Staghill Wood

Ecological Estates ltd

Expert Management and Monitoring

Woodland Management Plan

Staghill Wood Newchurch

Report Reference:	Woodland Management Plan Staghill Wood Newchurch
Report Reference:	EER-4500-01
Written by:	Peter Brooks BSc (Hons), MA, MCIEEM, CEnv Director
Technical review:	Micah Duckworth BA (Hons) MSc MCIEEM CSJK Biodiversity Manager
QA review:	Rob Weston BSc MSc MCIEEM Director
Approved for issue:	Peter Brooks BSc (Hons), MA, MCIEEM, CEnv Director
Date:	11.12.19

The information which we have prepared and provided is true and has been prepared and provided in accordance with the CIEEM's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions. This report does not constitute legal advice.

Unit A, 1 Station Road, Guiseley, Leeds, LS20 8BX
Phone: **01943 884451**
01943 879129
www.brooks-ecological.co.uk
Registered in England Number 5351418

Introduction

This plan has been produced to show how loss of biodiversity from the adjacent Dark Lane development site can be mitigated by offsetting to retained habitats. It is drawn up to address the consultation responses of David Dutton at GMEU—Set out opposite.

Purpose of this Document

This document shows how biodiversity gains can be delivered at Staghills Wood within the cost profile identified by GMEU.

It assess the site's current baseline in terms of its flora, current biodiversity units, soils, topography and its current accessibility and use.

Measures are proposed that can bring the woodland into better condition to deliver the offset of 4 biodiversity units estimated by GMEU.

Lifespan of this document

This plan covers a five-year period. The principals set out in it can however be extended to help maximise the ecological potential of this woodland.

Ecological Estates is a Specialist Ecological Management Company which was established to help deign and deliver the wildlife enhancement or creation schemes needed to stem the loss of UK wildlife. All reports are produced by professional ecologists with many years experience of habitat design, implementation and management. We are able to deliver any part or all of this plan should it be required.

Adam Eastwood

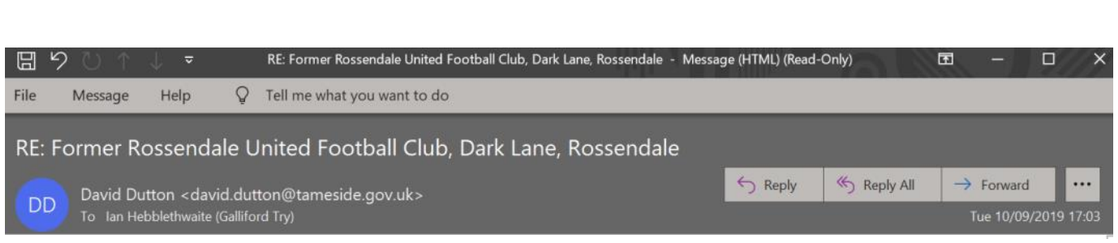
From: David Dutton <david.dutton@tameside.gov.uk>
Sent: 20 December 2016 10:34
To: Planning
Subject: Planning application 2016/0563 Former Rossendale United FC

Ecological Mitigation

Whislt the site is generally of low ecological value the scale of the development is such that without mitigation the development would lead to a negative impact on the Natural Environement, contrary to the guidance within the NPPF which states the planning system should contribute to and enhance the natural Environment. Currently no land is set aside for ecological mitigation though a number of trees are proposed across the site and a small play area is located centrally. Utilising the draft biodiversity offset guidance one would expect around 0.3 ha of high value ecological habitat to be provided for the loss of around 2.7ha of low value ecological habitat. This would approximately equate to a 10m buffer for Staghills Wood along the southern boundary.

I would however recommend in this instance that off-site compensation would be a better option via a section 106. The proximity of Staghills Wood to the site makes this an ideal opportunity to produce an ecological enhancement plan to the woodland, particularly if the woodland is owned by either the developer or Rossendale Council.

Prior to determination please request that the developer indicate how they will provide mitigation or compensation for the ecological impact of the development.



For this site of approximately 2.7ha around 2.2ha would be classed as low value habitats in poor condition, the remainder, hard standing and buildings being of negligible value, so this would give you 4.4 biodiversity units utilising the Defra draft version 1.

The financial value of those units would be need to be set locally to reflect local property values, if as the government has indicated the use of biodiversity offsetting becomes mandatory. The sort of levels I have seen discussed (or are already in use in few areas down south) range from around £8500 per unit to £14,000 per unit and in one case £22,000.

For this site where the proposed landscape scheme does include some open space and good use of native species within the landscaped areas, which whilst not designed for wildlife would t still providing some low value habitat, as a very rough estimate I would say 4 units of off-site compensation are required, so you would be looking at minimum £34,000 contribution towards the enhancement or creation of a wildlife site.

If Rossendale are not interested, I note that Lancs Wildlife Trust have commented on this application. I am not aware of any land holdings they have nearby, but they may be willing to enter in to discussions on behalf of Rossendale. I know they manage land for Bolton and Wigan.

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Baseline

Setting

The site forms part of a wider continuous belt of woodland on the south facing side of a Pennine valley. It is surrounded by built development with the Victorian settlement of Newchurch to the south and extensive mid 20th century housing development to the north.

0 100 200 300 400 m

Baseline

Vegetation

The site comprises entirely broad leaved woodland, the majority of which is single aged recent plantation woodland with very small areas of semi-natural woodland on the steepest banks. There is very little dead standing wood and very little fallen wood.

Natural regeneration is largely absent through a combination of shading and animal browsing.

Canopy:
Dominant
Beech (Fagus sylvatica)
Sub-dominant
Sycamore (Acer pseudoplatanus)
Rare
Birch (Betula sp.)
Elm (Ulmus sp.)
Alder (Alnus glutinosa)
Ash (Fraxinus excelsior

Understorey:
Rare
Hazel (corylus avellana)
Holly (Ilex aquifolium)
Hawthorn (Crataegus monogyna)
Beech sapling
Ash sapling

Field layer:
Largely absent
Occasional
Broad buckler fern (Dryopteris dilatata)
Bramble (Rubus fruticosus)
Tufted hair grass (Deschampsia cespitosa)
Cocksfoot (Dactylus glomerata)
Creeping soft grass (Holcus mollis)

Ground layer:
Largely absent
Small number of mosses mostly Isopterigium elegans

Standing Deadwood:
Largely absent

Fallen deadwood:
Largely absent

1 Crowded canopy Lack of understorey and field layer

2 Absent canopy stratification

Baseline

Topography

The site's valley side location is shown well in this lidar image. Closer resolution shows the 'wrinkled' topography produced by land slumping with steeper slopes at the top of the site, flatter and hollowed areas in the middle and steeper ground again close to the valley floor.

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Baseline

Soils and drainage

The density of canopy cover means that there is relatively little ground and field layer vegetation and bare ground and dense leaf litter predominate.

Areas of water pooling are present in the site in hollows formed by historic land-slides

Lack of ground covering vegetation makes the ground liable to flash run-off events with evidence of regular washing out of leaf litter and soil during heavy rainfall events.

Wash out reveals the soils to be clay/loam. The underlying geology is likely to make the soils neutral or tending to acidic.

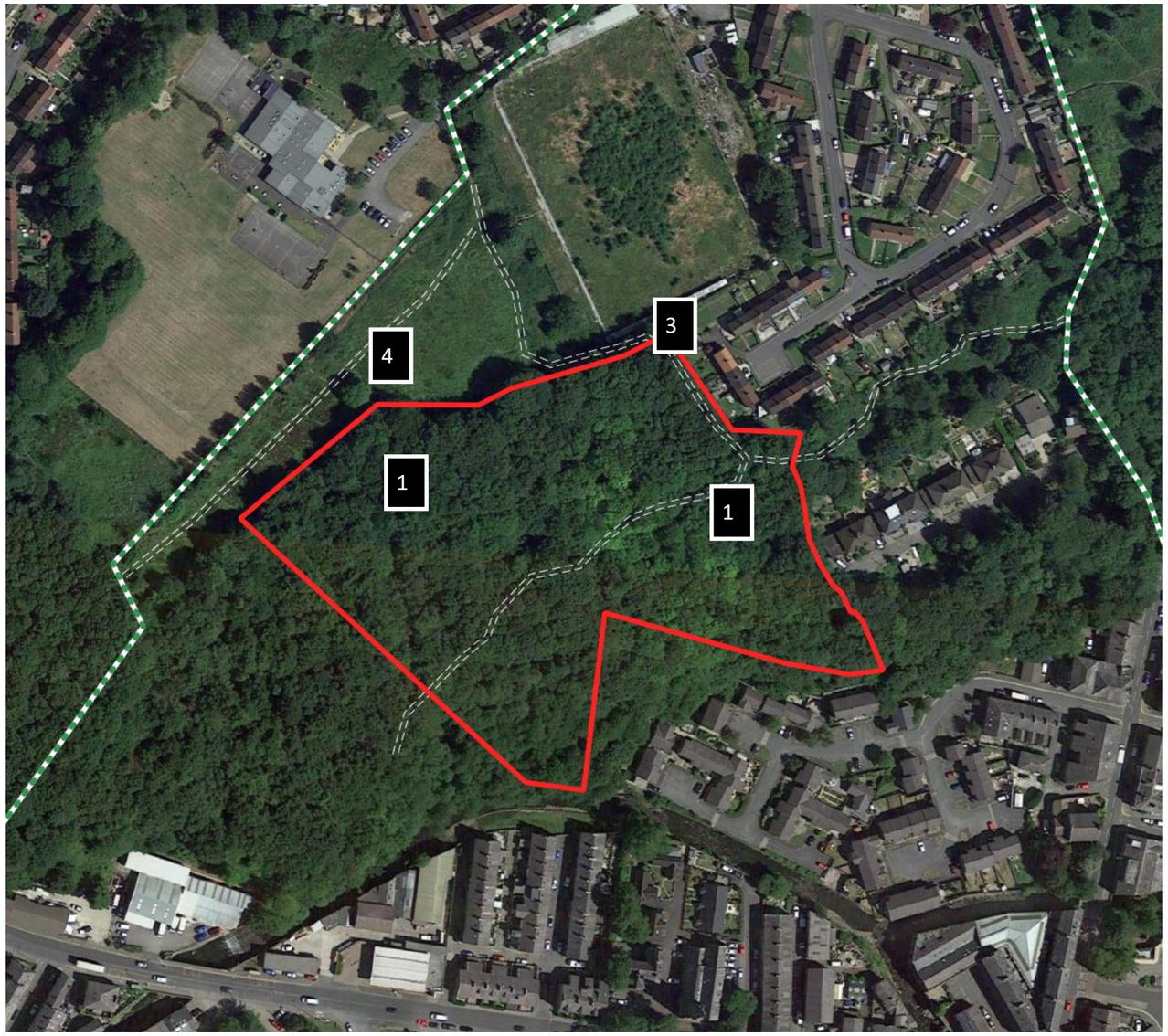
Baseline

Current use and Access

The site is open to the public and accessible through informal footpaths, some of which show evidence of being managed with edge boarding present though these are currently in disrepair.

The wood shows signs of use with camp fires and historic BMX tracks but it is evident that the wood is not heavily used.

1 Recent camping evidence



2 Informal footpath with edge boards

3 Access into site for informal path

4 Overgrown public footpath

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Habitat Classification

Using the UK Habitat Classification and DEFRA Metric 2.0 Beta

W7 Other Woodland Broad-leaved

Condition: ***Poor***

Habitat units 10.52

Staghill Wood

A-1 Site Habitat Baseline

Condense / Show Columns | Condense / Show Rows | Main Menu | Instructions

	Habitats and areas			Habitat distinctiveness	Habitat condition	Ecological connectivity	Strategic significance	Suggested action to address habitat losses	Ecological baseline
Ref	Broad Habitat	Habitat type	Area (hectares)	Distinctiveness	Condition	Ecological connectivity	Strategic significance		Total habitat units
1	Woodland and forest	Woodland and forest - Other woodland; broadleaved	2.288	Medium	Poor	High	Area/compensation not in local strategy/ no local strategy	Same broad habitat or a higher distinctiveness habitat required	10.52
2									
3									
4									
5									
6									
		Total site area ha	2.29					Total Site baseline	10.52

Condition Assessment

The woodlands current condition is assessed as poor on the following criteria:

- Non-native trees often single species of the same age dominant.
- A constant planting pattern is observed across the site
- Although not man made, drainage features are present that add to poor quality of habitat.

	Condition Assessment Criteria: Woodland broad habitat type	Meets criteria?
1	Complete canopy cover	**Yes**
2	Natives dominant. Non-native and invasive species less than 10%	**No***
3	A diverse age and height structure of the trees	**No**
4	Free from bark stripping; browsing; in the last five years, less than 20% of vegetation being browsed	**Yes**
5	Successful regeneration	**No**
6	Standing and fallen dead wood of over 20 cm diameter present including fallen large dead branches/stems and stumps	**No**
7	Wetland habitat if they exist within the wood has little sign of drainage or channel straightening.	**N/A**
8	Protected from damage by agricultural and other adjacent operations	**No**
9	No evidence of inappropriate management (e.g. deep ruts, animal poaching or compaction	**Yes**
10	Invasive non-native plants are below 5%	**Assessed at wrong time of year**
11	No signs of significant nutrient enrichment present	**Yes**
12	More than 3 different native trees and 3 shrub species in average 10m	**No**

* for the purposes of this exercise beech is not treated as native species as it is not indigenous to the Pennines and is harmful to natural woodlands in this region.

Target gains

Target Condition: ***moderate***

Delivers 4.13 additional biodiversity units.

Raising the condition score of this woodland to moderate addresses this comment:

> *"For this site where the proposed landscape scheme does include some open space and good use of native species within the landscaped, which whilst not designed for wildlife would t still providing some low value habitat, as a very rough estimate I would say 4 units of off-site compensation are required".*

The following pages set out how the woodland condition can be raised to Moderate.

On-site baseline	*Habitat units*	10.52
	Hedgerow units	0.00
	River units	0.00
On-site post-intervention (Including habitat retention, creation, enhancement & succession)	*Habitat units*	14.66
	Hedgerow units	0.00
	River units	0.00
Off-site baseline	*Habitat units*	0.00
	Hedgerow units	0.00
	River units	0.00
Off-site post-intervention (Including habitat retention, creation, enhancement & succession)	*Habitat units*	0.00
	Hedgerow units	0.00
	River units	0.00
Total net unit change (including all on-site & off-site habitat retention/creation)	*Habitat units*	4.13
	Hedgerow units	0.00
	River units	0.00
Total net % change (including all on-site & off-site habitat creation + retained habitats)	*Habitat units*	39.26%
	Hedgerow units	0.00%
	River units	0.00%

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Target Condition

The woodlands proposed long term target condition is good:

	Target Condition Assessment Criteria: Woodland broad habitat type	Meets criteria?
1	Complete canopy cover	**No**
2	Natives dominant. Non-native and invasive species less than 10%	**Yes**
3	A diverse age and height structure of the trees	**Yes**
4	Free from bark stripping; browsing; in the last five years, less than 20% of vegetation being browsed	**Yes**
5	Successful regeneration	**Yes**
6	Standing and fallen dead wood of over 20 cm diameter present including fallen large dead branches/stems and stumps	**Yes**
7	Wetland habitat if they exist within the wood has little sign of drainage or channel straightening.	**N/A**
8	Protected from damage by agricultural and other adjacent operations	**Yes**
9	No evidence of inappropriate management (e.g. deep ruts, animal poaching or compaction	**Yes**
10	Invasive non-native plants are below 5%	**Yes**
11	No signs of significant nutrient enrichment present	**Yes**
12	More than 3 different native trees and 3 shrub species in average 10m	**Yes**

However, this will take at least 20 years to reach this point and for the purposes of the biodiversity metric its short term (five year) target is moderate.

Proposed Enhancement themes

This woodland present many opportunities to increase its biodiversity value. The most obvious need of the woodland is to open up the canopy through selected felling to allow light to penetrate to the woodland floor. This will also allow for the development of a stratified canopy with enhanced ground, field and understory layers. It will also allow for the recruitment of new canopy trees to replace the original cohort of planted trees in years to come.

The timber that can be removed in the thinning exercise can be used to increase biodiversity and used to provide an ecosystem service of upper catchment runoff interception.

Log dams can slow runoff during rainfall events

Log piles make great wildlife habitats

Open canopies increase diversity and prevent runoff

Plant berry yielding trees for birds

Native climbers can be planted for moths

New habitats for wood eating invertebrates

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Modifying Species Composition

Staghill Wood lacks diversity in species composition. Measures in place to modify the woodland structure present the opportunity to introduce new species. There should be an emphasis on replacing the not locally native canopy species (beech) with a more natural locally provident composition; targeted removal of some beech, and sycamore, being replaced with oaks, willows, hazel, cherries, elm and alder.

Planting will avoid traditional planting densities and patterns (not grid planted) and will be ecologically driven with a 40% understorey to 60% canopy mixes.

There is scope to speed up the colonisation of wooded areas by native woodland field and ground flora.

Woodland plants that develop from broadcast seeds and will be sown are:

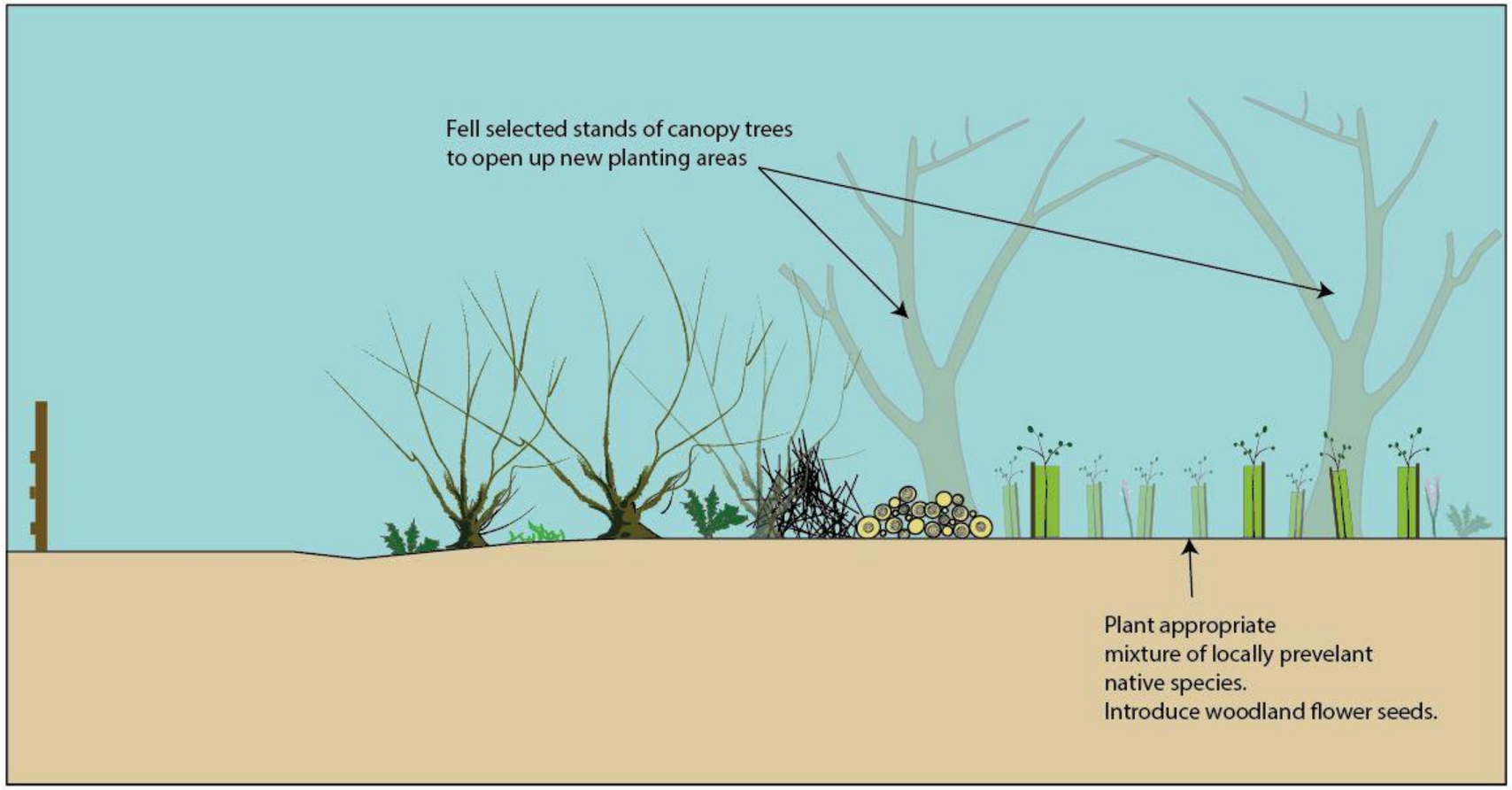
Foxglove - *Digitalis purpurea* 5gms

Red campion - *Silene dioica* 10gms

Wood avens - *Geum urbanum* 10gm

Bluebell - *Hyacinthodes non-scriptus* 50gms

These will be raked into existing leaf litter under the direction of the Ecologist/ECoW

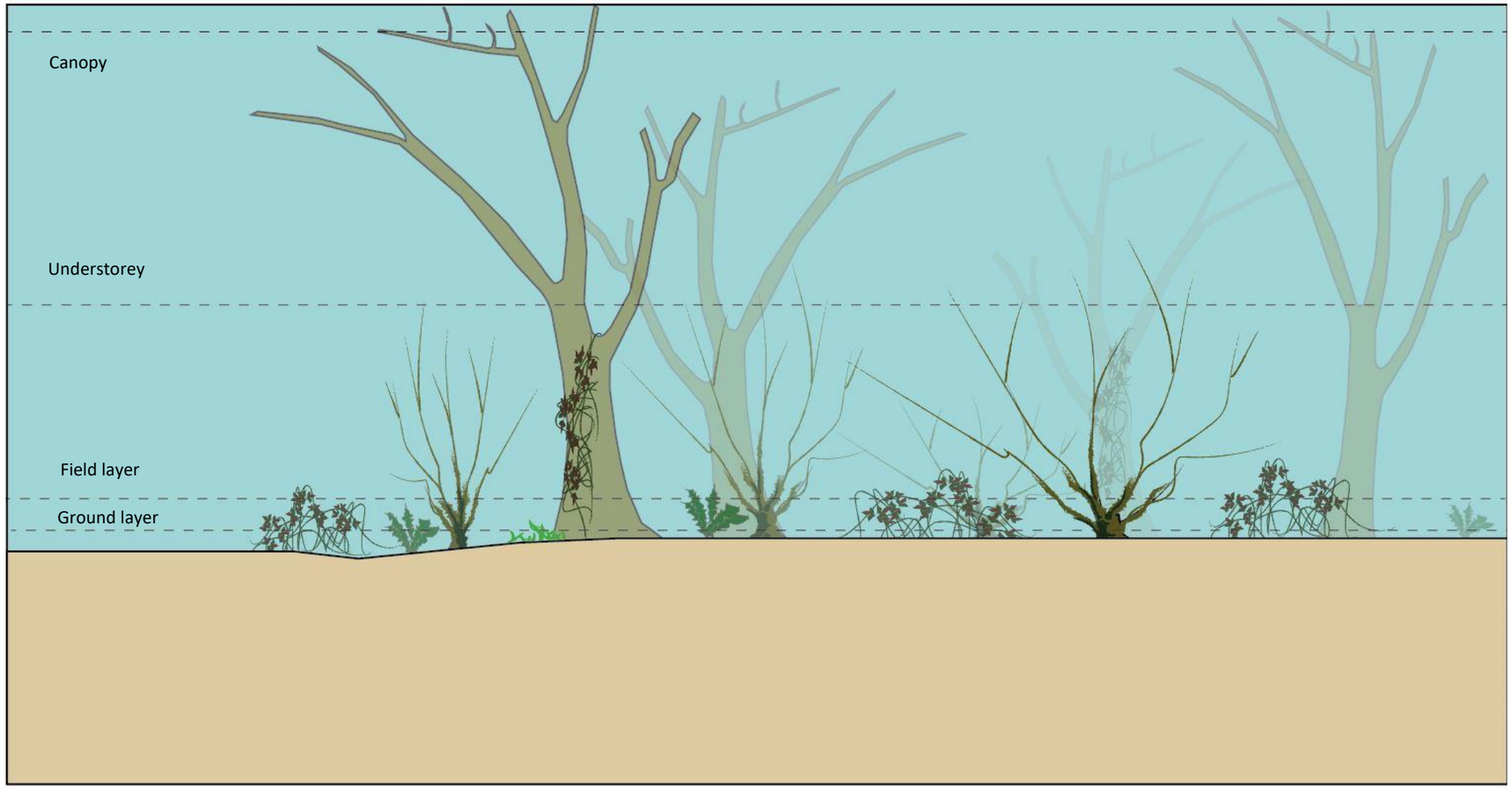


General principals

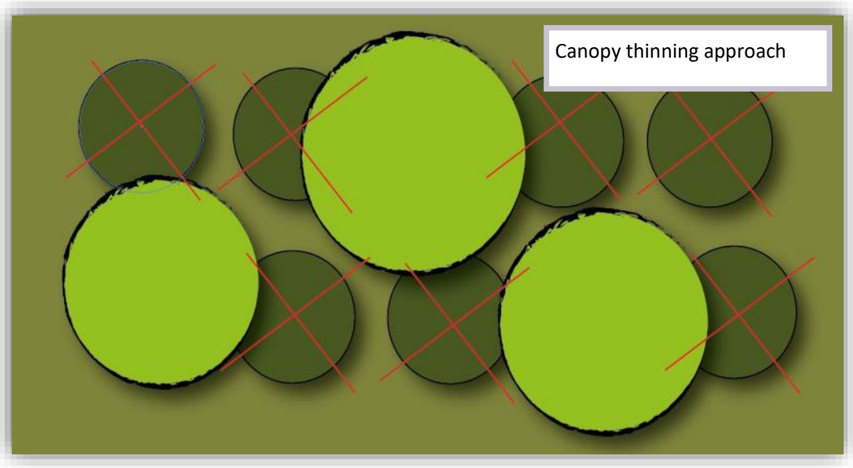
Diversifying Woodland Structure

The woodland is uniform aged plantation with a simple structure dominated by canopy species. The overall aim of management of the woodland should be to produce a better canopy structure so that it is 'stratified' according to the idealised picture below.

There should be a clear understory of low growing species like hazel, elder and thorns; a naturally regenerating supply of young canopy species and a climbing plant component. There should be a healthy and diverse field layer of woodland 'herbs' and grasses with a ground layer of low growing plants like mosses and creeping herbs.



General principals



Dead wood habitat

Rationale

Standing and fallen deadwood is needed to increase fungal and invertebrate diversity and attract woodland predators.

Objectives

1. 15 trees left as ring barked standing dead wood with crown removed for safety.
2. All felled wood from thinning is retained on site.
3. Zero carbon emissions from taking wood off site to burn.
4. At least 10 species of wood rotting fungi found on site by year 10.

Specification

All felled timber from site to be retained on site and stacked in log piles and brash windrowed . Secure round wood piles with wire.

15 trees left as ring barked standing dead wood with crown removed for safety.

Management

Non-intervention

Monitoring

Ecological Clerk of Works year 2 and 5 monitoring visit to check wood is still on site and assess fungi baseline to objective 3

<u>Output</u>

ECoW report year 3 and 5.

<u>Remedial actions</u>

Fell and leave any standing dead wood that looks likely to fall due to decay

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Canopy thinning

Rationale

To carry out selective thinning of the woodland favouring the retention of canopy trees and giving them space to develop.

Objectives

1. Reduce crowding of trees to be no closer together than 4m
2. Create 2 coups of at least 15m by 15m.
3. Beech thinned by 40%

Specification

- Fell weakest trees around selected canopy trees as insert below
- Leave dead and decaying branches in situ if deemed safe to do so.
- Windrow brash. This can be used to create deer deterring walls around planting coups
- Create a variety of log piles and randomly fallen trees

Management

<u>Year 1</u>

Thin 30% of area illustrated to this specification above

<u>Year 3 and 5</u>

Thin 30% of area illustrated to this specification above in each period

Monitoring

Year 2: Ecologist survey to assess effects of felling.

<u>Output</u>
ECoW report

Native Tree and Woodland Planting

Rationale

The woodland will be specified and planted in a way that maximises structural diversity and helps speed its development from poor through moderate to good condition.

Objectives

1. Discernible understorey visible by year 5.
2. Diversity of thriving trees increases.

Specification

- Plant with locally sourced trees and shrubs from the schedule
- In woodland block areas plant in non-grid, naturalistic patterns.
- Plant with UK provenance trees and shrubs
- Set out in liaison with Ecologist/ECoW .
- Plant in staked tree shelters (deer gauge).

Management

Year 1-2

Standard landscape establishment maintenance

In perpetuity

Litter pick as needed.

Remedial actions

Localised weed control or replanting of failed material under the instructions of the ECoW

Scientific	English	%	Stock	Groupings	Centres and style
Quercus petrea	Pedunculate oak	10	1+1 BR	groups 5-9	2m to 4m naturalistic
Sorbus aucuparia	Rowan	5	1+1 BR	groups 5-9	2m to 4m naturalistic
Prunus padus	Bird Cherry	5	1+1 BR	groups 5-9	2m to 4m naturalistic
Corylus avelanna	Hazel	30	1+1 BR	groups 7-13	2m to 4m naturalistic
Prunus spinosa	Blackthorn	5	1+1 BR	groups 3-5	2m to 4m naturalistic
Ilex aquifolium	Holly	3	1ltr Pot	Scattered individuals	Scattered individuals
Crataegus monogyna	Hawthorn	10	1+1 BR	groups 3-5	2m to 4m naturalistic
Malus sylvestris	Crab apple	5	1+1 BR	groups 3-5	2m to 4m naturalistic
Alnus glutinosa	Alder	5	1+1 BR	groups 3-5	2m to 4m naturalistic
Salix caprea	Sallow	7	1+1 BR	groups 3-5	2m to 4m naturalistic
Betula penula	Silver birch	10	1+1 BR	groups 5-8	2m to 4m naturalistic

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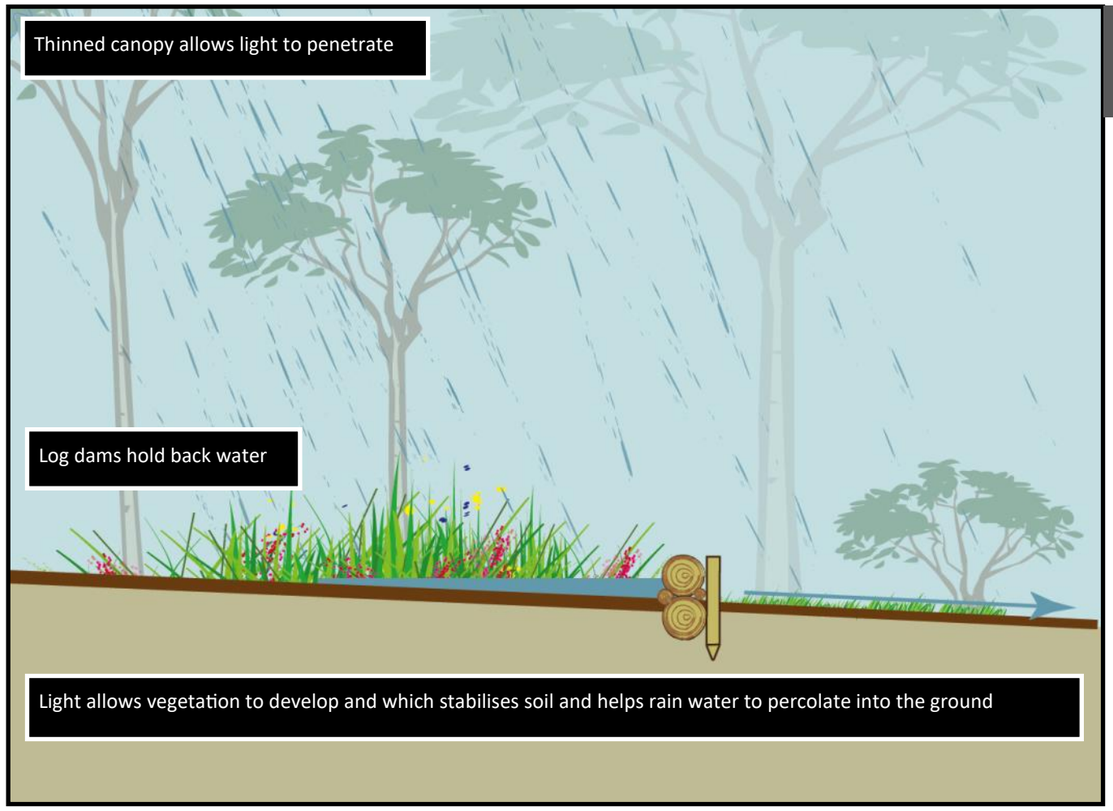
Ecosystem service

Runoff interception

Intercepting upper catchment runoff is in increasingly important consideration of land management proposals. This plan presents an opportunity albeit at a small and local scale to contribute to this process, while increasing biodiversity.

Before

After



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Works Schedule

Task	2020-21	2021-22	2022-23	2023-24	2024-25
Appoint suitable contractor and Ecologist or specialist Ecological Management Company					
Set out/agree trees to be felled, publicise why works are being done	6 months prior to work				
Forestry works canopy thinning etc.	October-February				
Planting and seeding	Concurrent				
Weed control		During growing season	During growing season	During growing season	During growing season
Monitoring, replanting		During dormant season	During dormant season	During dormant season	During dormant season
Maintain rain interception dams		As needed	As needed	As needed	As needed