorously.
- Control perennial weeds using manual methods or herbicide.
- In the initial year, from April to July, refrain from grazing recipient fields to enable flowers, especially yellow rattle, to flower and set seed.

Management timeline: Years 2-32

Habitat	Management task	Frequency	Ja	F	M	A	Ma	Ju	J	Au	S	O	N	D
	If managing as a hay meadow, remove livestock during these months and allow grass to grow. Cut to 150 mm. Leave cut material in situ for a week to drop seeds. Rake and remove arisings from the site.						x	x	x	x				
	If not managing as a hay meadow, continue to graze livestock, ensuring most of the sward (70-80%) is between 5-15cm tall.	On-going					x	x	x	x				
	Light spring grazing				x	x								
	Invasive species/dominant perennial weeds removed by topping/spot spraying	As required annually					x							
	Light winter grazing, removing livestock if poaching levels exceed 20%		x	x							x	x	x	x
Suplimentary reseeding, if required														
	Cut (to 50mm) and remove grass and/or graze livestock to reduce sward height	Once							x	x				
	Option 1: Spread green hay	Once (timing is method and weather dependent)								x	x			
	Option 2: Broadcast wildflower seed mix	Once (timing is method and weather dependent)								x	x			
	Roll fields to ensure seeds make contact with soil	Once (after sowing)								x	x			
	Graze with livestock, removing livestock if poaching levels exceed 20%	After sowing and/or annual hay cut	x	x	x	x				x	x	x	x	x

Ongoing Management Prescriptions (GH-B01)
Reintroduce livestock in mid-August or after the hay cut is taken. Green hay should only be taken once every three years from donor grassland. Taking it more often may start to remove too much seed-rain from the field and it may become impoverished. The donor grassland should be treated as normal during the intervening years to maintain the wildflowers and grasses. Green hay is a great way to maintain the local character of wildflower grasslands and boost wildflowers in fields with few species. However, a drawback is that early blooming plants might have already dispersed seeds, and late-blooming ones might still be flowering when the green hay is collected. This can lead to missing these plants, potentially requiring extra efforts to enhance specific wildflowers later on. If the species mix needs to be increased, taking hay cuts from the donor field at different times of year can help this (i.e., later spring or late summer). Years 1-30: Rapid Assessments (RAs) to be carried out on the condition of grassland vegetation – adjust management regime as required (weed control, grazing numbers, etc) • feedback loop to management created

~~Measures to reach condition~~

To achieve good condition, five of the following Condition Assessment Criteria must be met. Measures to reach good condition.

Target Habitat				Other neutral grassland creation		
Condition Assessment Criteria		**Targeted**	**Relevant Parcels**	**Creation Approach**	**Enhancement Approach**	**Management Approach**
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type. **Note – this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	Yes	G1, G2, G3, G5		Disc/power harrow prior to seeding to create 50% bare ground. Broadcast (or slot) seed with native grassland mix. Prepare fields by hay cut followed by aftermath grazing to minimize sward height. Sew using British native origin wildflower seed at a rate of 7.5 Kg Ha OR spread species rich hay collected from nearby donor site at a sowing rate of 1 ha donor site to 5 ha recipient site.	Prepare short sward prior to sewing, then tine harrow. Do not apply fertilisers, pesticides or other inorganic substances. If herbicides are required to reduce perennial weed abundance, use sensitively and sparingly. Continue grazing over autumn to keep grasses sward low and enhance germination rates, roll to control slugs.
B	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.	Yes	G1, G2, G3, G5		Graze with cattle/sheep in autumn, monitoring sward heights	Graze every year once creation completed. To not cause overgrazing. Stock to be removed if sward height becomes too low (most of the sward is less than 5cm). Graze with cattle in spring and autumn, as conditional allows monitoring sward heights
C	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	Yes	G1, G2, G3, G5			Do not graze as to cause large areas of bare ground. Remove stock if ground too wet or being damaged. Do not supplementary feed.

Target Habitat				Other neutral grassland creation		
Condition Assessment Criteria		**Targeted**	**Relevant Parcels**	**Creation Approach**	**Enhancement Approach**	**Management Approach**
D	Cover of bracken *Pteridium aquilinum* less than 20% and cover of scrub (including bramble) less than 5%.	Yes	G1, G2, G3, G5		Remove areas of bracken if they occur, by cutting and removing. Monitor scrub creation to ensure no encroachment into Other Neutral Grassland area.	Do not allow bracken and scrub to encroach onto the site.
E	Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging activities) accounts for less than 5% of total area. If any invasive non-native species (as listed on Schedule 9 of WCA) are present, this criterion is automatically failed.	Yes	G1, G2, G3, G5		Surveys to be undertaken at set times designated in the monitoring schedule, supported by annual reports from the landowner.	Remove invasive non-native species correctly every year.
F	There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type. **Note – this criterion is essential for achieving Good condition for non-acid grassland types only.**	Yes	G1, G2, G3, G5		Surveys to be undertaken at set times designated in the monitoring schedule, supported by annual reports from the landowner.	Follow all prescriptions and meet milestones

Footnote 1 - Professional judgement should be used alongside the UKHab description.

Footnote 2 – For example, this could include small, scattered areas of bare ground allowing for plant colonisation, or localised patches not exceeding 5% cover.

Footnote 3 - Species indicative of suboptimal condition for this habitat type include:creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, curled dock *Rumex crispus*, broad-leaved dock *Rumex obtusifolius*, common nettle *Urtica dioica*, creeping buttercup *Ranunculus repens*, greater plantain *Plantago major*, white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris*. There may be additional relevant species local to the region and or site.

Footnote 4 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, by applying professional judgement.

Footnote 5 – Wildlife and Countryside Act 1981 (as amended).

Scrub

An area of mixed scrub will be created in parcel G4, comprising native species (approximating NVC community W21 Hawthorn-Ivy, including wayfaring tree, dogwood and privet) through a mix of natural re-generation and planting of native species (see species list in Appendix 2). This will be approximately 1 ha new scrub habitat.

Creation timeline Year 1-2

Creation task	Frequency	Ja	F	M	A	Ma	Ju	J	Au	S	O	N	D
Cut grass where trees are to be planted	**Once**									**x**	**x**	**x**	
Plant tree / shrub whips or transplants in natural clusters and species suitable to changing ground conditions	**Replant failures as required**											**x**	**x**

Late summer/early autumn 2025:

- Grass areas to be grazed or cut and arisings collected in areas where trees are to be planted. This is to reduce competition for planted whips or transplants.

Winter 2025-26

- Scrub planting will take place during winter months, ensuring a matrix of scrub habitat using a variety of ages of whips(some 40-60cm, some 60-80cm). Aiming for 50% planted scrub and 50% natural regeneration of the area.
- 400 whips or plugs are to be planted within the area (planting density 400 plants/ha).
- Trees planted in 0.6m shrub tree shelters with 0.6m tree shelter stakes.
    - Check for deer damage every six months as these shelters will not protect against deer. If damage appears to compromise >25% of the planted shrubs, protect plants with 1.2m mesh netting.
- Plant trees in a ‘natural’ pattern i.e., in clumps and not in strict rows.
- Control weed vegetation around the base of the plants using herbicide, applied by a competent operative following industry code of best practice.

Ongoing Management Prescriptions (GH-B01)

Winter 2026-2029

- Count and replace any dead trees.
- Reuse tree protection where possible.
- Replace damaged or missing tree protection.
- Weed control, if required: spot spray with suitable herbicide around the base of the plants to remove competing vegetation. Herbicide is to be applied by a competent operative following industry codes of best practice.

Years 2026- 2053

- Create rides and open areas using a mower or brush cutter.
- When the shrubs are 5 years old, remove tree guards and recycle/dispose of appropriately. Do this in the summer months when there is plenty of other available food for wild browsing herbivores.
- Monitoring to be carried out to assess establishment success, natural regeneration rates, and competition (weeds) problems.
- feedback loop to management created to control for any issues arising.

Years 2029 onwards

- depending on density and speed of growth, coppicing of some stems and general livestock grazing will be used to maintain open patches of ground and prevent development to woodland.
- Cut wood will be retained to add decaying wood habitat.

Management timeline Years 2-32

Management task	Frequency	Ja	F	M	A	Ma	Ju	J	Au	S	O	N	D
Cut back or graze scrub if necessary to maintain clearings / glades.	**As required**									**x**	**x**	**x**	**x**
Remove tree guards at year 5.	**Once**						**x**	**x**	**x**	**x**			

Ongoing Management Prescriptions (GH-B01)

Depending on density and speed of growth, coppicing of some stems and general cattle grazing will be used to maintain open patches of ground and prevent development to woodland.

Years 1-30 • Annual Rapid Assessments (RAs) to be carried out on the condition of grassland vegetationan by independent party – adjust management regime as required (weed control, grazing numbers, etc) • feedback loop to management created

Measures to reach condition

Target Habitat:			Mixed scrub			
Condition Assessment Criteria		**Targeted**	**Relevant Parcels**	**Creation approach**	**Enhancement Approach**	**Management Approach**
A	The parcel represents a good example of its habitat type – the appearance and composition of the vegetation closely matches its UKHab description (where in its natural range). - At least 80% of scrub is native, - There are at least three native woody species, - No single species comprising more than 75% of the cover (except hazel *Corylus avellana,* common juniper *Juniperus communis,* sea buckthorn *Hippophae rhamnoides* or box *Buxus sempervirens,* which can be up to 100% cover).	Yes	G4	Plant only native scrub species, including **at least** three woody species (hawthorn, blackthorn, and hazel)		Thin out dominant species if cover exceeds 75%.
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.	No	G4	Aiming for planted scrub and natural regeneration of the area.		If monitoring shows poor age range take actions to create a better age range spread- possible thinning, planting or protecting older plants.
C	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA) and species indicative of suboptimal condition make up less than 5% of ground cover.	Yes			Surveys to be undertaken at set times designated in the monitoring schedule, supported by annual reports from the landowner.	Remove invasive non-native species correctly every year
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	Yes		Allow enough space in planting plan for edge development		Monitor vegetation development and reduce scrub species if required to provide more edge habitat.
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	Yes			Allow stock to graze intermittently to create open areas. Mechanically create rides within the scrub, (strimmer or mower) both to direct stock	Monitor vegetation development and reduce or increase grazing and cutting if required.

Target Habitat:			Mixed scrub			
Condition Assessment Criteria		**Targeted**	**Relevant Parcels**	**Creation approach**	**Enhancement Approach**	**Management Approach**
					grazing and to create ecotone and sheltered edges	

Woodland enhancement

The three parcels of woodland (W1 – lowland mixed deciduous and W2 and W3 – other woodland; broadleaved), have a combined area of 0.53ha. They will be improved through a mixture of management, natural regeneration, and planting of native species. W3, currently in 'Poor' condition, will be enhanced to 'Moderate' condition, and woodlands W1 and W2 will be enhanced to 'Good' condition, as per the Condition Assessment Criteria stated below.

Management timeline

Habitat	Enhancement task	Frequency	Ja	F	M	A	Ma	Ju	J	Au	S	O	N	D
W1, W2, W3	**Fence to protect from grazing, including gates to allow access for management and light grazing in future**	**Once**	**x**											**x**
W1, W2, W3	**Plant tree / shrub whips in natural clusters and species suitable to changing ground conditions**	**Replant failures as required**	**x**	**x**	**x**								**x**	**x**
W1, W2, W3	**Clearance/thinning**	**As required**	**x**								**x**	**x**	**x**	**x**
W1, W2, W3	**Deer/squirrel control**	**As required**	**x**	**x**	**x**	**x**								
W1, W2, W3	**Broadcast sow woodland ground flora seed**	**Once (after clearance/thinning works to avoid damaging seed)**				**x**	**x**							

Every five years, undertake management activities to create a diverse woodland structure.

To help trees and shrubs grow better and make room for ground plants, thin, coppice, and pollard certain trees. Work on only 5% of trees at a time using these techniques. Focus on semi-mature trees for management, keeping those with the potential to become mature trees. Also, any trees showing signs of decay will be kept providing standing deadwood.

Winter 2025-2026

Plant trees during winter months, ensuring a matrix of woodland habitat using a variety of ages of whips/transplants and young trees to meet habitat requirements, in woodlands W2 and W3. Aiming for planted trees and natural regeneration of the area.

Species tolerant of inundation will be used in the woodland area adjacent to Sor Brook (see species list for wet woodland planting in Appendix 2).

- Control weed vegetation around the base of the plants using herbicide, applied by a competent operative following the industry code of best practice.

Winter 2026-2027

Assess the establishment of the newly planted trees and beat up any failures. Ensure the mulch mats or mulching is adequate for a second year of weed control.

Early spring 2026

Broadcast woodland ground flora seed mix by hand in all woodland parcels (W1, W2, and W3). Divide seed batch into two and sow in overlapping sections for an even distribution. Do not cover or incorporate the seed. An example species list for this mix can be found in Appendix 2.

Ongoing Management Prescriptions (GH-B01)
Winter 2026-2029 • Count and replace any dead trees. • Reuse tree protection where possible. • Replace damaged or missing tree protection. • Weed control, if required: spot spray with suitable herbicide around the base of the plants to remove competing vegetation. Herbicide is to be applied by a competent operative following industry codes of best practice. Years 2026- 2053 • When the trees are 5 years old, remove tree guards and recycle/dispose of appropriately. Do this in the summer months when there is plenty of other available food for wild browsing herbivores. • Every 5 years identify suitable trees to be thinned to let light to the woodland floor. • RA's to be carried out to assess establishment success, natural regeneration rates, and competition (weeds) problems. • feedback loop to management created to control for any issues arising. Years 2029 onwards • Cut wood will be retained to add decaying wood habitat.

Measures to reach condition

Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	Enhancement measures	Milestones	Prescriptions for management for 30 years
Age distribution of trees	Three age-classes[1] present.	Two age-classes[1] present.	One age-class[1] present.	Where necessary, clearance of dominant trees to make space for planting of whips to ensure a range of age classes.	All clearance and initial planting will be completed by March 2025.	Repeat the process at year 10 or 15 to encourage age distribution of trees, depending on the success of the initial planting.
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[2].	Evidence of significant browsing pressure is present in 40% or more of whole woodland[2].			Monitor browsing levels. If levels exceed 40% of whole woodland, consider measures to reduce browsing pressure (fencing).
Invasive plant species	No invasive species[3] present in woodland.	Rhododendron *Rhododendron ponticum* or cherry laurel *Prunus laurocerasus* not present, other invasive species[3] <10% cover.	Rhododendron or cherry laurel present, or other invasive species[3] >10% cover.			Monitor invasive species presence. If cover exceeds 10%, consider control options. Mechanical control a strong preference over chemical control. If chemical control is required, herbicides should be applied by a qualified operator, taking the necessary precautions when applying near the watercourse and sensitive fen habitat.

Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	Enhancement measures	Milestones	Prescriptions for management for 30 years
Number of native tree species	Five or more native tree or shrub species[4] found across woodland parcel.	Three to four native tree or shrub species[4] found across woodland parcel.	Two or less native tree or shrub species[4] across woodland parcel.	Plant tree and shrub species not already found abundantly in woodland parcel. Species of woody shrubs should also be included in the planting scheme to increase structural complexity.	Initial planting completed by spring 2025.	Ensure there are consistently healthy populations of 3 – 4 native tree species and plant native species where necessary.
Cover of native tree and shrub species	>80% of canopy trees and >80% of understory shrubs are native[5].	50 - 80% of canopy trees and 50 - 80% of understory shrubs are native[5].	<50% of canopy trees and <50% of understory shrubs are native[5].	In W2, clear non-native species and replant with native tree and shrub species.	Initial clearance and planting completed by spring 2025.	Monitor changes in canopy cover and species composition. If native species number forming the canopy drops below 50%, thin non-native species and replant with native species.
Open space within woodland	10 - 20% of woodland has areas of temporary open space[6.] Unless woodland is <10ha, in which case 0 - 20% temporary open space is permitted[7].	10 - 20% of woodland has areas of temporary open space[6.] Unless woodland is <10ha, in which case 0 - 20% temporary open space is permitted[7].	<10% or >40% of woodland has areas of temporary open space[6]. But if woodland <10ha has <10% temporary open space, please see Good category[7].	Remove livestock/reduce thinning intensity if woodland open space exceeds >20% of the parcel.	Year 10	
Woodland regeneration	All three classes present in woodland[8]; trees 4 - 7 cm Diameter at Breast Height (DBH), saplings and seedlings or advanced coppice regrowth.	One or two classes only present in woodland[8].	No classes or coppice regrowth present in woodland[8].	Coppice (e.g., hazel, ash, alder, elder species) to encourage bushy regrowth.	Initial works - Winter 2025-2026	Herbivore pressure will hinder natural regeneration. If herbivore pressure apparent, consider fencing options.
Tree health	Tree mortality less than 10%, no pests or diseases and no crown dieback[9].	11% to 25% mortality and/or crown dieback or low-risk pest or disease present[9].	Greater than 25% tree mortality and or any high-risk pest or disease present[9].			Monitor crown dieback and overall tree health. If any felling is required, leave deadwood in situ.

Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	Enhancement measures	Milestones	Prescriptions for management for 30 years
Vegetation and ground flora	Recognisable NVC plant community[10] at ground layer present, strongly characterised by ancient woodland flora specialists.	Recognisable woodland NVC plant community[10] at ground layer present.	No recognisable woodland NVC plant community[10] at ground layer present.			Difficult to achieve. Manage woodland for the tree species found naturally in Ancient Woodlands in the area
Woodland vertical structure	Three or more storeys across all survey plots or a complex woodland[11].	Two storeys across all survey plots[11].	One or less storey across all survey plots[11].	Plant, in natural clusters, native species to diversify the vertical structure. Include shrub species, such as holly *Ilex aquifolium*,		
Veteran trees	Two or more veteran trees[12] per hectare.	One veteran tree[12] per hectare.	No veteran trees[12] present in woodland.	One or two trees with veteran potential to be identified within the woodland parcels W1 and W2. The tree should be chosen based on its species, DBH, and the presence of interesting features Veteran Trees: A guide to good management - IN13 (naturalengland.org.uk). **IF** a suitable tree can be identified, manage tree for veteran qualities. Consider Halo-thinning, premature ringing of limbs.	Identification and management to occur in winter 2025/26. Monitoring at the 10-year mark	Adaptive management based on how the selected tree responds to treatment.
Amount of deadwood	50% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, branch stubs and stumps, or an abundance of small cavities[13].	Between 25% and 50% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities[13].	Less than 25% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities[13].	The aim is to get different types of deadwood to accumulate within the plot. Any arisings from initial thinning works to remain in the plot. Creation of brash piles, long piles, and windrows where possible. Standing dead wood to be left alone and **not** be felled, except where it is adjacent to the public right of way and/or permissive footpath.	Monitor at the 5-year mark. If dead wood is not present in multiple forms in at least 25% of the parcel at this stage, consider ringing or felling to achieve this.	

Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	Enhancement measures	Milestones	Prescriptions for management for 30 years
Woodland disturbance	No nutrient enrichment or damaged ground evident[14].	Less than 1 hectare in total of nutrient enrichment across woodland area and or less than 20% of woodland area has damaged ground[14].	More than 1 hectare of nutrient enrichment and or more than 20% of woodland area has damaged ground[14].	Where the ground is damaged, reduce livestock access.	Year 5, 10, 15, 20, 25, 30	Nutrient enrichment can occur when there is a buildup of feces in an area. Exclude livestock, particularly cattle, from the area if possible to help reduce this.

Footnotes

Footnotes below refer to the EWBG woodland condition assessment details: EWBG (No date). *Assessing your Woodland's Condition* [online]. Available from: Woodland Wildlife Toolkit (sylva.org.uk)

The woodland condition assessment survey methodology is outlined in the EWBG toolkit. However the criteria on this sheet are those specific to the Statutory Biodiversity Metric and must be used when assessing woodland condition.

Footnote 1 - See EWBG method INDICATOR 1 for more information. If tree species is not a birch *Betula* sp., cherry *Prunus* sp. or *Sorbus* sp.: 0 – 20 years (Young); 21 - 150 years (Intermediate); and >150 years (Old). For birch, cherry or *Sorbus* species; 0 - 20 years = Young; 21 - 60 years =Intermediate; >60 years = Old. A recognisable age-class should be a consistent recognisable layer across the woodland or stand being assessed. Presence of a few saplings would not indicate that the woodland has an 'age-class' of young trees.

Footnote 2 - See EWBG method INDICATOR 2 for more information. Browsing pressure is considered to be significant where >20% of vegetation visible within each survey plot shows damage from any type of browsing pressure listed.

Footnote 3 - See EWBG method INDICATOR 3 for more information. Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly.

Check for the presence of all plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), particularly the following invasive non-native species: American skunk cabbage *Lysichiton americanus*; Himalayan balsam *Impatiens glandulifera*; Japanese knotweed *Reynoutria japonica*; cherry laurel *Prunus laurocerasus*; shallon *Gaultheria shallon*; snowberry *Symphoricarpos albus*; variegated yellow archangel *Lamiastrum galeobdolon subsp. argentatum*; rhododendron *Rhododendron ponticum*; and tree-of-heaven *Alianthus altissima*.

Footnote 4 - See EWBG method INDICATOR 4 and Table 2 for more information. The number of different native tree or shrub species including young trees and shrubs. A list of commonly found native tree and shrub species is provided in Table 2. Not all species listed are native to all parts of the UK. Note a list of commonly found non-native tree species are also included and should be recorded if present.

Footnote 5 - See EWBG method INDICATOR 5 and for more information. The abundance of native tree species in upper (>5 m) and understorey (up to 5 m) layers including young trees and shrubs.

Footnote 6 - See EWBG method INDICATOR 6 for more information. Open space within woodland in this context is temporary open space in which trees can be expected to regenerate (for example, glades, rides, footpaths, areas of clear-fell). This differs from permanent open space where tree regeneration is not possible or desirable (for example, tarmac, buildings, rivers). Area is at least 10 m wide with less than 20% covered by shrubs or trees.

Footnote 7 – Given the increased ratio of edge habitat to woodland where the woodland is <10ha.

Footnote 8 - See EWBG method INDICATOR 8 for more information. This indicator measures regeneration potential of the woodland by considering three classes: seedlings; saplings; and young trees of 4-7 cm DBH. All three classes would fall in the 'young' category of the 'age distribution of trees' indicator, but the regeneration indicator gathers additional information by considering regeneration potential - if seedlings, saplings and young trees are all present that means natural regeneration processes are happening.

Footnote 9 - See EWBG method INDICATOR 9 for more information and Table 3 for a list of diseases and pests and their risk level.

Footnote 10 - See EWBG method INDICATOR 10 directing to NVC key for more information. The 'UKHab to NVC translation table' in the UK Habitat Classification resources may also be useful to assess this.

Footnote 11 – This criterion looks at structural diversity and is useful to understand in conjunction with the age of trees in a woodland. Vertical structure is defined as the number of canopy storeys present. Possible storey values are: 1) Upper; 2) Complex: recorded when the stand is composed of multiple tree heights that cannot easily be stratified into broad height bands (such as upper, middle or lower); 3) Middle; 4) Lower; and 5) Shrub layer. There might be no storeys where the woodland has been felled. See EWBG INDICATOR 11 for more information.

Footnote 12 - See EWBG method INDICATOR 12 for more information. See gov.uk standing advice on ancient and veteran trees. Available from:

Keepers of time: ancient and native woodland and trees policy in England (publishing.service.gov.uk)
and:
Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk)

EWBG INDICATOR 12 is the relevant indicator.

Footnote 13 – See EWBG method INDICATOR 13 for more information. This includes logs, large dead branches on the forest floor and stumps (<1 m tall) >20 cm diameter at narrowest point and >50 cm long. Also includes standing dead trees (>1 m tall) and also deadwood on standing live trees. Diameter is measured at the narrowest point on the stem. Minimum diameter of 20 cm.

Footnote 14 - See EWBG method INDICATOR 15 for more information. Examples of disturbance are: significant nutrient enrichment; soil compaction from trampling, machinery, animal poaching or litter.

Hedgerows

toe Trust for Oxfordshire's Environment

Legend

HEDGEROWS

- Species-rich native hedgerow
- Species-rich native hedgerow with trees
- Species-rich native hedgerow with trees - associated with ditch

Google Satellite, N.D.

Hedge Ref	Existing habitat	Target habitat	Existing condition	Target condition	Standard time to reach target condition	Condition Assessment Targets	Comments
H11, H12, H13	To be created	Species-rich native hedgerow with trees	N/A	Good	20	No more than 2 failures for condition in total AND no more than 1 failure in any function group (i.e., at least one pass in A, B, C, and D)	
H2	Native hedgerow	Species-rich native hedgerow	Good	Good)	N/A	No more than 2 failures for condition in total AND no more than 1 failure in any function group. Criteria in function groups B and C will be targeted.	
H3, H4	Native hedgerow	Species-rich native hedgerow	Moderate	Good	2-5 years	H3: one criterion is failed in all classes A to D. H4: Two criteria in class C are failed.	
H5	Native hedgerow with trees	Species-rich native hedgerow with trees	Poor	Good	2-5 years	No more than 2 failures for condition in total AND no more than 1 failure in any function group. Criteria in function groups C and E will be targeted.	
H7	Native hedgerow with trees	Species-rich native hedgerow with trees	Moderate	Good	2-5 years	No more than 2 failures for condition in total AND no more than 1 failure in any function group. Criteria in function groups C and E will be targeted	
H10	Native hedgerow with trees	Species-rich native hedgerow with trees	Good	Good	2-5 years	Only criterion C2 is failed – this will be targeted	
H1	Species-rich native hedgerow	Species-rich native hedgerow	Moderate	Good	2-5 years	Two criteria in class C failed – these will be targeted.	
H9	Species-rich native hedgerow	Species-rich native hedgerow	Good	Good (retained)	N/A	Landowner does not have management rights to this hedgerow.	
H8	Native hedgerow with trees	Native hedgerow with trees	Moderate	Moderate (retained)	N/A	Landowner does not have management rights to this hedgerow.	

Species rich native hedgerows are named as a Priority Habitat on the UK Biodiversity Action Plan and identified in Oxfordshire's Biodiversity Action Plan. The Site currently has 1.88 km of hedgerow habitat on the site, in varying levels of condition. Over the next 30 years, through planting and sensitive management, this will be increased to 2.3 km of habitat in good condition to maximise the benefit for wildlife.

Creation timeline

Habitat	Creation task	Frequency	Ja	F	M	A	Ma	Ju	J	Au	S	O	N	D
H11, H12, H13	**Fence to protect trees from grazing**	**Once**	**x**								**x**	**x**	**x**	**x**
	Plant whips and standard trees	**Once**	**x**										**x**	**x**
	Count dead trees and replace	**As required in years 1-5**	**x**										**x**	**x**

Historical maps showed that fields G1 and G3 used to be dissected by a hedgerow. This hedgerow will be reinstated by planting a species-rich hedge with trees to reestablish the linear habitat that will benefit a wide range of animal, plant, and fungal species.

A ditch will be dug adjacent to the newly planted hedge (H11) in field G3. Dig the ditch to a depth of 70cm to 1 metre. Vary the depth and slope of the banks to benefit as many wildlife species as possible. The excavated material will be spread thinly across nearby field to allow existing vegeation to grow back through.

Fencing will be required to protect the newly planted trees from browsing by livestock and wild herbivores.

November 2025 – March 2026

- A**t least six** of the following native species will be planted, preferring species that are found to be healthy and vigorous in existing hedgerows on site: Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*), Guelder rose (*Viburnum opulus*), Spindle (*Euonymus europaeus*), Crab apple (*Malus sylvestris*), Holly (*Ilex aquifolium*), Hazel (*Coryllus avellana*), Field maple (*Acer campestre*), Dogwood (Cornus sangunea), and Buckthorn (*Rhamnus cathartica*). See full species list in Appendix 2.
    - Other beneficial species for wildlife could include Honeysuckle (*Lonicera periclymenum),* Wild privet *(Ligustrum vulgare),* Dogrose *(Rosa canina), or* Field elm *(Ulmus minor).*
    - For wetter areas, species such as Black poplar (*Populus nigra*), Alder *(Alnus glutinosa) and* Willow *(Salix spp.)* will be preferred.
- Whips will be sourced from a certified supplier to ensure stock is of good quality and disease-free to maximise the chance of survival.
- Plant whips at 5 plants per metre.
- Planting will be undertaken by experienced individuals, ensuring best planting practice is adhered to.
    - Planting to occur when the ground conditions are correct (i.e., soil frozen to a depth of no more than 2.5cm, soil not waterlogged, site recently received rain or forecast to in the next fortnight).
    - Good plant health measures will be taken:
        - planting spades are clean before planting.
        - whips are handled with care during transport and while on site to not damage the fragile roots unnecessarily.
        - whip roots remain in the planting bag/covered until immediately before planting to prevent roots from drying out.

    - All whips are to be planted with a cane and spiral (using biodegradable tree guards where possible) to protect them from the wind and herbivores.
- Control weed vegetation around the base of the plants using herbicide, applied by a competent operative following industry code of best practice.

For hedgerow trees:

- Native species of trees found currently on the site to be chosen as trees to be grown out to standard trees within the hedge.
    - To be planted as whips and marked out to ensure they are not managed like the rest of the hedge.
        - If planted as larger trees, these will need the appropriate staking and guarding.
- Species could include: Oak (*Quercus robur*), Field maple (*Acer campestre*), Common alder (*Alnus glutinosa*), Wild cherry (*Prunus avium*), Small-leaved lime (*Tilia cordata*).
- Standard trees to be planted at least every 30 metres.

Management timeline

Habitat	Management task	Frequency	Ja	F	M	A	Ma	Ju	J	Au	S	O	N	D
H1 – H13 (excl. H6, H8, and H9)	**Cut hedgerows. Do not cut to below 1.5m in height or 1.5m in width.**	**Once every 2-3 years**	**x**	**x**									**x**	**x**
H1 – H13 excl. H6, H8, and H9)	**Count dead trees and replace**	**As required in years 1-5**	**x**										**x**	**x**
H1 – H13 excl. H6, H8, and H9)	**Coppice/lay hedges**	**As required, every 10 years**	**x**										**x**	**x**

Ongoing Management Prescriptions (GH-B01)

Weed control, if required in years 2, 3, 4, and 5: spot spray with suitable herbicide around the base of the plant to remove competing vegetation. Herbicide to be applied by a compotent operative following industry code of best practice.

It is best to manage hedgerow sections on rotation, allowing 2-3 years between trimming and trimming a different section each year, so you have a variety of hedges in different regrowth stages.

Trim hedges mid- to end- of winter once any berry source has been used by wildlife and before budding has begun. This will be dictated somewhat by ground conditions and machinery availability but should not occur before September during the bird breeding season. Having the rotation management will compensate for the loss of winter wildlife resources during earlier cutting where later cutting is unfeasible.

To fill the gaps in the hedgerow base, there are two options available. The first is to add more plants like hazel, guelder rose, field maple, and spindle, all native to the UK. It might be necessary to coppice some of the existing trees to make room for the new plantings (H2 and H3). Hawthorn and blackthorn would work too, but they're already present in all the hedges on the site. It's suggested to plant these shrubs on the sunnier side of the hedgerows for better growth. If that's not doable, opt for species that can thrive in shade.

The other choice is to manage the hedgerows through a traditional method called laying. This practice keeps hedge species strong by forming a dense tangle of vegetation with fresh, productive shoots. Unlike modern techniques like cutting, laying builds a thick structure with plenty of new growth. It also preserves a barrier that's secure against livestock without leaving gaps at the base. Lay each hedge every 10 years, staggering the years to keep winter food sources intact. This work is best done between November and February when the plants are dormant.

Years 1-30

- Annual Rapid Assessments (RAs) to be carried out on condition of hedge by independent party – adjust management regime as required.
- feedback loop to management created.

Measures to reach condition

	Habitat feature	Condition	Assessment criteria	Enhancement measure	Milestone	Prescriptions for management for 30 years
A1.	Height	>1.5 m average along length	The average height of woody growth estimated from base of stem to the top of the shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees. Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice). A newly planted hedgerow does not pass this criterion (unless it is >1.5 m height).	All hedges on site currently meet this criteria but any cutting should not go below 1.5m (unless laying or coppicing).	Year 10 for newly planted hedges. Year 5 for all existing hedges (H1-10). Following monitoring schedule. Up to year 30	Do not cut below 1.5m
A2.	Width	>1.5 m average along length	The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees. Outgrowths (such as blackthorn *Prunus spinosa* suckers) are only included in the width estimate when they are >0.5 m in height. Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if	All hedges on site (except H3) currently meet this criteria but any cutting should not go below 1.5m (unless laying or coppicing). H3 should be allowed to grow out laterally by monitoring livestock browsing levels.	Year 10 for newly planted hedges. Year 5 for all existing hedges (H1-10). Following monitoring schedule. Up to year 30	Do not reduce width to below 1.5m Monitor livestock grazing levels and repair fencing where necessary.

	Habitat feature	Condition	Assessment criteria	Enhancement measure	Milestone	Prescriptions for management for 30 years
			undertaken according to good practice).			
B1.	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length	This is the vertical 'gappiness' of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth. Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook).	For newly planted hedges, cut low (60cm or above tree guards) after the second year of growth to encourage lateral growth at the base of the stem. For H2 and H3 (which did not at time of survey meet this criteria), coppice or lay the sections of hedges not meeting this criterion. This can be done in sections over time to encourage a diverse hedgerow structure.	Begin cycle of laying and coppicing H2 and H3 in winter 2025/256.	Livestock browsing can cause this gap to appear. Monitor browsing levels and consider fencing if the problem persists. Following monitoring schedule. Up to year 30
B2.	Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5 m	This is the horizontal 'gappiness' of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall 'gappiness' but are not subject to the >5 m criterion (as this is the typical size of a gate).	All hedges on site currently meet this criteria but should monitoring program highlight gaps greater than 5m in length and/or make up <10% total length of the hedgerow, consider replanting gaps or hedge laying in the winter months.		Cutting too heavily and too regularly (i.e., every year) causes trees to die and gaps to appear. Maintain rotational cutting regime, rotating sections every 1-3 years. Following the monitoring schedule. Up to year 30

	Habitat feature	Condition	Assessment criteria	Enhancement measure	Milestone	Prescriptions for management for 30 years
C1.	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least).	This is the level of disturbance (excluding wildlife disturbance) at the base of the hedgerow. Undisturbed ground is present for at least 90% of the hedgerow length, greater than 1 m in width and must be present along at least one side of the hedgerow. This criterion recognises the value of the hedgerow base as a boundary habitat with the capacity to support a wide range of species. Cultivation, heavily trodden footpaths, poached ground etc. can limit available habitat niches.	Ground disturbance is often caused by livestock using the hedgerow for shelter. Remove livestock in fields adjacent to hedgerows H1, H2, H4, H5,, H7, and H8 to levels that begin to show an improvement in the ground disturbance. If this is unfeasible, consider electric fencing to section off portions hedges that show signs of excessive undisturbed ground.	Year 5, 10, 15, 20, 25, 30 for all hedges	Following the monitoring schedule. Up to year 30
C2.	Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	The indicator species used are nettles *Urtica* spp., cleavers *Galium aparine* and docks *Rumex* spp. Their presence, either singly or together, does not exceed the 20% cover threshold.	Remove (strim/billhook) undesirable species (nettles/cleavers) where there is a build-up.	Year 5, 10, 15, 20, 25, 30 for all hedges	
D1.	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	Recently introduced species refer to plants that have naturalised in the UK since AD 1500 (neophytes). Archaeophytes count as natives. For information on archaeophytes and neophytes see the JNCC website[4], as well as the BSBI website[5] where the 'Online Atlas of the British and	Annual Rapid Assessments (RAs) to be carried out on condition of hedgerow vegetation by independent party – adjust management regime as required (weed control, grazing numbers, etc)		Remove invasive non-native species correctly every year (either manually for with herbicide, depending on the species). Following monitoring schedule. Up to year 30

	Habitat feature	Condition	Assessment criteria	Enhancement measure	Milestone	Prescriptions for management for 30 years
			Irish Flora'[6] contains an up-to-date list of the status of species. For information on invasive non-native species see the GB Non-Native Secretariat website[7].			
D2.	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes. This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (e.g., excessive hedgerow cutting).		Annual Rapid Assessments (RAs) to be carried out on condition of hedgerow vegetation by independent party – adjust management regime as required (weed control, grazing numbers, etc).	Following monitoring schedule. Up to year 30
Additional group - applicable to hedgerows with trees only						
E1.	Tree class	There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient[8]), and there is on average at least one mature, ancient or veteran tree present per 20 - 50m of hedgerow.	This criterion addresses if there are a range of age-classes or morphologies which allow for replacement of trees and provide opportunities for different species.	In newly planted hedges, larger trees will be planted or whips marked out to be grown on above the body of the hedge as standard trees. These trees will be exempt from the cutting/maintenance regime. Ensure survival of current hedgerow tress by protected them from damage by livestock.		Following monitoring schedule. Up to year 30.

	Habitat feature	Condition	Assessment criteria	Enhancement measure	Milestone	Prescriptions for management for 30 years
E2.	Tree health	At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	This criterion identifies if the trees are subject to damage which compromises the survival and health of the individual specimens.	Trees that are being damaged by livestock will be protected by fencing.		

3. Habitat Creation and Management – Risk Register and Remedial Measures PM-T02

Provide a site-wide risk register associated with creating, enhancing and, or, managing each habitat type. Consider your approach to delivering the BNG targets in case the management prescriptions do not deliver as expected.

Risk Identification Date	Habitat Type	Risk Factor	Trigger for Action	Remedial Measure
Winter 2027/28	Woodland, hedge	Newly planted trees failing to establish	10% of targeted number of newly planted trees found to be dead during years 1-10.	Beat up (replace failures) in years 2 and 3 or until you have at least 80% of original planting numbers alive. Consider species choice in location if certain species are not surviving (i.e., more drought-tolerant species).
Summer 2028	Grassland	Unable to reduce soil nutrient levels	Soil test results in year 3.	Complete soil nutrient reduction as outlined in plan or consider a second application of seed/green hay.
Summer 2028	Grassland	Failure of green hay /seed to germinate	At least 50% germination of expected flowers from either green hay donor site or seed mix.	need to re-seed at the next growing season; need to leave livestock off the fields to enable growth to recommence
	Grassland, woodland, hedge	Death of plants	Extreme weather e.g. drought, flood	To consider the effect of the extreme weather and action accordingly e.g. need to re-seed/replant at the next growing season; need to leave livestock off the fields to enable growth to recommence
Summer 2027	Grassland	Unable to sow seed to establish grassland sward	Pest bird populations	To employ bird pest control measures
Summer 2027	Grassland	Unable to sow seed to establish grassland sward	Low availability of green hay	Seek alternative seed producers
Summer 2027	Grassland	Unable to sow seed to establish grassland sward	Shortage of additional seed	Seek alternative seed producers or take a cut of seed from nearby, local wildflower meadows (if they can be found) with similar ecological status

4. Monitoring Schedule

To deliver BNG, a robust strategy is critical to monitor successes and challenges. Routine monitoring informs progress and facilitates the required management plan updates at set intervals.

Monitoring Strategy

Provide details of the monitoring strategy to encourage successful implementation of the management plan (MS-B01)

TOE will be responsible for returning a Monitoring Report in a format provided by the relevant Cherwell District Council. To complete this report TOE require the landowner to provide their annual reports as well as any reports about the project done by independent parties (e.g. ecological surveys).

The landowner will submit annual progress reports to TOE using the reporting template provided. Photos will be provided before, during and after works during habitat creation. Evidence is required of the date of the habitat creation works and the date that each aspect of management is carried out on an annual basis, (e.g. supplier invoices). TOE will come to site to carry out site inspections as and when required. The landowner agrees to allow all reasonable requests to access the site by a TOE representative. It is also noted that Cherwell District Council will require access for their own monitoring purposes. Access is to be agreed in advance with the landowner.

Ecological monitoring, carried out by a reputable, qualified ecologist, will take place throughout the life of the project to monitor the changes in botanical species assemblages and biodiversity uplift. Biodiversity units will need to be calculated and reported along with the ecological data. The monitoring will be carried out in a consistent way and will be reported in a standardised format. All monitoring reports will be sent to Thames Valley Environmental Records Centre (TVERC).

TOE will provide the council with a written report by a competent ecologist who has personally surveyed the Habitat Site at a Relevant time.

Monitoring Methods and Intervals MS-T01

Habitat type	Monitoring Method	Monitoring Interval	Project year	Date of required record submission
All habitats	Baseline habitat and species survey. This will be carried out by an appropriately qualified ecologist and in line with Biodiversity Net Gain metric guidance on condition assessment.	Years 1, 2, 5, 10, 15, 20, 25, 30 (after the completion of habitat creation works)	Years 1, 2, 5, 10, 15, 20, 25, 30 (after the completion of habitat creation works)	The habitats will be surveyed during the relevant season and a report will be provided promptly, considering the time required to produce these detailed documents. This will be no later than the 1st of December of each year that the habitat is monitored.

Monitoring Reports

Following completion of habitat creation and initial enhancement works, prepare for your monitoring report for the Local Planning Authority or Responsible Body. You should monitor each habitat type comprising the BNG project. Provide sufficient detail for the reviewing authority to assess the progress. The 'Monitoring Report Template' can help you do this. The requirements and regularity with which the monitoring reports are required are at the discretion of the LPA or Responsible Body. Prepare the monitoring requirements below.

Monitoring Report Schedule MS-T02

Provide details of the person or organisation that will be responsible for submitting the monitoring reports. Also state the responsible organisation for receiving and reviewing the reports.

Organisation Responsible for Submitting the Monitoring Reports	Organisation Receiving and Responsible for Reviewing Reports
The Trust for Oxfordshire's Environment / family	Cherwell

Provide details of when the monitoring surveys and reports will be undertaken and submitted. You can extend the table and adjust according to your required schedule.

Project Year	Month Report to be Submitted	Month Management Plan to be reviewed	Comments
Y1	December	November	
Y3	December	November	
Y5	December	November	
Y10	December	November	
Y15	December	November	
Y20	December	November	
Y25	December	November	
Y30	December	November	

Adaptive Management

Summary of Adaptive Management Approaches (MS-B02)

Adaptive management is a systematic approach to natural resource management that involves monitoring and evaluating the effectiveness of management actions then adjusting as necessary to improve outcomes over time. It is an iterative process in which management actions are followed by targeted monitoring outcomes. These, in turn, inform the ongoing management.

Monitoring results inform necessary management changes to promote achieving BNG targets stated in the statutory biodiversity metric and HMMP. The monitoring can pick up any unexpected, external influences. Some examples are dealing with a new plant disease, an invasive species that is thriving due to climate change, or changes to site access due to site flooding.

Observations and notes from day-to-day management are important for delivering adaptive management. Consider how this information will be captured and fed into changes in management prescriptions, then through to subsequent monitoring reports.

Regular robust monitoring, and reporting to the responsible authority, should identify issues early on. Then you can make conscious decisions to implement effective actions. If the BNG objectives are affected by external factors, it is important to agree decisions on changes to the management prescriptions and targets with the responsible authority. Following the review, record any changes in this management plan and schedule.

5. Appendices

Appendix 1 – Baseline ecological survey

BSG | ecology

Worton Park | Worton | Oxfordshire | OX29 4SX
T: 01865 883833 | W: www.bsg-ecology.com | E: info@bsg-ecology.com

Our ref: P23-643 Ells Farm Habitat Survey Notes
Your ref:

27 October 2023

Karen Lindley
Head of Biodiversity Net Gain
Trust for Oxfordshire's Environment
The Old Counting House,
82e High Street,
Wallingford,
OX10 0BS

By email only

Dear Karen

Re: Baseline Habitat Survey for Ells Farm

This letter sets out the results of our baseline habitat survey at Ells Farm, including condition assessments based on Natural England guidance, and a baseline biodiversity net gain calculation using the Natural England/Defra Biodiversity Metric 4.0. It also makes suggestions for habitat enhancements at the Site.

Survey extent and method

BSG Ecology carried out a habitat survey at Ells Farm on 02 August 2023, which involved mapping habitats at the Site, based on the habitat categories in the Biodiversity Metric 4.0 (and associated habitat descriptions in the UK Habitat Classification[1] and JNCC Priority Habitat Descriptions[2] documents). The extent of the 'Site' that was surveyed is shown on Figure 1. Habitat condition was assessed based on Natural England guidance[3], and the baseline biodiversity net gain calculation was carried out using the Natural England/Defra Biodiversity Metric 4.0[4].

The survey was carried out by Dr Tom Flynn MSc CEcol MCIEEM, Principal Ecologist at BSG Ecology, assisted by Susie Topple, Ecologist at BSG Ecology. Tom is an experienced botanical and habitat surveyor and has a BSBI FISC level 5. The survey was carried out under warm conditions with light rain at times, at a suitable time of year. Wet fen and dense thistles north of the pond in the north-east corner of the site were not fully accessible, so a precautionary approach to habitat mapping was adopted here (see below). There were no other significant survey constraints.

Site description and habitats

The Site comprises four grassland fields, dominated by modified grassland and separated by hedgerows. Its northern boundary is formed by a stream, the Sor Brook, which is excluded from this

[1] UK Habs (2023)
[2] BRIG (2011)
[3] Natural England (2023)
[4] Natural England (2023)

Appendix 2 – Species lists

Table 6 Example Species mix for species-rich other neutral grasslands: Emorsgate Clattinger Meadows Mixture EM31 (or other similar approved mixes).

	Scientific name	Common name	% mix
Forbs species	Centaurea nigra	Common knapweed	0.8
	Leontodon hispidus	Rough hawkbit	0.8
	Lecanthemum vulgare	Oxeye daisy	2.3
	Lotus corniculatus	Bird's-foot trefoil	0.8
	Medicago lupulina	Black Medick	0.8
	Plantage lanceolata	Ribwort's plantain	7.8
	Ranunculus acris	Meadow buttercup	3.3
	Rhinanthus minor	Yellow rattle	19.2
	Rumex acetosa	Common sorrel	0.8
	Sanguisorba officinalis	Great burnet	0.8
	Scorzoneroides autumnalis	Autumn hawkbit	3.1
	Succisa pratensis	Davil's-bit scabious	0.8
	Trifolium pratense	Wild red clover	2.3
Grass species	Agrostis castellana	Common bent	4.7
	Athoxanthum odoratum	Sweet vernal grass	0.8
	Briza media	Quaking grass	4.7
	Bromopsis erecta	Upright brome	3.9
	Cynosurus cristatus	Crested dog's tail	14.5
	Dactylis glomerate	Cock's foot	7.8
	Festuca rubra	Red fescue	18.4

Species list for woodland and hedgerow trees

	Scientific name	Common name
Individual trees for hedgerow	Acer campestre	Field maple
	Quercus robur	Pendunculate (English) oak
	Carpinus Betula	Hornbeam
	Tilia cordata	Small-leaved lime
	Prunus avium	Wild cherry
	Alnus glutinosa	Common alder
Individual trees for wetter areas (e.g., parcel G1/G3)	Alnus glutinosa	Common alder
	Populus nigra	Black poplar
	Salix alba	White willow
	Salix fragilis	Crack willow
Individual trees for drier areas	Prunus avium	Wild cherry
	Sorbus aucuparia	Rowan
	Betula pendula	Silver birch
	Acer campestre	Field maple

Species list for hedgerow planting

Scientific name	Common name
Crataegus monogyna	Hawthorn
Acer campestre	Field maple
Cornus sanguinea	Dogwood
Corylus avellana	Hazel
Prunus spinosa	Blackthorn
Malus slyvestris	Crab apple
Viburnum opulus	Guelder rose
Prunus avium	Wild cherry
Rhamnus cathartica	Buckthorn
Lonicera periclymenum	Honeysuckle
Rosa canina	Dogrose
Ligustrum vulgare	Wild privet
Ilex aquifolium	Holly
Ulmus minor	Field elm

Species list for scrub planting

Scientific name	Common name
Crataegus monogyna	**Hawthorn**
Acer campestre	**Field maple**
Cornus sanguinea	**Dogwood**
Corylus avellana	**Hazel**
Viburnum opulus	**Wayfaring tree**
Prunus spinosa	**Blackthorn**
Malus slyvestris	**Crab apple**
Viburnum opulus	**Guelder rose**
Prunus avium	**Wild cherry**
Rhamnus cathartica	**Buckthorn**
Lonicera periclymenum	**Honeysuckle**
Salix caprea	**Goat willow**
Ilex aquifolium	**Holly**
Ulmus minor	**Field elm**
Lugustrum vulgare	**Wild privet**

Wet woodland planting species list

	Scientific name	Common name
Canopy cover	*Alnus glutinosa*	Common Alder
	Salix alba	White willow
	Salix fragilis	Crack Willow
	Quercus robur	Oak
	Populus nigra spp. Betulifolia	Black Poplar (rare <10%)
	Salix alba	White willow
Understory		
	Salic cinerea	Grey willow
	Sambucus nigra	Elder
	Salix viminalis	Osier willow
	Crataegus monogyna	Hawthorn
	Salix caprea	Goat willow
	Ilex aquifolium	Holly (rare <5%)

Species list for woodland ground flora: Emorsgate Seeds **EW1 Woodland Mixture** EW1 Woodland Mixture - Emorsgate Seeds (wildseed.co.uk) or other similar approved mixes.

	Scientific name	Common name	% mix
Forbs species	Allium ursinum	Ramsons	1
	Alliaria petiolate	Garlic mustard	2
	Angelica sylvestris	Wild angelica	0.5
	Anthriscus maculatum	Lords-and-ladies	0.2
	Digitalis purpurea	Foxglove	4
	Eupatorium cannabium	Hemp-agrimony	0.1
	Filipendula ulmaria	Meadowsweet	0.8
	Galium album	Hedge bedstraw	1.5
	Geum urbanum	Wood avens	2.1
	Hyacinthoides non-scripta	Bluebell	1.6
	Primula vulgaris	Primrose	0.1
	Prunella vulgaris	Selfheal	1
	Ranunculus acris	Meadow buttercup	0.4
	Selene dioica	Red campion	3
	Teucrium scorodonia	Wood sage	0.2
Grass species	Agrostis capillaris	Common bent	
	Anthoxanthum odoratum	Sweet vernal grass	1.6
	Brachypodium sylvaticum	False brome	0.8
	Cynosurus cristatus	Crested dogstail	48
	Deschampsia cepitosa	Tufted hair-grass	1.6
	Festuca rubra	Red fescue	19.2
	Poa nemoralis	Wood meadow-grass	6.4

Appendix 3 – Target soil nutrient levels

Information from Soil_Nutrient_Testing.pdf (magnificentmeadows.org.uk)

Phosphorus index

Index	Olsen's mg/l (dry soil)	Resin mg/l	Modified Morgan mg/l	Status	Interpretation
0	0-9	320 - 19	0.5 < 1.8	Very low	5-15mg/kg phosphorous is very suitable for the restoration or creation of wildflower grasslands.
1	10-15	20 - 30	1.8 - 4.4	Low	This range is perfect for restoration and creation of wildflower grasslands.
2	16-25	31 - 49	4.5 - 13	Moderate	Wildflowers may struggle to compete against grasses and plants that like higher levels of soil nutrients. In soils with phosphorous levels above 20mg/kg and the plants used should be considered in terms of their ability to cope in high nutrient environments.
3	26-45	50 - 85	14 - 30	High	Reducing the level of phosphorous is recommended if levels are over 25mg/kg. Methods to achieve this include growing a cereal crop (such as barley) with nitrogen added but no phosphorus if the land is arable. If the land is already under grass, take one or two years of grass cuts and then re-measure phosphorous. An early grass cut (June), followed by a second cut in August/September or several silage cuts in one year may also reduce the load. Take the cut grass away as leaving it on the ground will let it decompose and add nutrients back to the soil. Phosphorous may take a long time to reduce in heavy clay soils and more drastic methods such as removing the topsoil may be required. See soil nutrient stripping for more information.
4 - 9	46 ->290	86 - >132	>30	Very high	Values above 50mg/kg are probably too high to consider species rich grassland restoration without drastic measures such as topsoil stripping, deep ploughing or chemical amendment. See soil nutrient stripping for more information.

Potassium index

Index	Ammonium nitrate mg/l (dry soil)	Modified Morgan mg/l	Status	Interpretation
0	0-60	<40	Very low	This level of potassium is very low resulting in low herbage yields. Replacement of this essential nutrient may be required in future management.
1	61-120	40-75	Low	This range is perfect for restoration and creation of wildflower grasslands.
2-	121-180	76-200	Moderate	Wildflowers may struggle to compete with more competitive grasses and weeds in soils with higher potassium level.
2+	181-240			
3	241-400	201-400	High	As potassium is very soluble, the nutrient may be leached out of soils. However, in clay-based soils this may be difficult to achieve. Other restoration work to counteract the effects of high phosphorous and nitrogen may also lead to a decrease in potassium and soil tests should be undertaken to determine potassium levels.
4-8	401-3600	>400	Very High	