



TEP
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Project Name:	
Location:	
Document Title:	
Client:	
Year of Surveys:	
Report Prepared:	
Prepared by:	
Office:	
Document Ref:	

Version	Date	Description of Issue	Author	Checked	Approved

Site Details

Proposals

Designated wildlife sites

-
-
-
-
-
-
-
-
-

Important Ecological Features present within or adjacent to the site

-
-
-
-
-

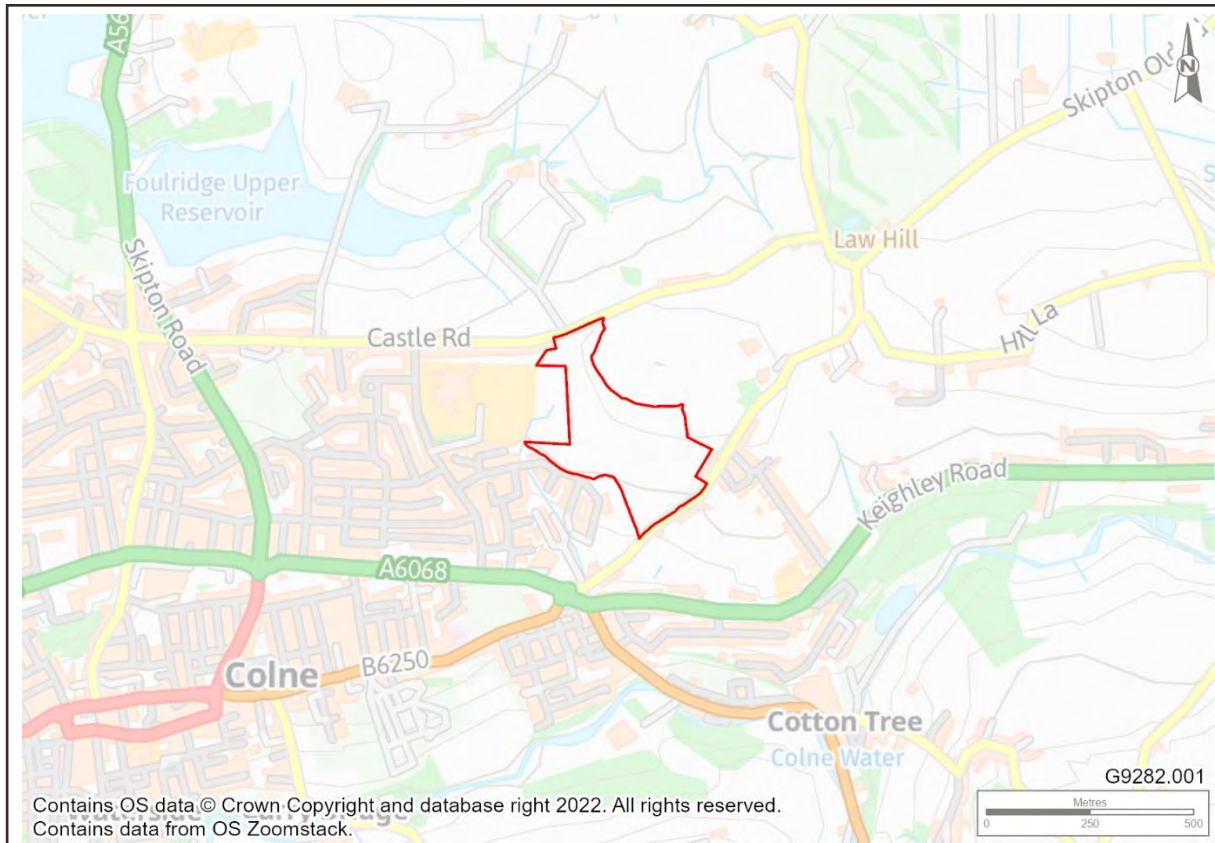
Recommendations

-
-
-
-
-
-



Conclusions

Site Location



Proposals



Planning Context



Scope

-
-
-
-
-
-
-
-
-
-

Desk Study





Habitats and Flora



Fauna

Species / Group	Scope
Amphibians	
Bats	
Breeding birds	
Wintering Birds Habitat Assessment (	

Species / Group	Reason for scoping out
Otter and water vole	

Ecological Assessment Process

-
-
-
-
-
-
-



Assumptions

Planning Context

-
-

Designated Sites

Name of Designation	Type of Designation	Location of Designation in Relation to the Site	Reason for Designation

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Name Designation	of Type of Designation	Location Designation in Relation to the Site	of Reason for Designation

Name Designation	of Type of Designation	Location Designation in Relation to the Site	of Reason for Designation

--	--	--	--

Name of Designation	Type of Designation	Location of Designation in Relation to the Site	Reason for Designation

Habitats and Flora



JNCC Phase 1 Habitat Type (Corresponding UK Habitat type)	Total Area (ha) Or length for linear habitat (km)	Condition Assessment



THE
ENVIRONMENT
PARTNERSHIP

Fauna



THE
ENVIRONMENT
PARTNERSHIP







Wildlife Sites

Habitats and Flora

Fauna



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ENVIRONMENT
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Wildlife Sites

Habitats and Flora

Fauna



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- Site Boundary
- Existing Vegetation to be Retained
- Existing Seasonally Wet Ditch
- Existing Semi-improved Neutral Grassland to be enhanced with an appropriate Wildflower Mix
- Existing Marshy Grassland to be enhanced with appropriate Tussock and Wildflower Mix
- Existing Gaps within Hedgerows to be filled with native species of localprovidence to increase species diversity and provide ecological benefits
- Proposed Trees
- Proposed Native Structural Planting
- Proposed Swale/Detention Areas
- Proposed Pond
- Proposed Wetland and Marginal Planting
- Proposed Mown Path
- Proposed Footpath
- Pedestrian Access
- Vehicular Access
- Proposed Local Equipped Area for Play (LEAP)
- Proposed Dwellings
- Proposed Amenity Grass to Residential Areas, Shrub and Front Garden hedges where appropriate
- Former Pumping Station to be converted into a Community Cafe
- Proposed Road Layout
For surfacing refer to Architectural and Drainage Information
- Recent Development
- Conservation Area Boundary

client

Accrue Capital

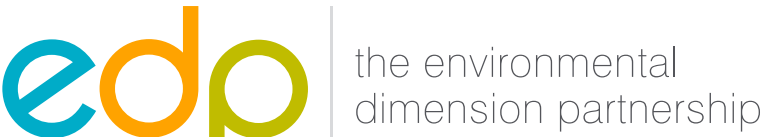
project title

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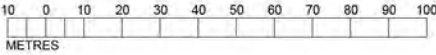
drawing title

Landscape Strategy

date	21 SEPTEMBER 2022	drawn by	GYo
drawing number	edp7440_d008d	checked	DRo
scale	1:1,500 @ A2	QA	JFr



Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk



TOTAL SITE AREA = 9.527 HA - 150 UNITS = 15.74/HA

DEVELOPED AREA (5.0HA) DENSITY = 30.00/HA
AREA OF LAND UNDEVELOPED / LANDSCAPED = 4.527HA = 47.5%
PLUS COMMUNITY CAFE / SUDS FEATURES (PONDS) / LEAP /
FOOTPATHS

- TARMAC ROAD AND PAVEMENT WITH UPSTAND KERBS AND DROPPED KERBS AT CROSSINGS
- 2 STOREY DWELLINGS
- BLOCK PAVED SURFACES LOW KERB DEFINITION IN BLOCK / GUTTER
- 2.5/3 STOREY DWELLINGS
- BLOCK PAVED FULLY SHARED SURFACES
- PRIVATE DRIVES
- GRANITE SETS AS VEHICLE MOVEMENT CONTROL
- SUDS FEATURES (HATCHED) POND (BLUE SHADE)
- CONSERVATION AREA
- LOCALLY EQUIPPED AREA FOR CHILDREN'S PLAY BUFFER ZONES - >10M TO NEAREST DWELLING >20M TO FACADE OF NEAREST HABITABLE ROOM
- PROPOSED TREES & SHRUBS
- EXISTING TREES & SHRUBS
- PEDESTRIAN ROUTES



- 150 NEW DWELLINGS
- 3 X 2B4P APARTMENTS OVER GARAGES
45 X 2B4P HOUSES
67 X 3B5P HOUSES
16 X 3B6P HOUSES
13 X 4B6P HOUSES
6 X 4B7P HOUSES
1 X 4B8P HOUSES

ALL TO FULL NATIONAL DEVELOPMENT SPACE STANDARDS

PROPOSED COMMUNITY CAFE FROM
RENOVATED AND EXTENDED DISUSED PUMP HOUSE

Rev.	Date	Details	Drawn	Checked
Issued for: PLANNING				
Project/Client:			Project No:	
PENDLE SITE - COLNE			2029	
ACCURER CAPITAL			Dwg No:	Rev:
			2001	
			Scale:	
			1/1000 @A1	
Drawing:			North:	
PROPOSED MASTERPLAN				
SITE LAYOUT			Drawn By:	Date:
TECHNICAL			CPL	10.09.22
			Checked By:	Date:
			CPL	10.09.22

CPL ARCHITECTURE

CHRIS LITTLEMORE BA(Hons) BArch MSc RIBA
CHARTERED ARCHITECT

Target Notes Report

Land East of Windermere Avenue

KEY - D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note 1



Target Note 2



Target Note 3



Target Note 4



Target Note 5



Target Note 6



Target Note 7



Target Note 8



Target Note 9



Target Note 10



Target Note 11



Target Note 12

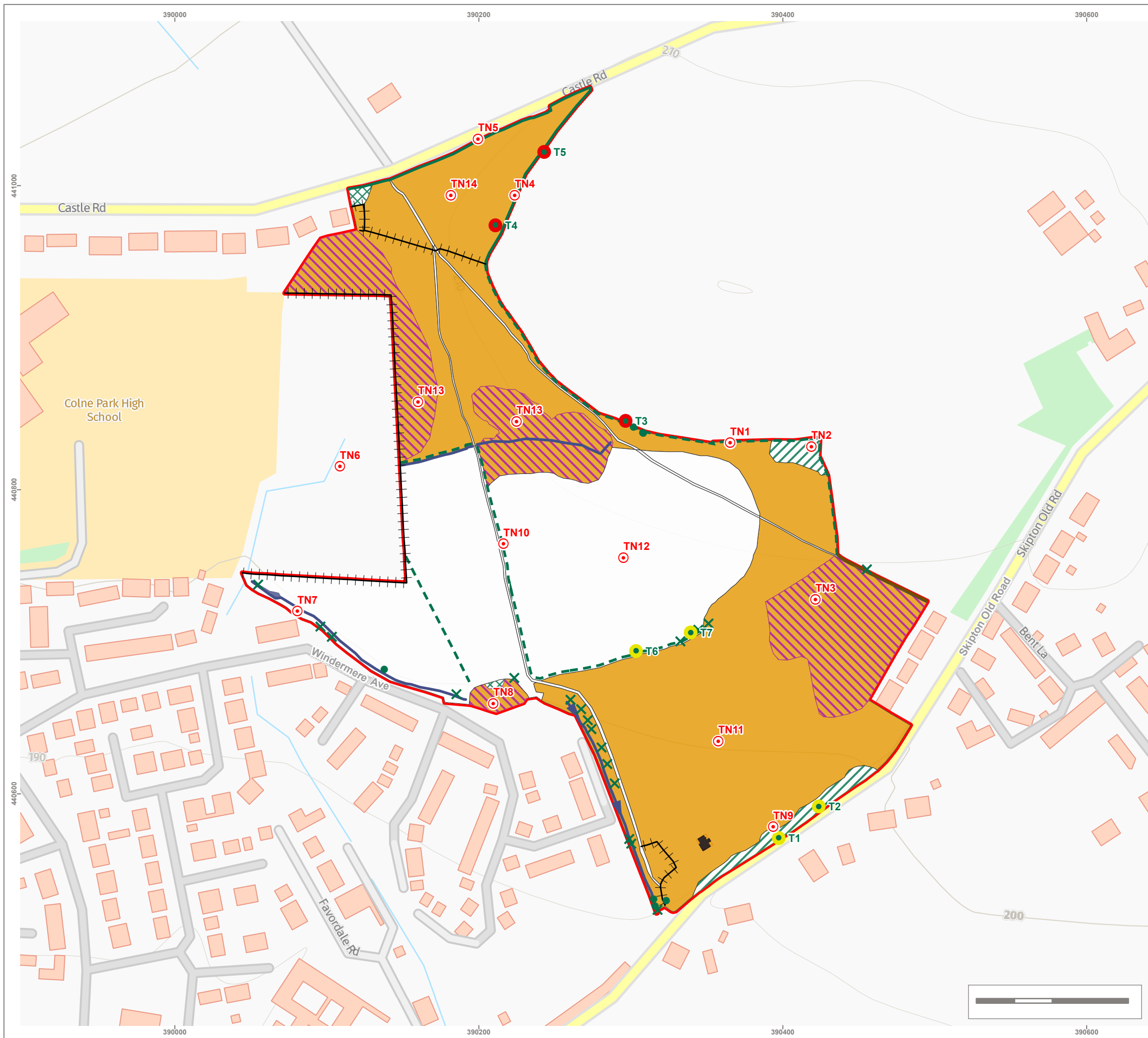


Target Note 13



Target Note 14

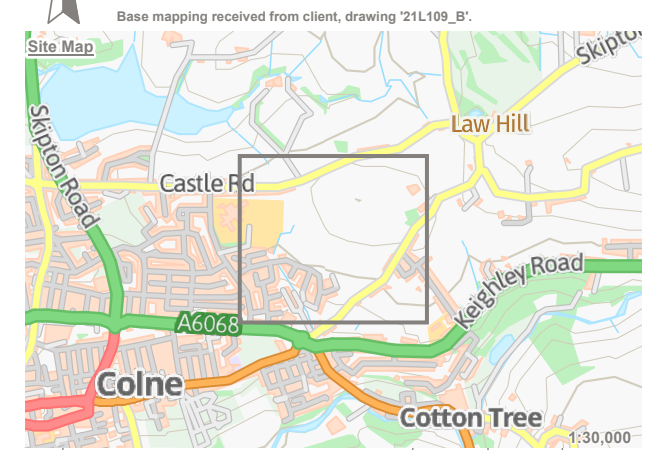




KEY



Note:



TEP | THE ENVIRONMENT PARTNERSHIP

HEAD OFFICE

MARKET
HARBOROUGH

GATESHEAD

LONDON

CORNWALL

The Biodiversity Metric 3.1

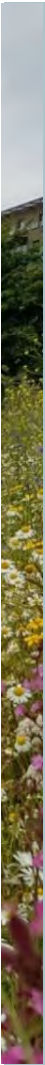
auditing and accounting for biodiversity

Calculation Tool

Open Tool

ISBN: 978-1-78354-953-5





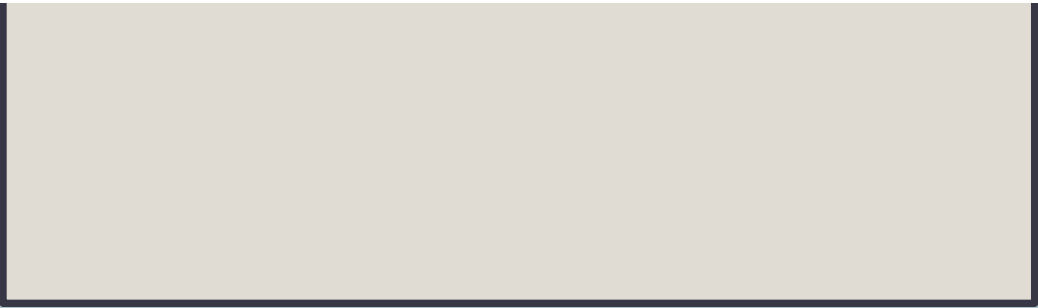
The Biodiversity Metrics Start

Project details	
Planning authority:	Per
Project name:	Land East c
Applicant:	
Application type:	Outli
Planning application reference:	
Assessor:	
Reviewer:	
Metric version:	9282.00
Assessment date:	
Planning authority reviewer:	

Cell style conventions	

On-site baseline map

Insert



Off-site baseline map

A large, empty rectangular box with a light beige background and a dark blue border, intended for an off-site baseline map.

Insert

Metric 3.1 - Calculation Tool

page

ndle Borough Council
of Windermere Avenue, Colne
Accrue Capital
ne Planning Appliction
tbc
Val Gateley
Anne Pritchard
01 Version 1.0 - Metric 3.1
05/10/2022
GMEU

Enter data
Automatic lookup
Result

Instructions

Main menu

Results

View all

Reset view

On-site post intervention map

Insert

Off-site post intervention map

Insert





The Biodiversity Metric 3.1 Instruction

Double click the front page

Start page

Main menu

Natural England Joint Publication JP039

Biodiversity M

Auditing and accounting

Calculation Tool: S

First published 21st April 2022

- Calculation Tool

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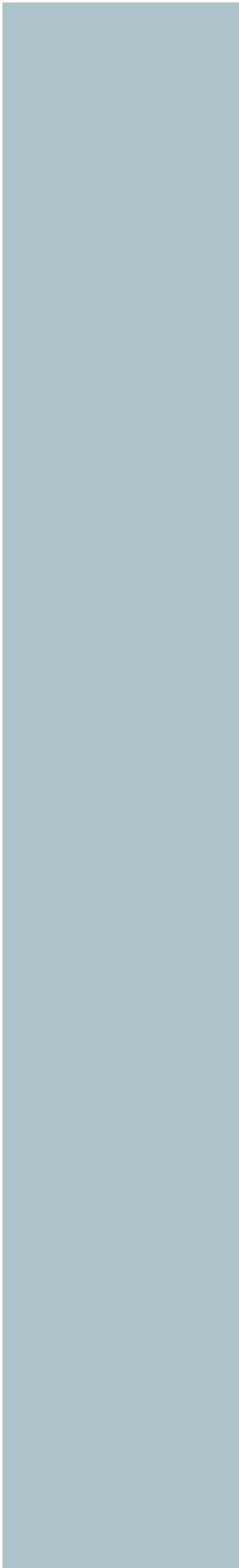
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etric 3.1

for biodiversity

Short Guide





Key

Area habitats



Hedgerows and
lines of trees



Rivers and streams

Start here

1



2

On-site baseline

A-1 On-site
habitat
baseline



B-1
On-site hedge
baseline



C-1
On-site river
baseline



On-site post development

A-2 Habitat
creation



B-2 Hedgerow
creation



C-2 River creation



A-3 Habitat
enhancement



B-3 Hedgerow
enhancement



C-3 River
enhancement



The Biodiversity Me Me

Start page

Instruction



etric 3.1 - Calculation Tool

ain menu

ons

Technical data

Results

Urban
Tree size
Small
Medium
Large
Total



3



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nt

ow
nt

nt

Off-site baseline

D-1
Off-site
habitat baseline


E-1
Off-site hedge
baseline


F-1
Off-site river
baseline


Off-site

D-2 Off-site habi
creation


E-2 Off-site hedge
creation


F-2 Off-site river
creation




tree helper

Number of trees and area (ha) for each condition state

Poor	Area	Moderate	Area	Good	Area
	0.0000	151	0.6145		0.0000
	0.0000	50	1.8312		0.0000
	0.0000		0.0000		0.0000
0	0.0000	201	2.4457	0	0.0000

4

post development

D-3 Off-site habitat
enhancement



E-3 Off-site hedge
enhancement



F-3 Off-site river
enhancement





The Biodiversity Metric 3.1 - Calculation Results

[Return to start page](#)

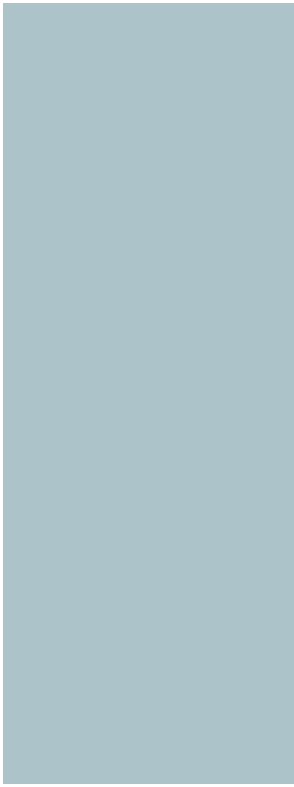
[Headline results](#)

[Detailed results](#)

ulation Tool

ults

Habitat trading
summary



On-site baseline	Habitat units
	Hedgerow units
	River units
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units
	Hedgerow units
	River units
On-site net % change (Including habitat retention, creation & enhancement)	Habitat units
	Hedgerow units
	River units
Off-site baseline	Habitat units
	Hedgerow units
	River units
Off-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units
	Hedgerow units
	River units

Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units
	Hedgerow units
	River units
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units
	Hedgerow units
	River units
Trading rules Satisfied?	No - Check Trade

48.25
6.84
0.78

47.78
8.32
1.01

-0.98%
21.62%
30.56%

0.00
0.00
0.00

0.00
0.00
0.00

-0.47
1.48
0.24

-0.98%
21.62%
30.56%

ding Summary ▲





Land East of Windermere Avenue, Colr

Detailed Results

Summary Figures

Net project biodivers
(including all on-site & off-site habitat re

Total project biodiversity
(including all On-site & Off-site Habitat Creation

Combined h

Total on-site and off-site baseline area / length

Total on-site and off-site baseline units

Total on-site and off-site baseline area / length retained

Total on-site and off-site baseline units retained

Area / length proposed for enhancement

Baseline units proposed for enhancement

Total on-site and off-site baseline area / length lost

Total on-site and off-site baseline units lost

Area habitats

Area Habitats	On site changes	
	Habitat group	
	Cropland	
	Grassland	
	Heathland and shrub	
	Lakes	
	Sparsely vegetated land	
	Urban	
	Wetland	
	Woodland and forest	
	Intertidal sediment	
	Coastal saltmarsh	
	Rocky shore	
	Coastal lagoons	
	Intertidal Hard Structures	
Area Habitats	Off site changes	
	Habitat group	
	Cropland	
	Grassland	
	Heathland and shrub	
	Lakes	
	Sparsely vegetated land	
	Urban	
	Wetland	
	Woodland and forest	
	Intertidal sediment	
	Coastal saltmarsh	
	Rocky shore	
	Coastal lagoons	
	Intertidal Hard Structures	

Area Habitats	Combined on site and
	Habitat group
	Cropland
	Grassland
	Heathland and shrub
	Lakes
	Sparsely vegetated land
	Urban
	Wetland
	Woodland and forest
	Intertidal sediment
	Coastal saltmarsh
	Rocky shore
	Coastal lagoons
	Intertidal Hard Structures
Hedgerows and Lines of Trees	
	Hedgerows and lines of trees
	On site c
	Hedgerow type
	Native Species Rich Hedgerow with trees - Associated with bank or ditch
	Native Species Rich Hedgerow with trees
	Native Species Rich Hedgerow - Associated with bank or ditch
	Native Hedgerow with trees - Associated with bank or ditch
	Native Species Rich Hedgerow
	Native Hedgerow - Associated with bank or ditch
	Native Hedgerow with trees
	Line of Trees (Ecologically Valuable)
	Line of Trees (Ecologically Valuable) - with Bank or Ditch
	Native Hedgerow

Hedgerows and Lines of Trees	Line of Trees
	Line of Trees - Associated with bank or ditch
	Hedge Ornamental Non Native
	Off site c
	Hedgerow type
	Native Species Rich Hedgerow with trees - Associated with bank or ditch
	Native Species Rich Hedgerow with trees
	Native Species Rich Hedgerow - Associated with bank or ditch
	Native Hedgerow with trees - Associated with bank or ditch
	Native Species Rich Hedgerow
	Native Hedgerow - Associated with bank or ditch
	Native Hedgerow with trees
	Line of Trees (Ecologically Valuable)
	Line of Trees (Ecologically Valuable) - with Bank or Ditch
	Native Hedgerow
	Line of Trees
	Line of Trees - Associated with bank or ditch
	Hedge Ornamental Non Native
	Combined on and
	Hedgerow type
	Native Species Rich Hedgerow with trees - Associated with bank or ditch
	Native Species Rich Hedgerow with trees
	Native Species Rich Hedgerow - Associated with bank or ditch
	Native Hedgerow with trees - Associated with bank or ditch
	Native Species Rich Hedgerow
	Native Hedgerow - Associated with bank or ditch
	Native Hedgerow with trees
	Line of Trees (Ecologically Valuable)
	Line of Trees (Ecologically Valuable) - with Bank or Ditch
	Native Hedgerow
	Line of Trees
	Line of Trees - Associated with bank or ditch
	Hedge Ornamental Non Native

Rivers and Streams	
	Rivers and Streams
	On site
	River type
	Priority Habitat
	Other Rivers and Streams
	Ditches
	Canals
	Culvert
Rivers and Streams	Off site
	River type
	Priority Habitat
	Other Rivers and Streams
	Ditches
	Canals
	Culvert

Rivers and Streams	
	Combined on a
	River type
	Priority Habitat
	Other Rivers and Streams
	Ditches
	Canals
	Culvert

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Return to results
menu

ity units (retention/creation)	<i>Habitat units</i>
	<i>Hedgerow units</i>
	<i>River units</i>

y % change (+ Retained Habitats)	<i>Habitat units</i>
	<i>Hedgerow units</i>
	<i>River units</i>

habitat retention and enhancement

	Habitats	Hedgerows
	9.53	1.13
	48.25	6.84

	0.16	0.23
	1.21	2.76

	3.66	0.56
	17.72	2.24

	5.70	0.34
	29.32	1.84

change by broad habitat type

Baseline		Post development on site		Onsite
Existing area	Existing value	Proposed area	Proposed value	Area change
0.00	0.00	0.00	0.00	0.00
9.34	47.08	3.66	32.51	-5.68
0.02	0.08	0.28	1.86	0.26
0.00	0.03	0.06	0.42	0.05
0.00	0.00	0.00	0.00	0.00
0.01	0.00	7.81	11.77	7.80
0.00	0.00	0.00	0.00	0.00
0.16	1.06	0.16	1.22	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00

change by broad habitat type

[illegible]

On-site and off-site change by broad habitat type

Baseline		On-site and Off-site post development		Combined
Existing area	Existing value	Combined proposed area	Combined proposed value	Proposed area
0.00	0.00	0.00	0.00	0.00
9.34	47.08	3.66	32.51	-5.68
0.02	0.08	0.28	1.86	0.26
0.00	0.03	0.06	0.42	0.05
0.00	0.00	0.00	0.00	0.00
0.01	0.00	7.81	11.77	7.80
0.00	0.00	0.00	0.00	0.00
0.16	1.06	0.16	1.22	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00

ES

On-site and off-site change by hedgerow type

Baseline		Post development on site		Onsite
Existing length on-site	Existing value	Proposed length on-site	Proposed value on-site	On-site length change
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.34	2.28	0.34
0.00	0.00	0.00	0.00	0.00
0.29	3.48	0.23	2.76	-0.06
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.84	3.36	0.56	3.28	-0.28

0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00

--

Change by hedgerow type

Off site baseline		Post development off site		Off site
Existing length off-site	Existing value off-site	Proposed length off-site	Proposed value off-site	Off-site length change
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00

--

Off site change by hedgerow type

Baseline		Post development on site		Onsite
Existing length	Existing value	Proposed length	Proposed value	length change
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.34	2.28	0.34
0.00	0.00	0.00	0.00	0.00
0.29	3.48	0.23	2.76	-0.06
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.84	3.36	0.56	3.28	-0.28
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00

change by river type

Baseline		Post development on site		Onsite
Existing length	Existing value	Proposed length	Proposed value	length change
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.3	0.8	0.2	1.0	-0.1
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0

the change by river type

Baseline		Post development off-site		Off-site
Existing length off-site	Existing value off-site	Proposed length off-site	Proposed value off-site	Off-site length change
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0



and off site change by river type

Baseline		Post development on site		Onsite
Existing length	Existing value	Proposed length	Proposed value	length change
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.3	0.8	0.2	1.0	-0.1
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0



-0.47
1.48
0.24

-0.98%
21.62%
30.56%

Rivers
0.25
0.78

0.00
0.00

0.16
0.64

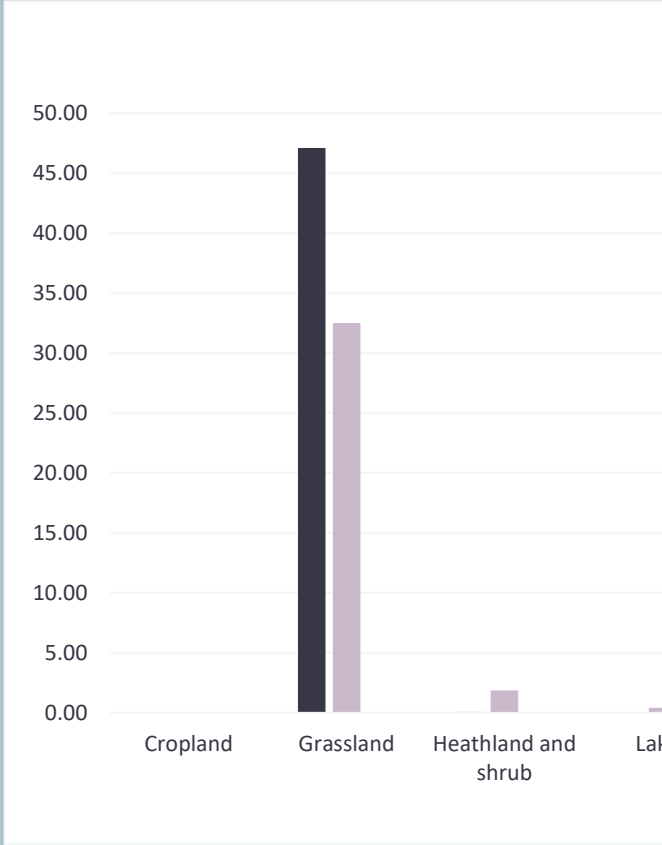
0.09
0.14



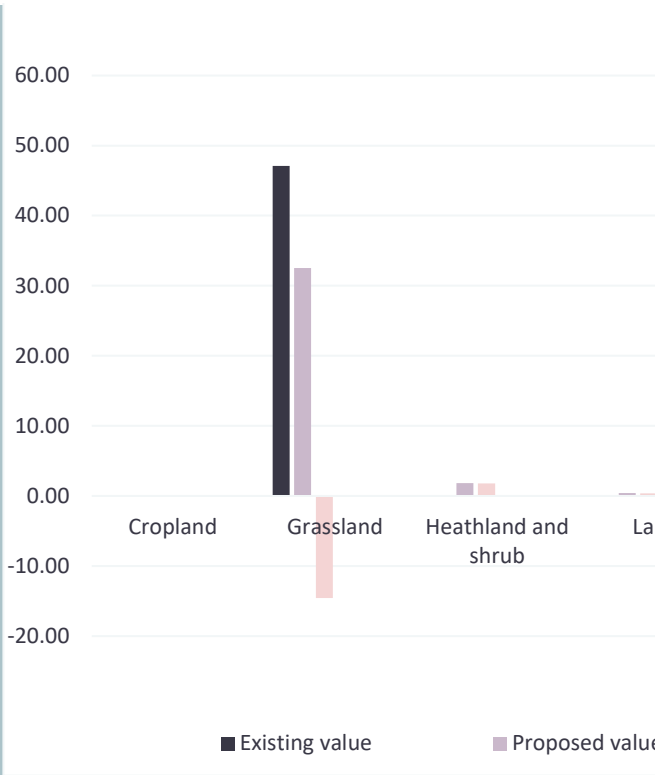
Change
Onsite Unit change
0.00
-14.57
1.78
0.39
0.00
11.77
0.00
0.16
0.00
0.00
0.00
0.00
0.00

Combined area lost by distribution	
Category	Area lost (hectares)
V.High	0
High	0
Medium	2.6773
Low	3.0248
V.Low	0

Change
Off-site unit change
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00



ed change
Proposed value
0.00
-14.57
1.78
0.39
0.00
11.77
0.00
0.16
0.00
0.00
0.00
0.00
0.00
0.00



e Change
On-site Unit change
0.00
0.00
0.00
0.00
2.28
0.00
-0.72
0.00
0.00
-0.08

Combined length lost by dist	
Category	Length lost (KM)
V.High	0
High	0
Medium	0.06
Low	0.28
V.Low	0



Native Species Rich Hedgerow with trees - Associated with bank or ditch

Native Species Rich Hedgerow with trees

Native Species Rich Hedgerow - Associated with bank or ditch

Native Hedgerow trees Associate bank or

Existing value

Native Species Rich Hedgerow with trees - Associated with bank or ditch

Native Species Rich Hedgerow with trees

Native Species Rich Hedgerow - Associated with bank or ditch

Native Hedgerow trees Associate bank

Existing value

Proposed value c

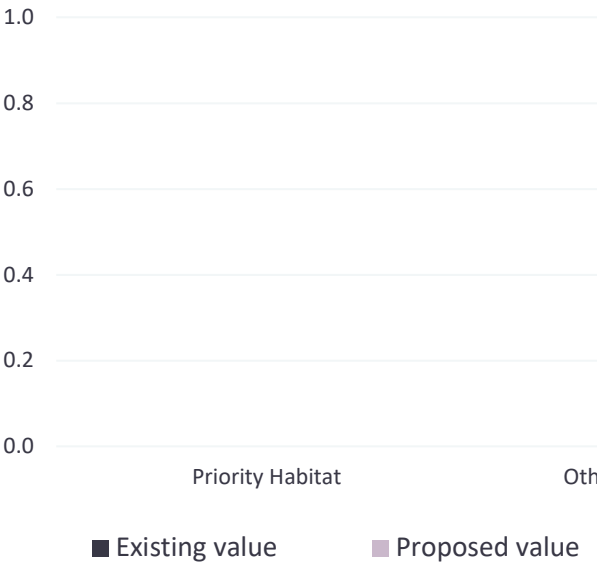
Change
Onsite Unit change
0.0
0.0
0.2
0.0
0.0

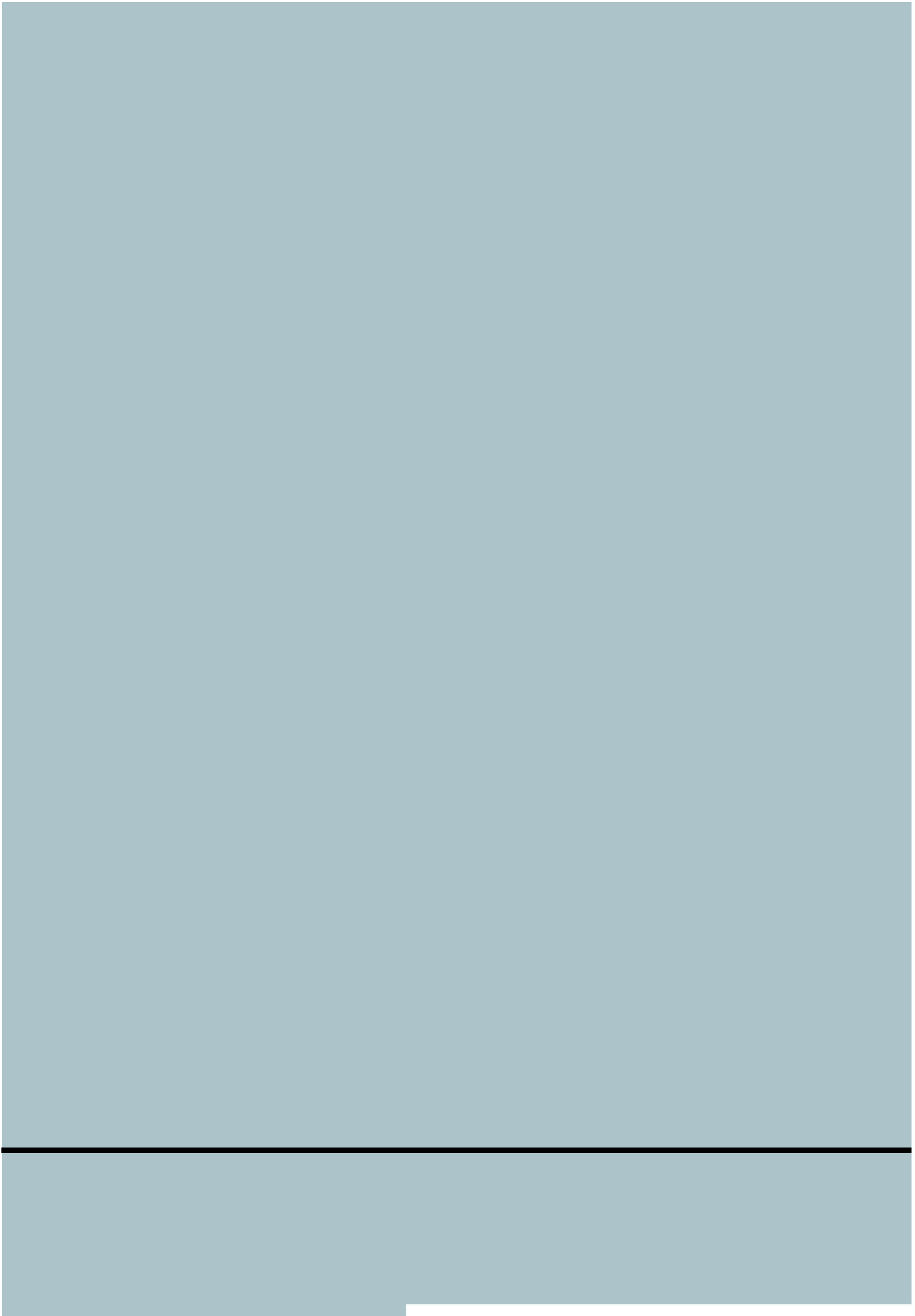
Combined length lost by dist	
Category	Length lost (KM)
V.High	0
High	0
Medium	0.09
Low	0

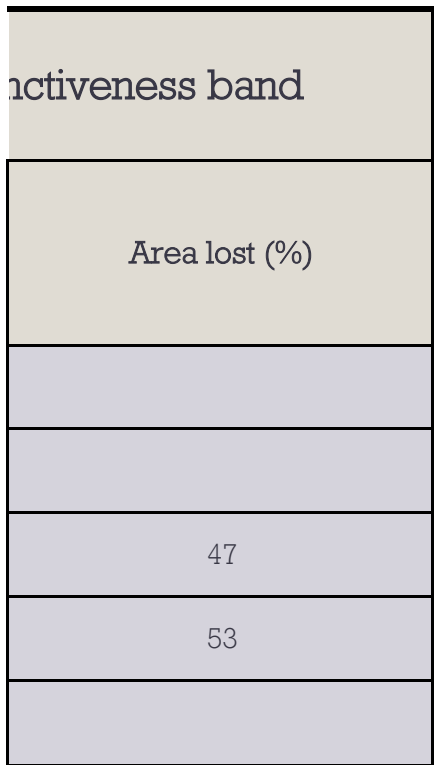
Change
Off-site unit change
0.0
0.0
0.0
0.0
0.0



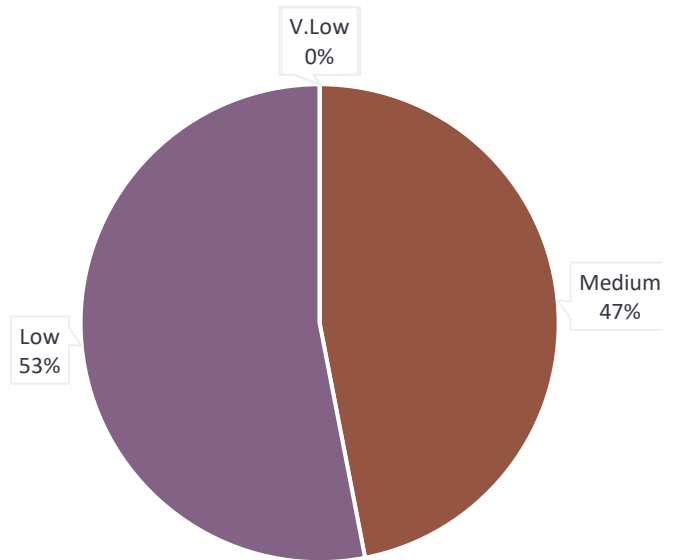
Change
Onsite Unit change
0.0
0.0
0.2
0.0
0.0



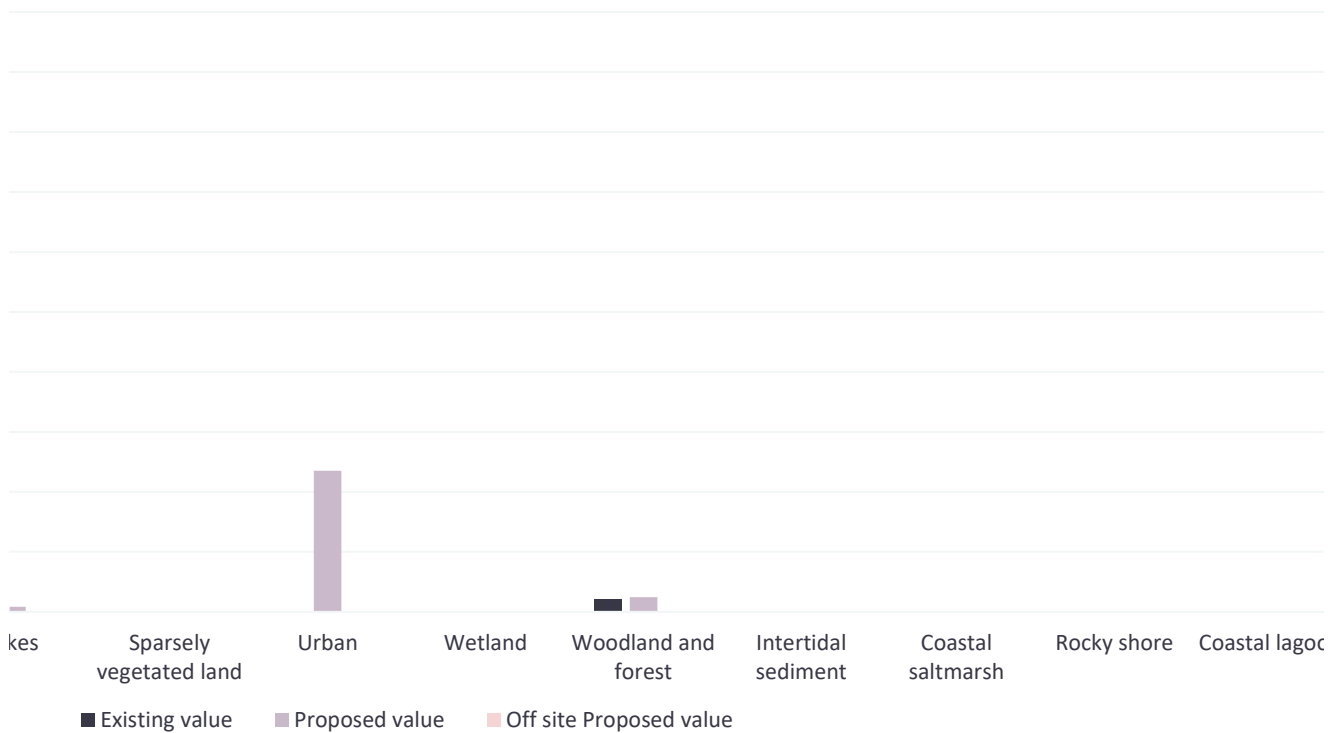




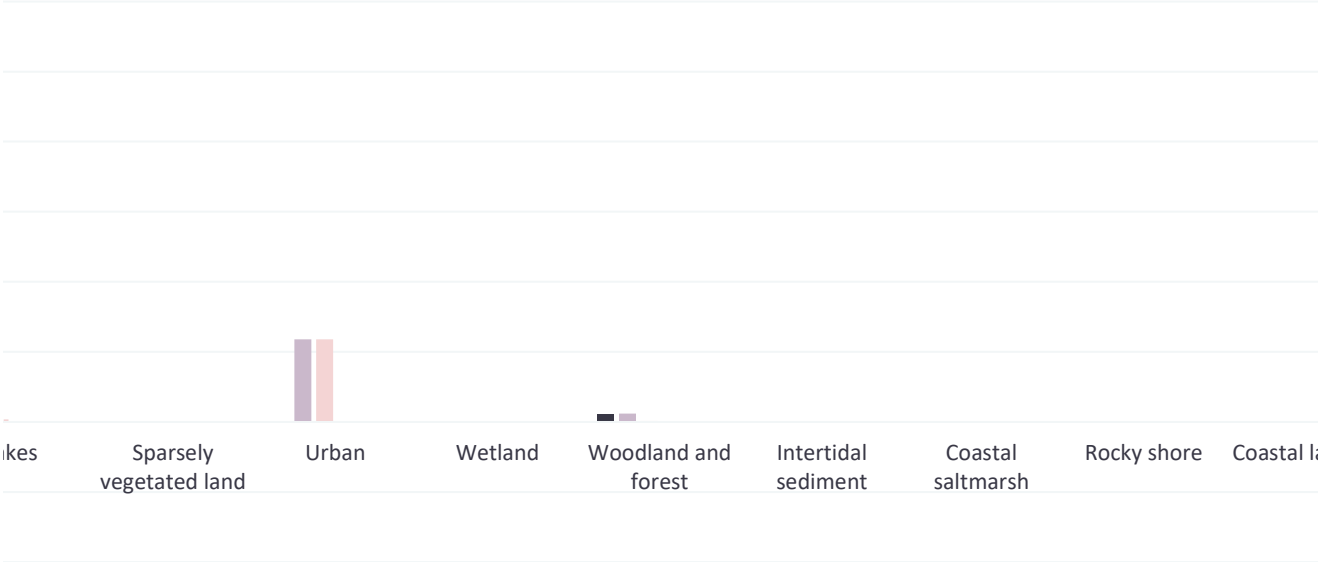
% Area lost by distinctiveness category



Unit change by habitat group



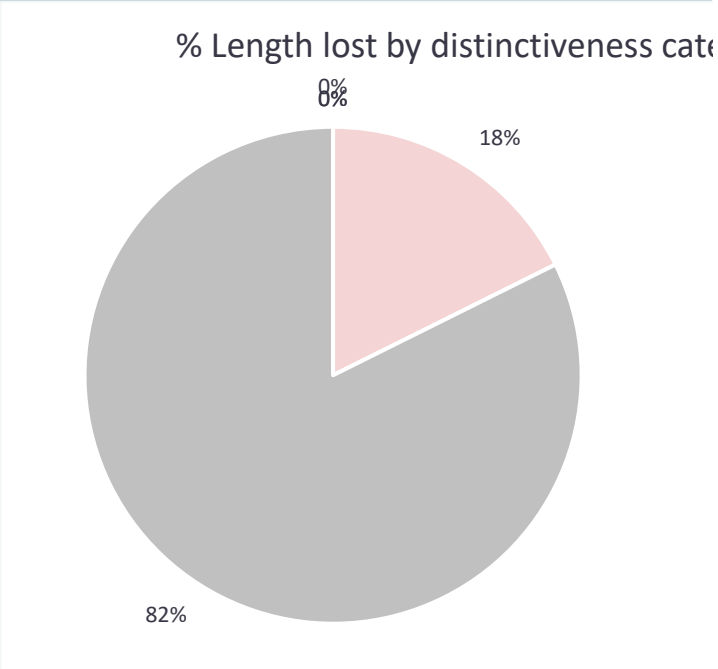
Combined Biodiversity Unit change



Legend: Onsite Unit change (pink), Off-site unit change (grey), Off site Proposed value (green), Off-site Existing (brown)

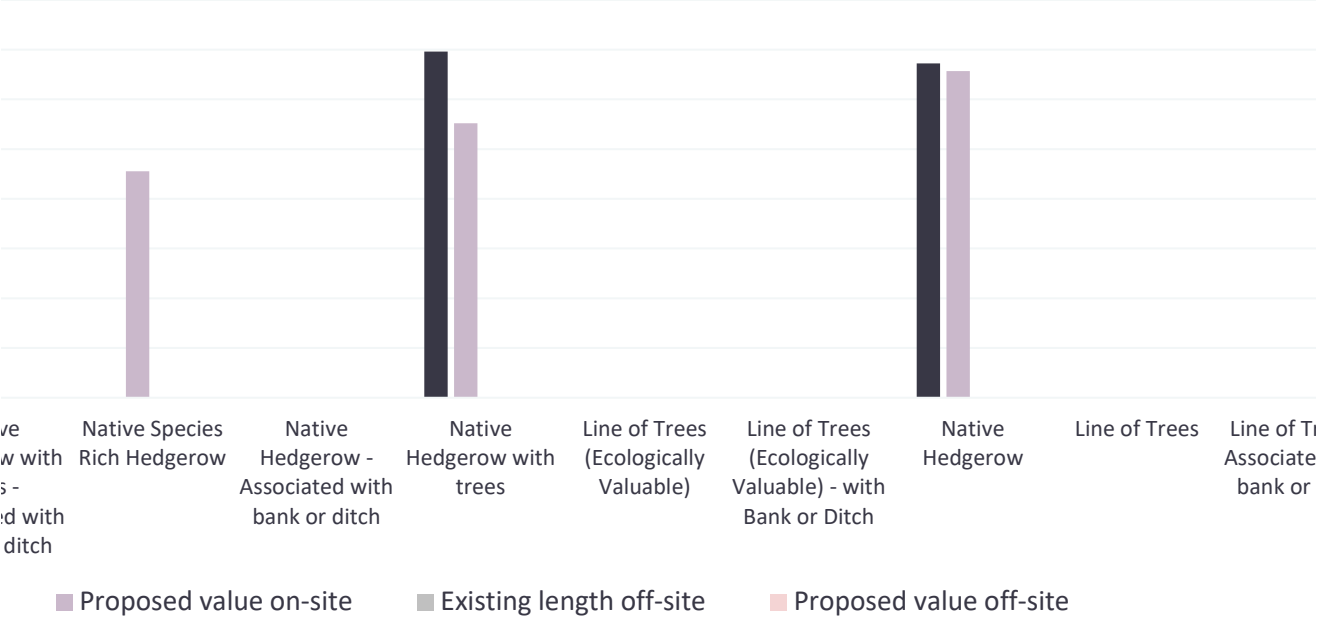


Distinctiveness band
Length lost (%)
18
82

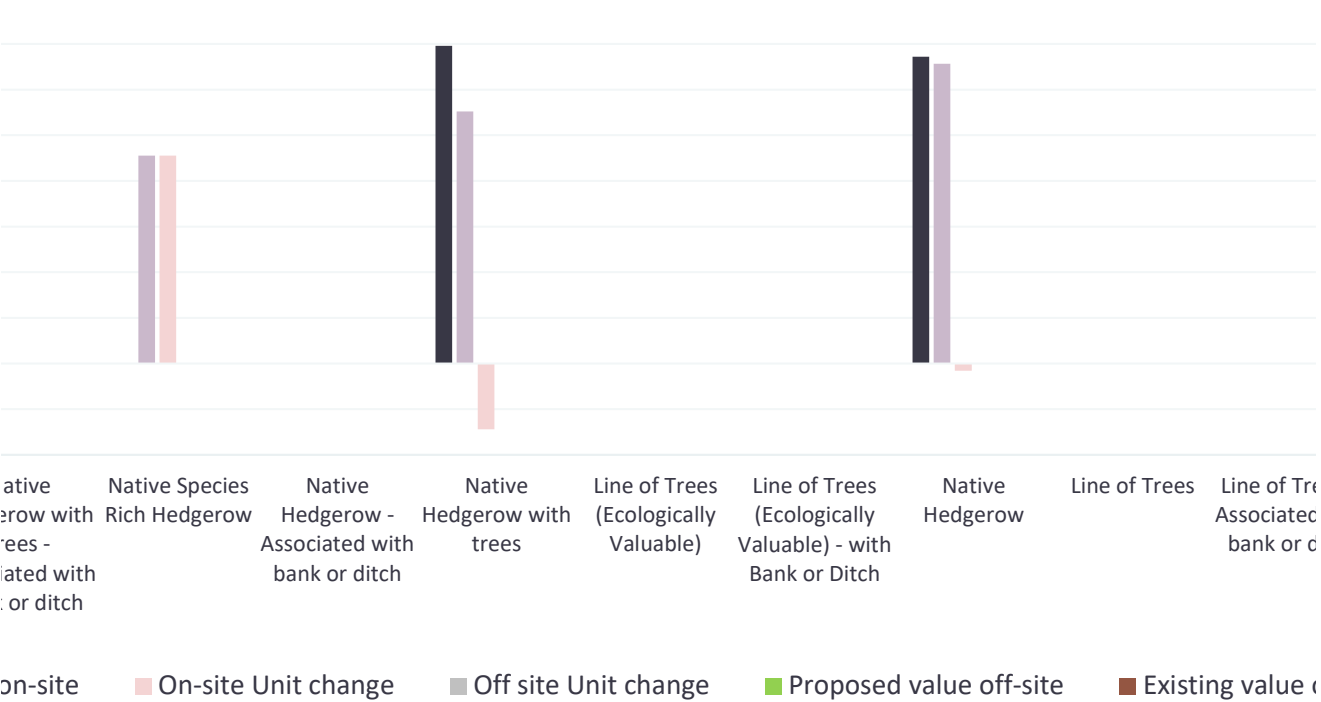


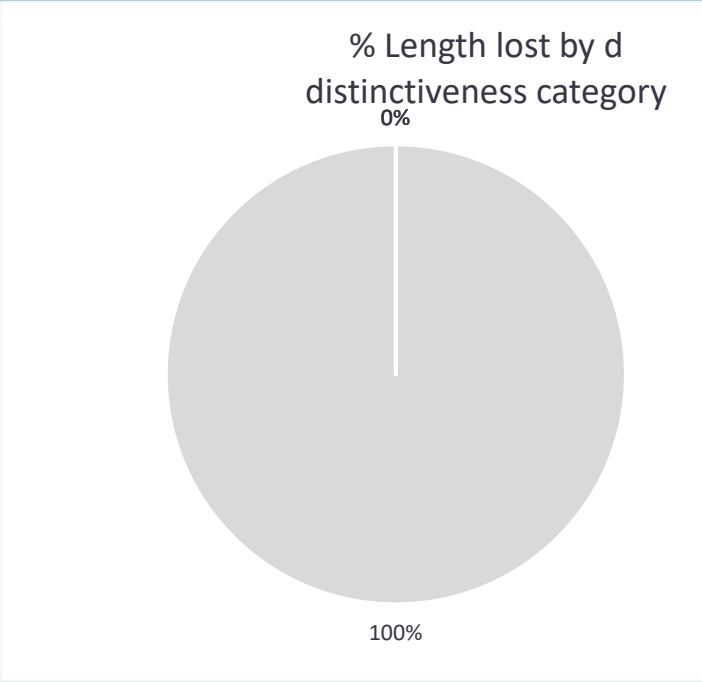


Change by hedgerow type
(Hedgerow units)

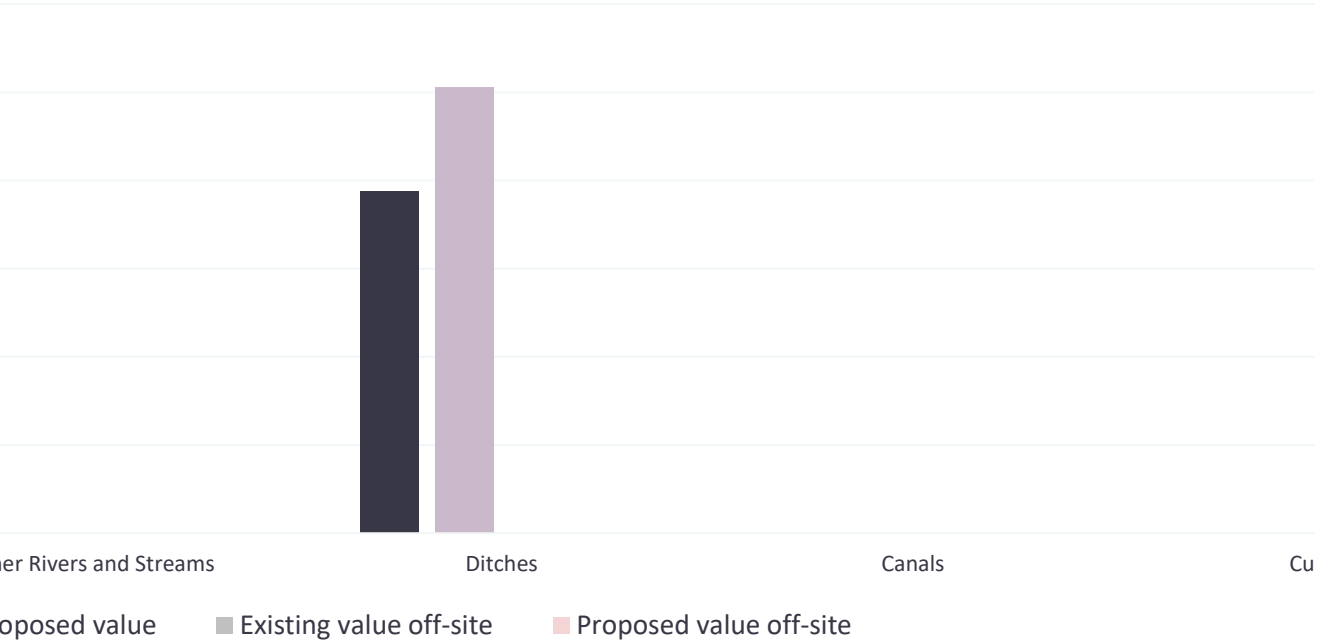


Combined Biodiversity unit change

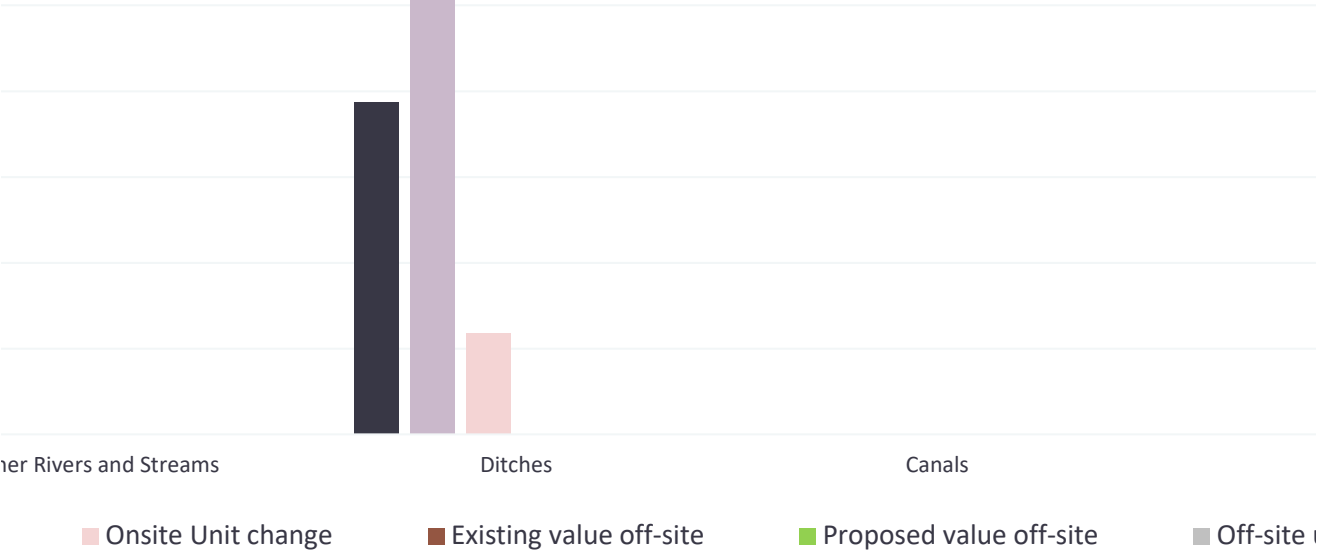


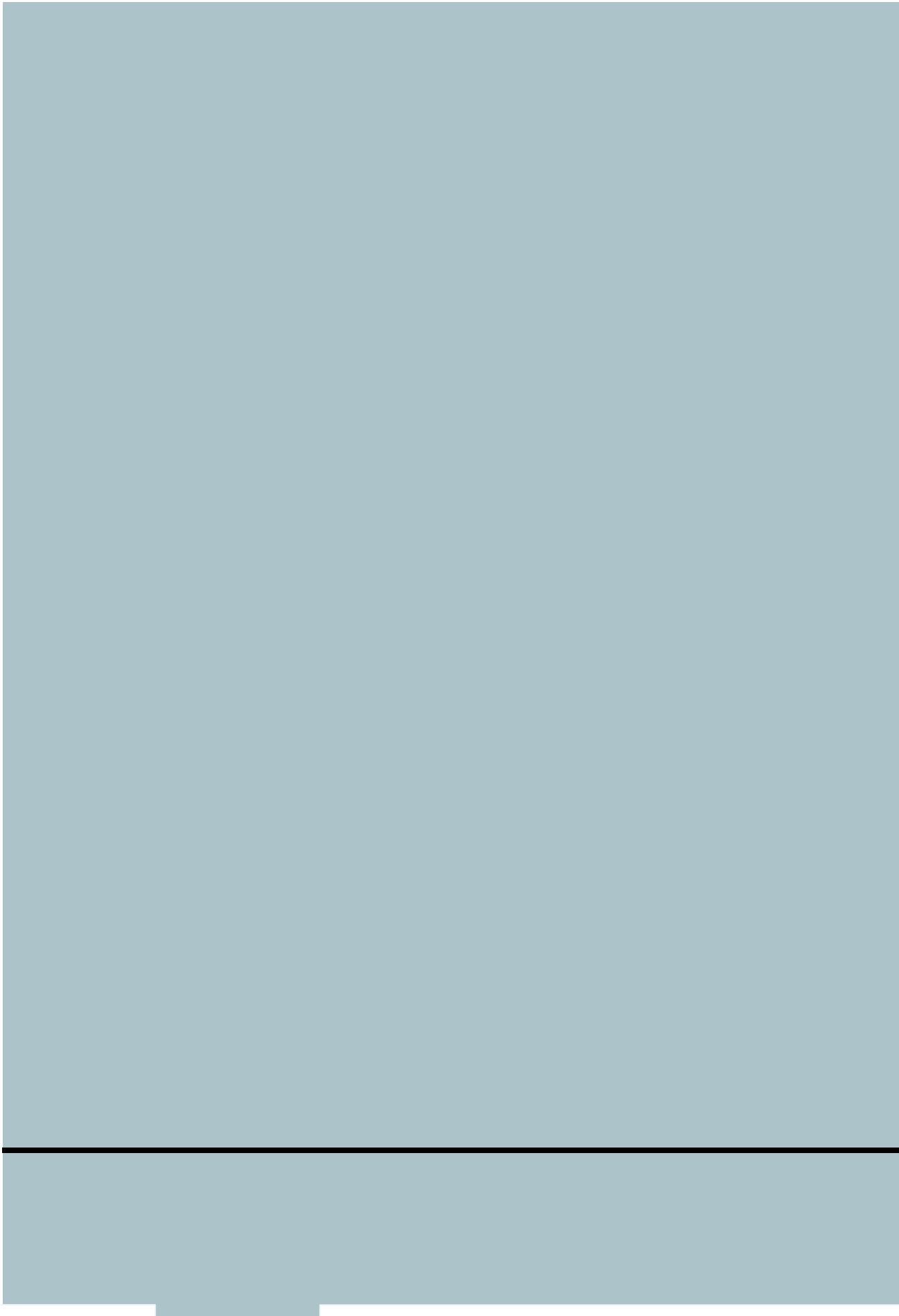


Unit change by river type



Combined Biodiversity Unit change





dry

V.High

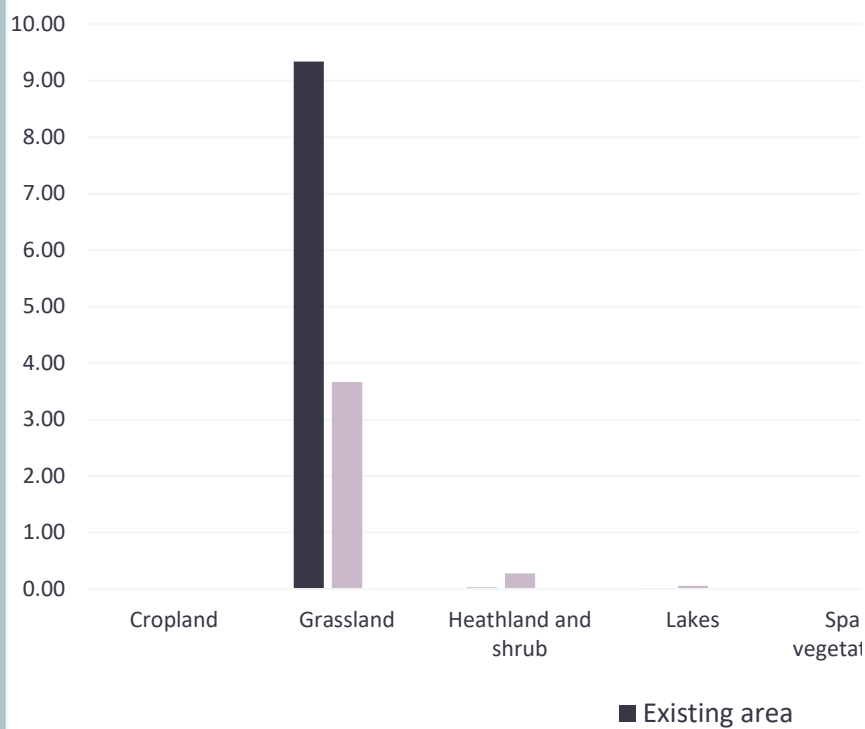
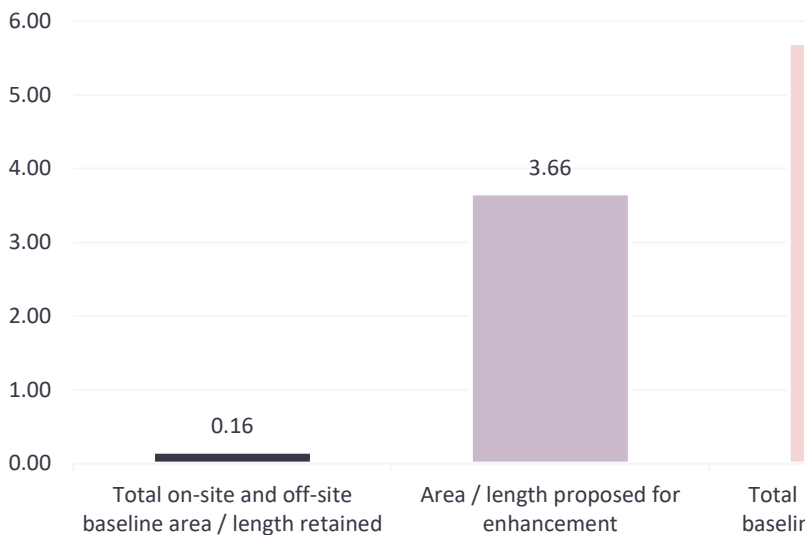
High

Medium

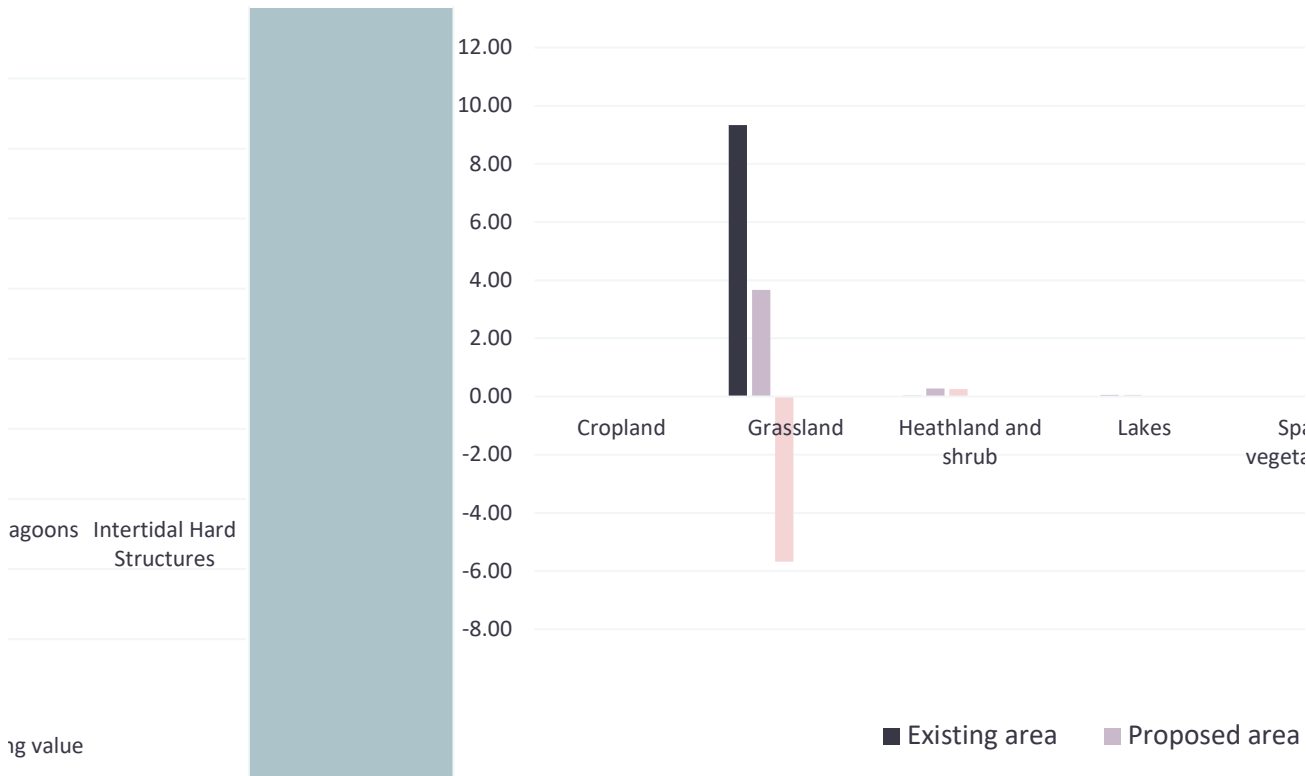
Low

V.Low

On-site and off-site habitat retention by category and area (hectares)



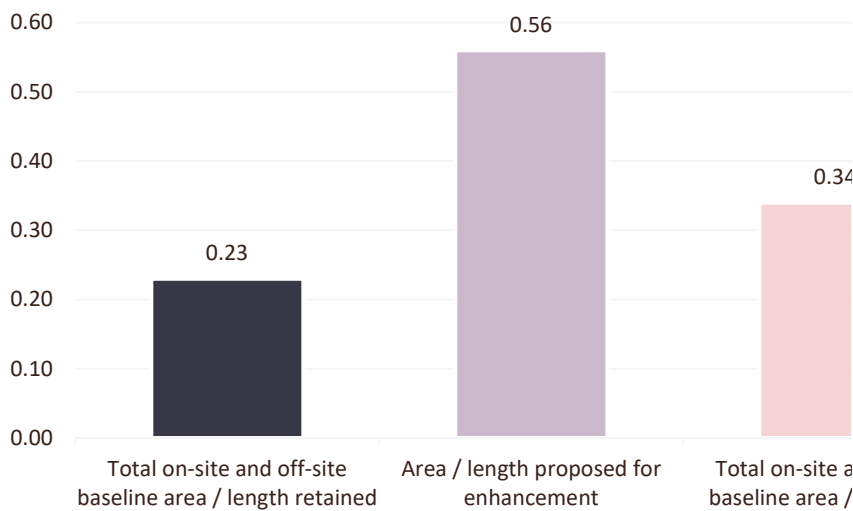
ons Intertidal Hard Structures

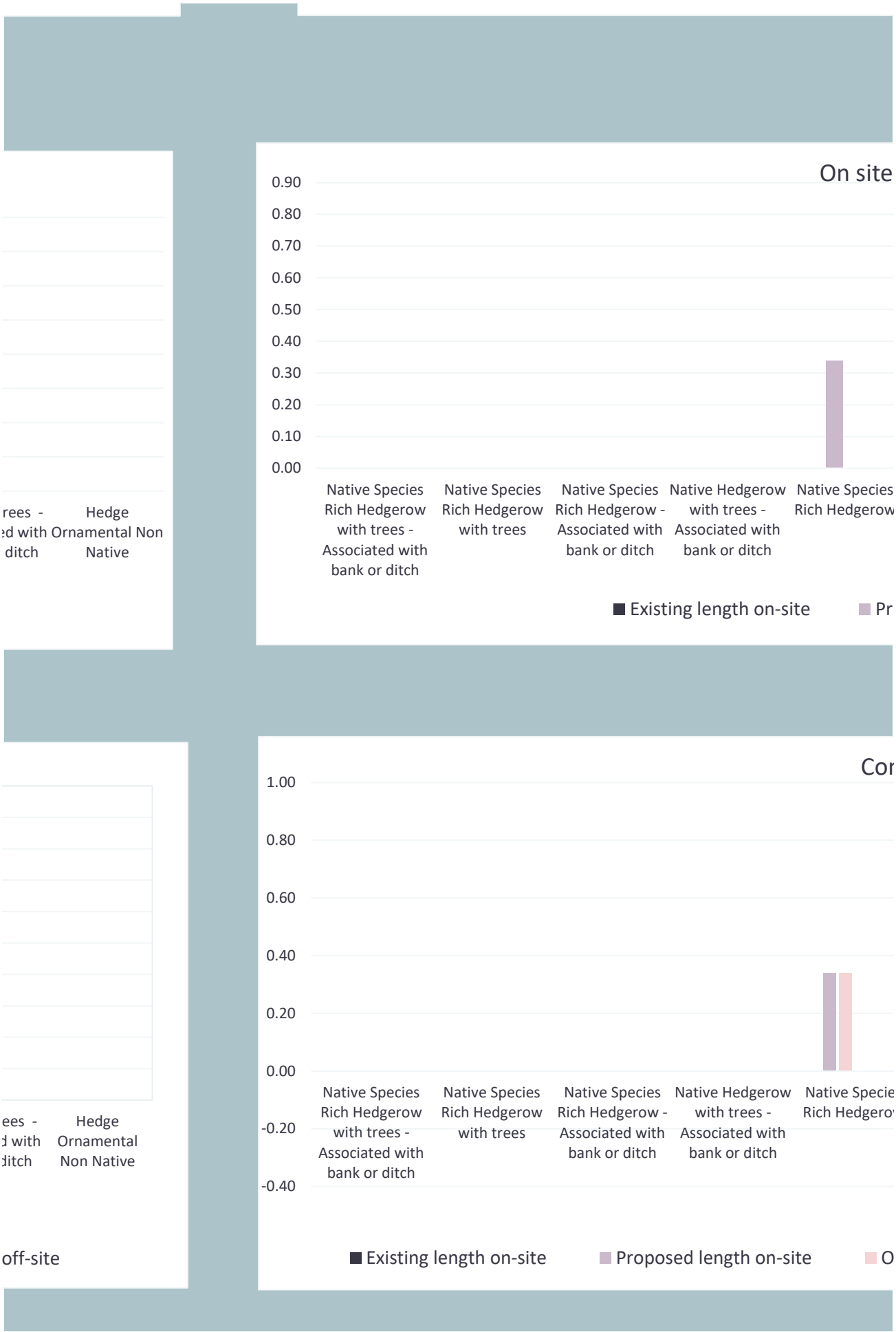


egory

- V.High
- High
- Medium
- Low
- V.Low

On-site and off-site hedge retention by category length (km)





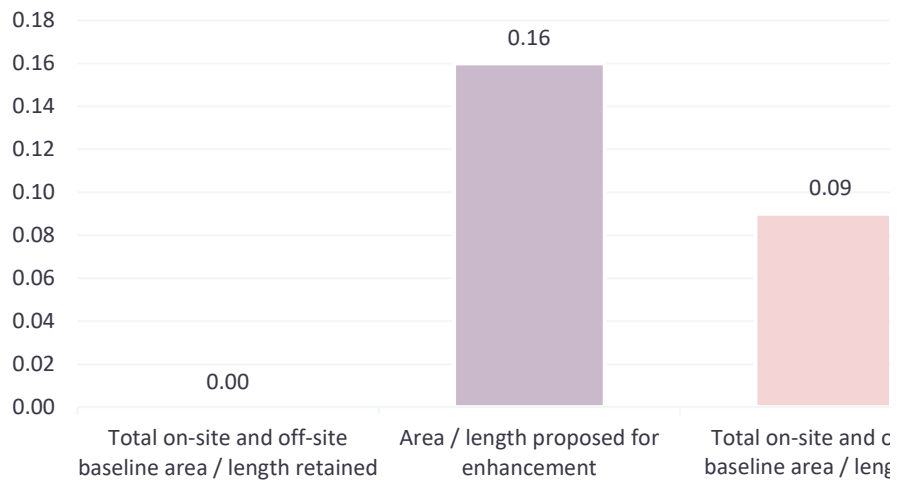
■ V.High

■ High

■ Medium

■ Low

River length retained, proposed for enhancement (length km)



0.3

0.3

0.2

0.2

0.1

0.1

0.0

Priority Habitat

Other Rivers and Streams

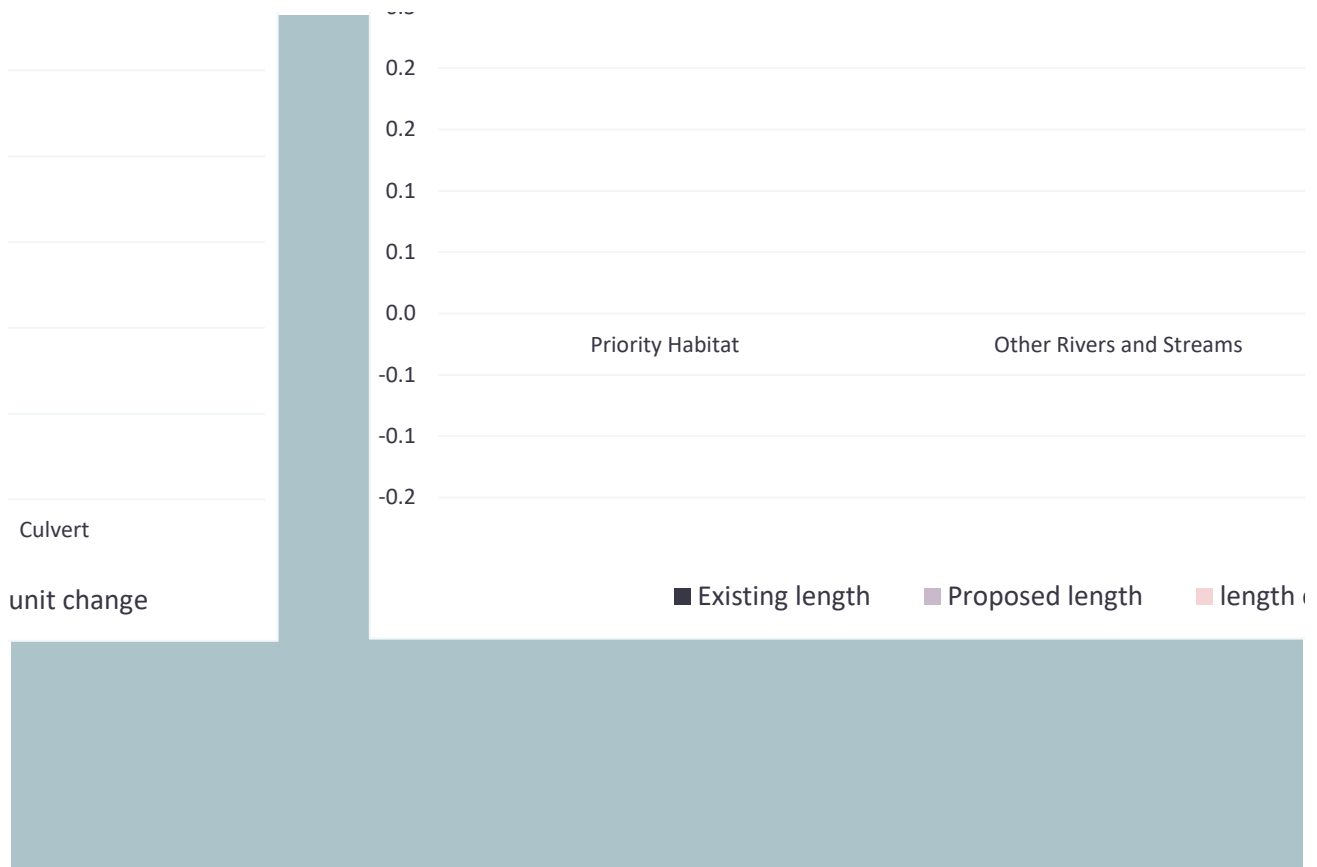
■ Existing length

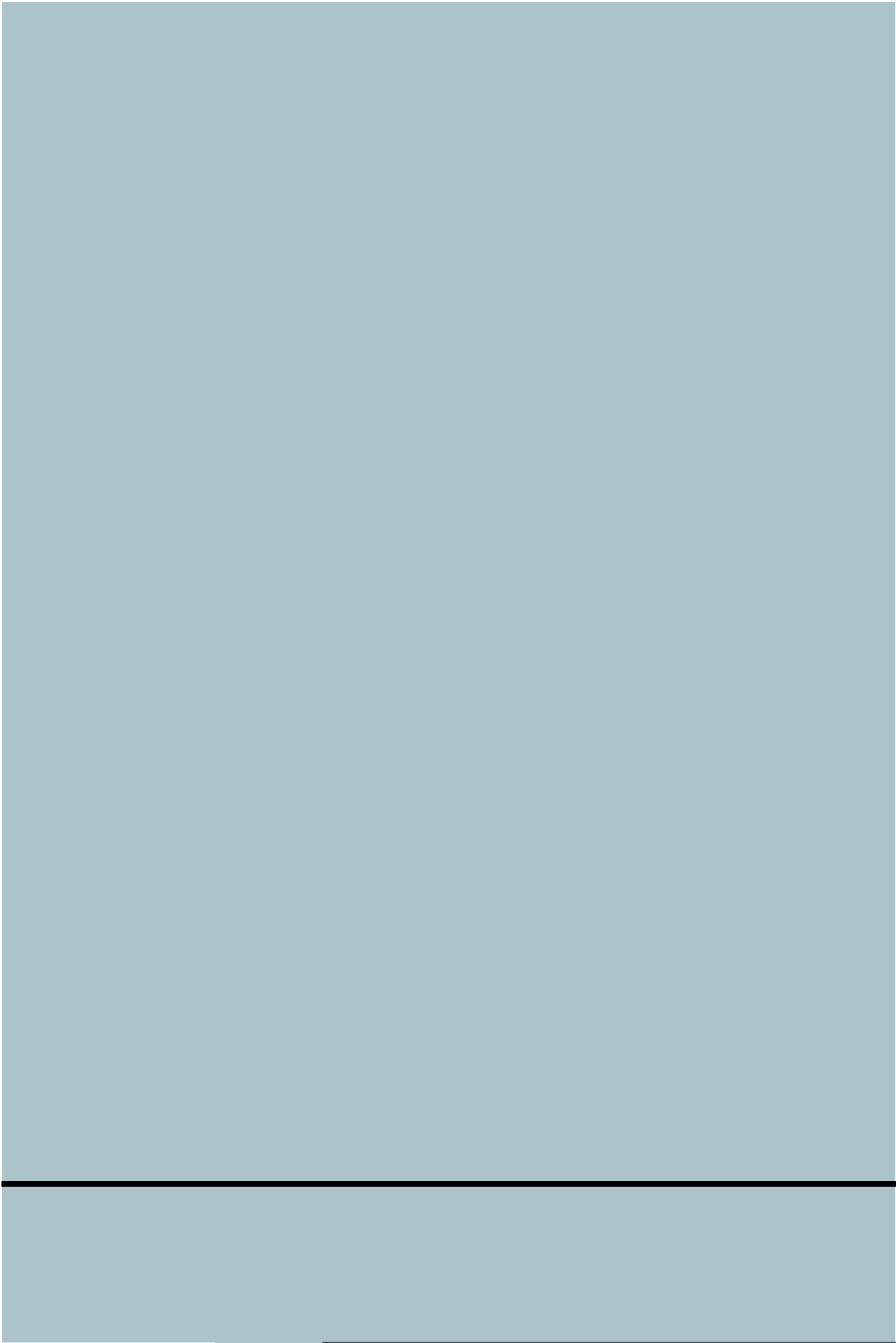
■ Proposed length

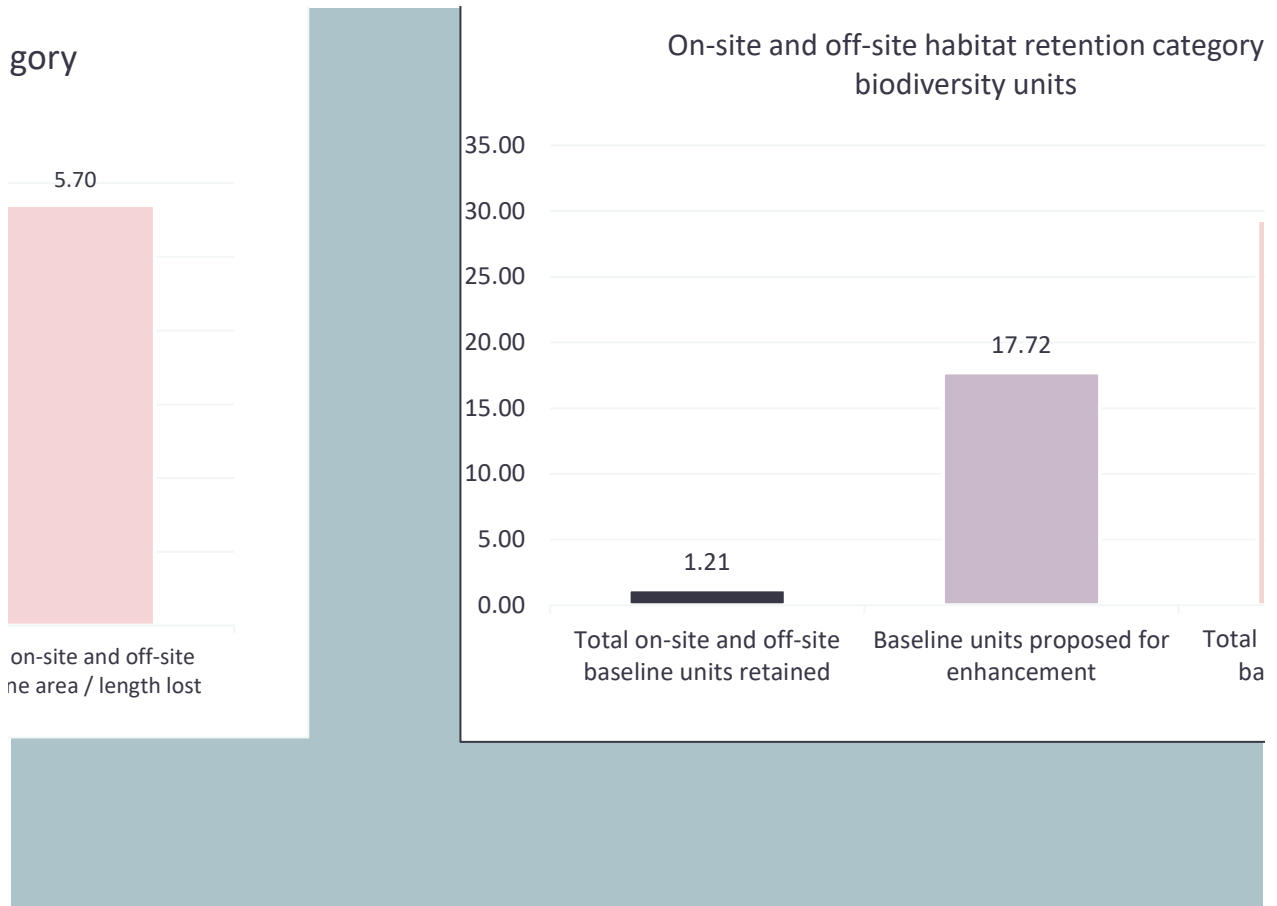
■

0.3

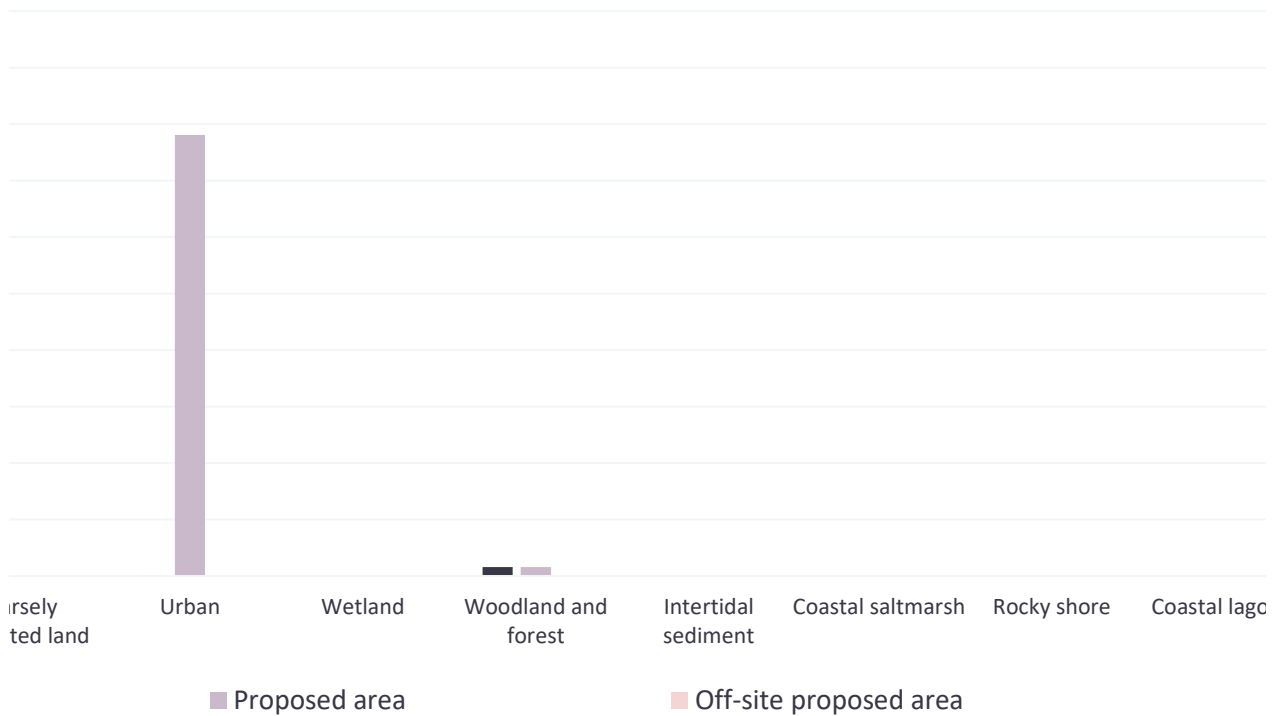
0.3







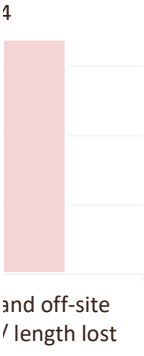
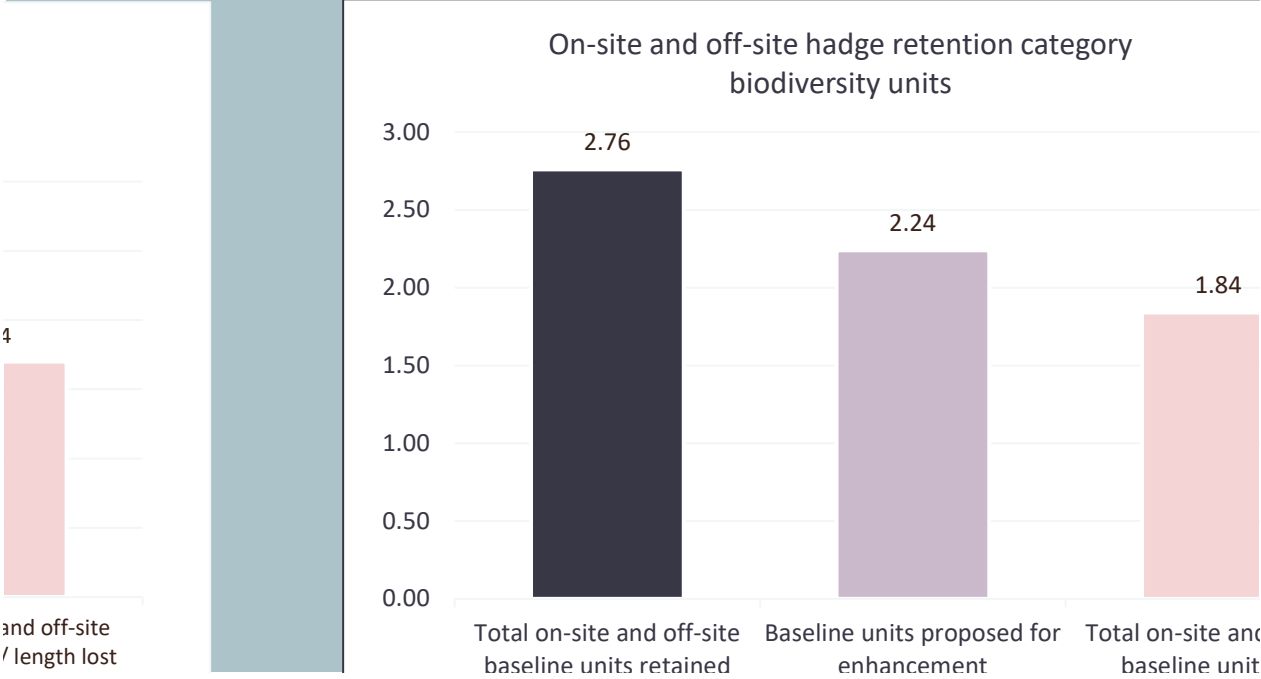
On site area change by habitat group



Combined habiat area change

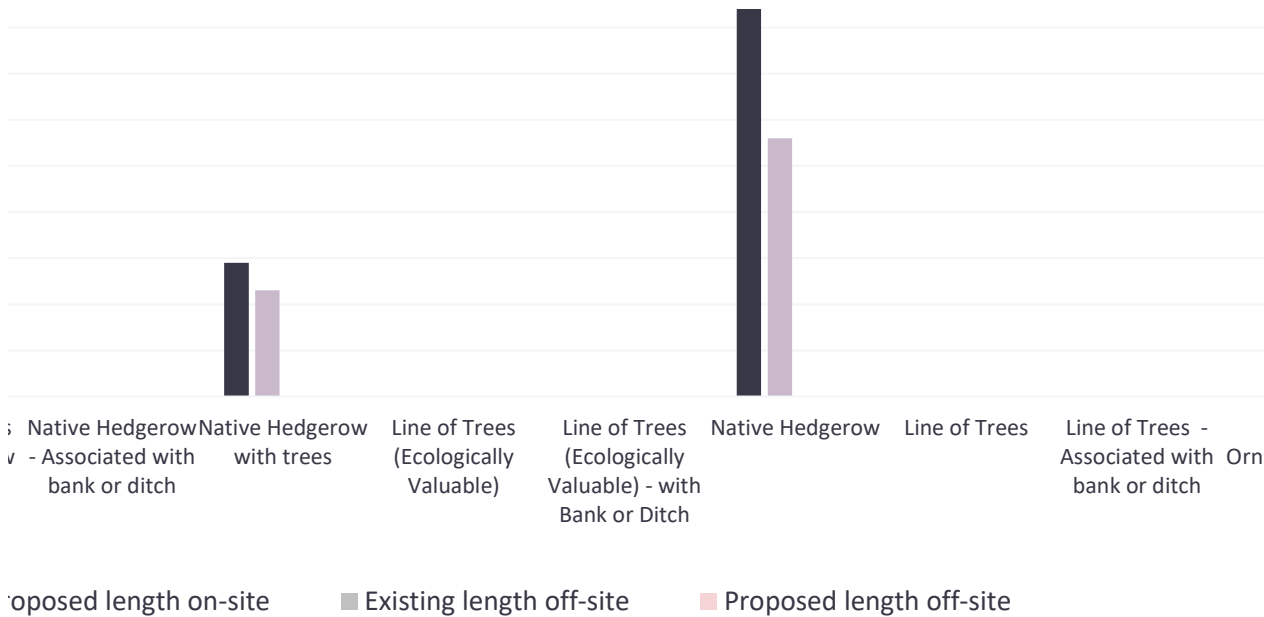


Area change Off-site area change Off-site proposed area Existing area

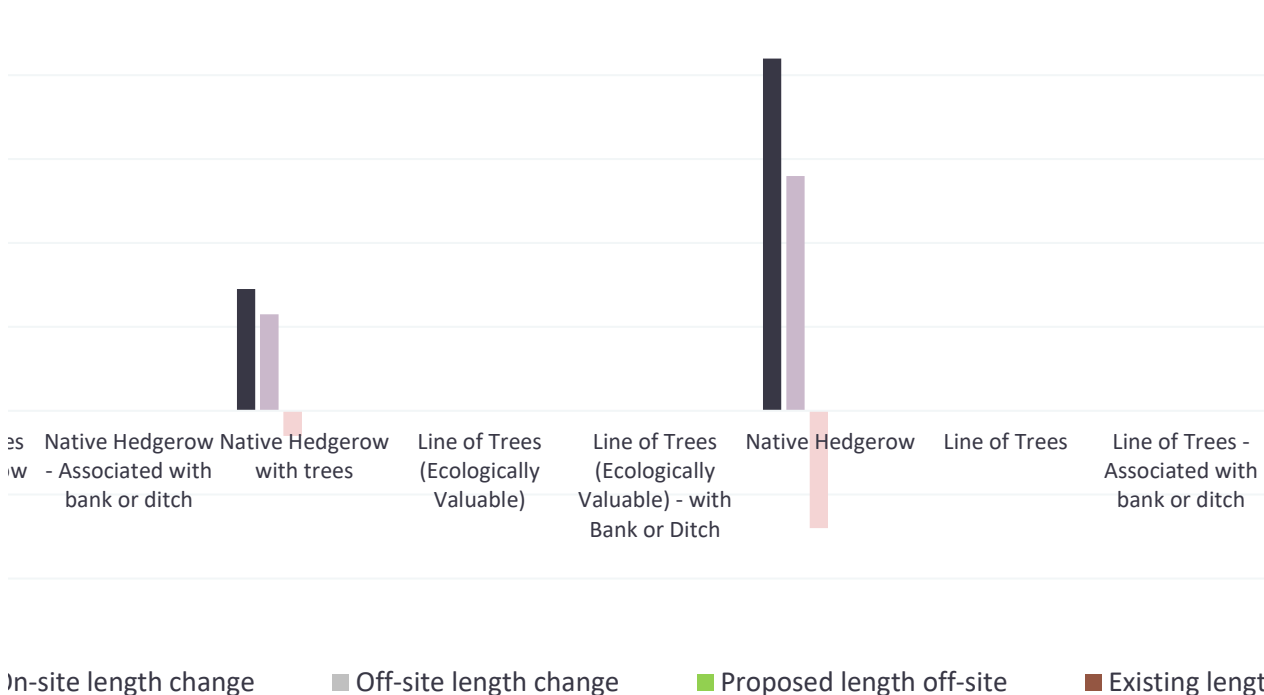


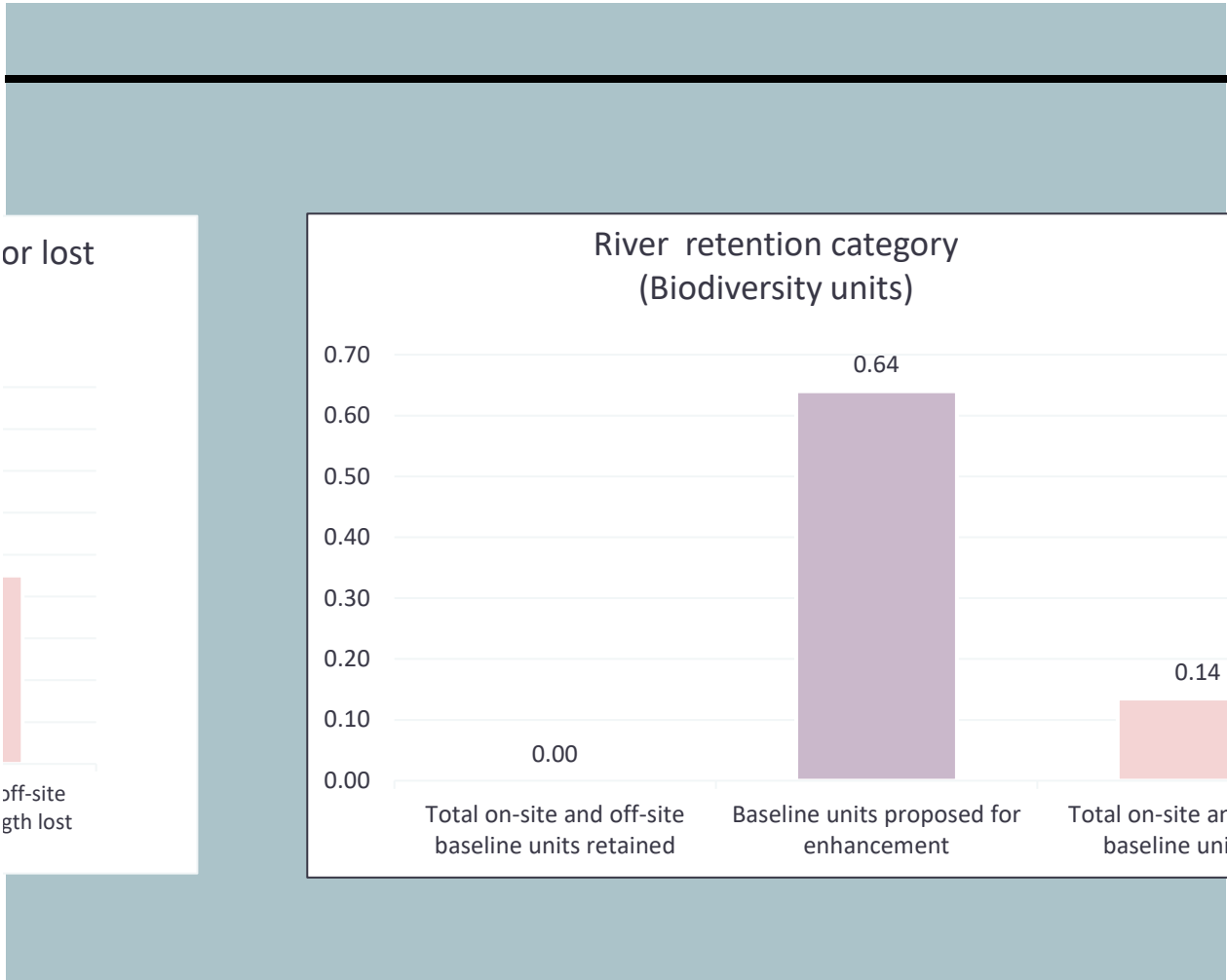


length change by hedgerow length (km)

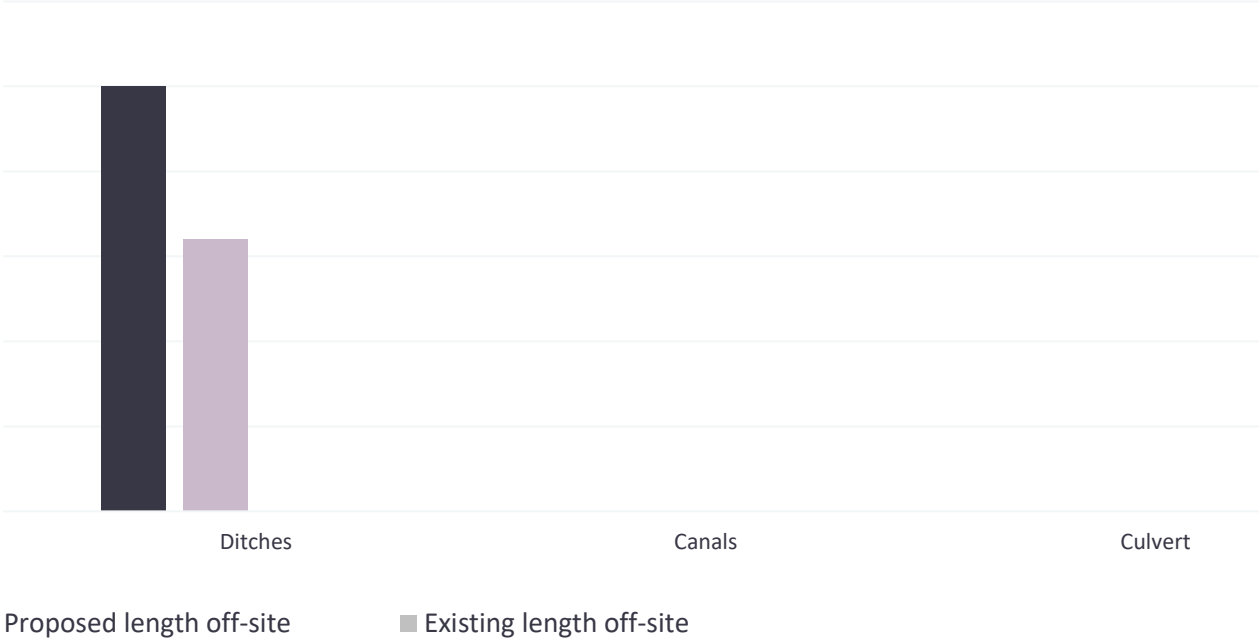


Combined hedgerow length change (km)



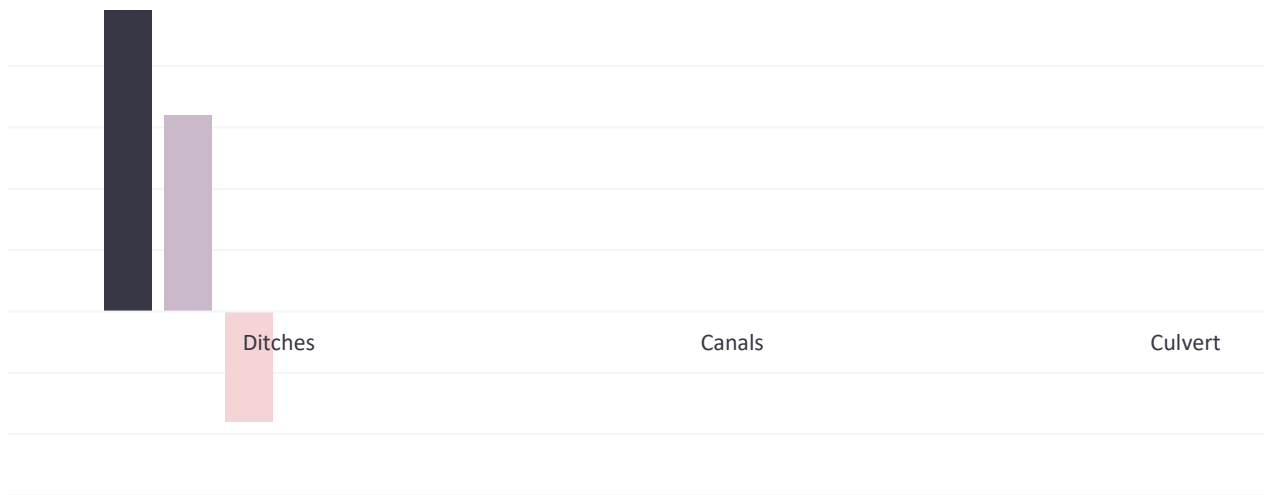


Length change by river type



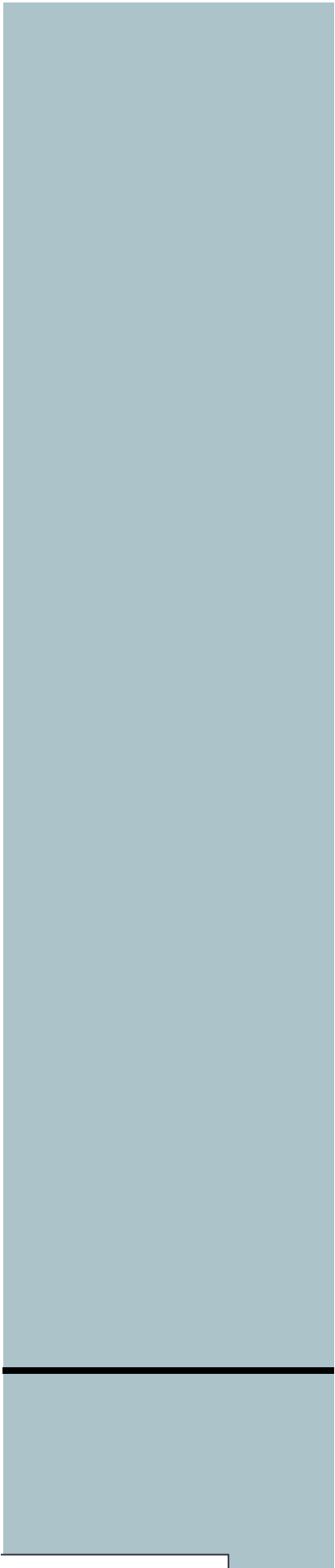
Combined river length change

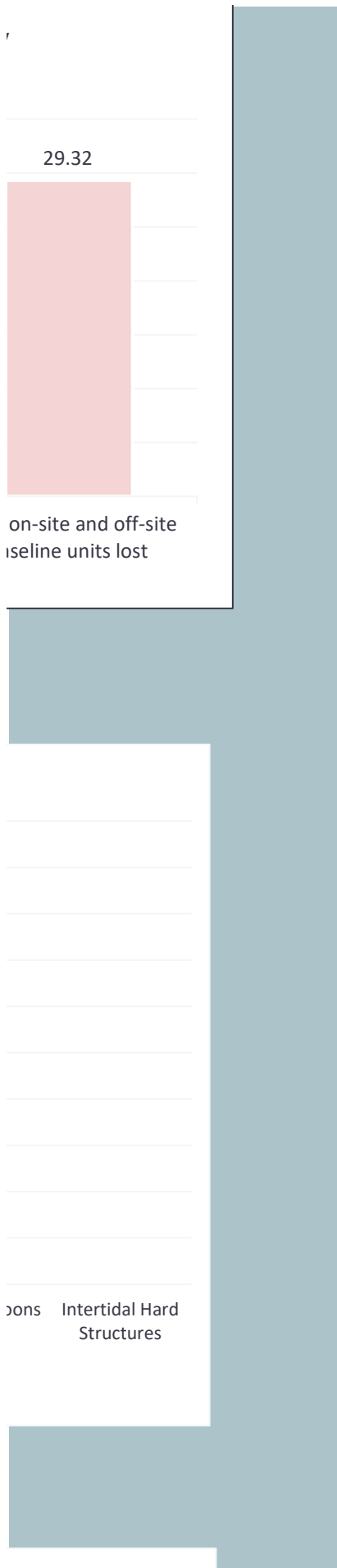


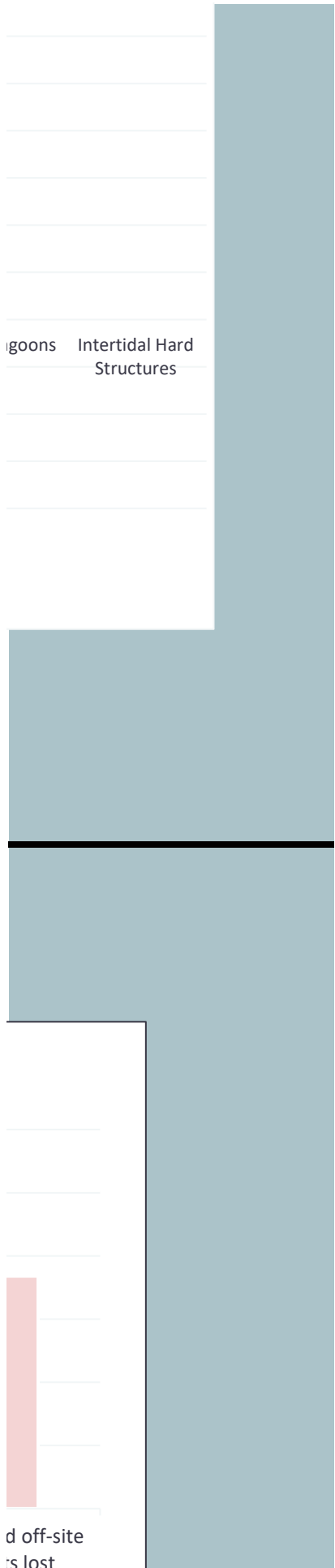


change ■ Existing length off-site ■ Proposed length off-site ■ Off-site length change





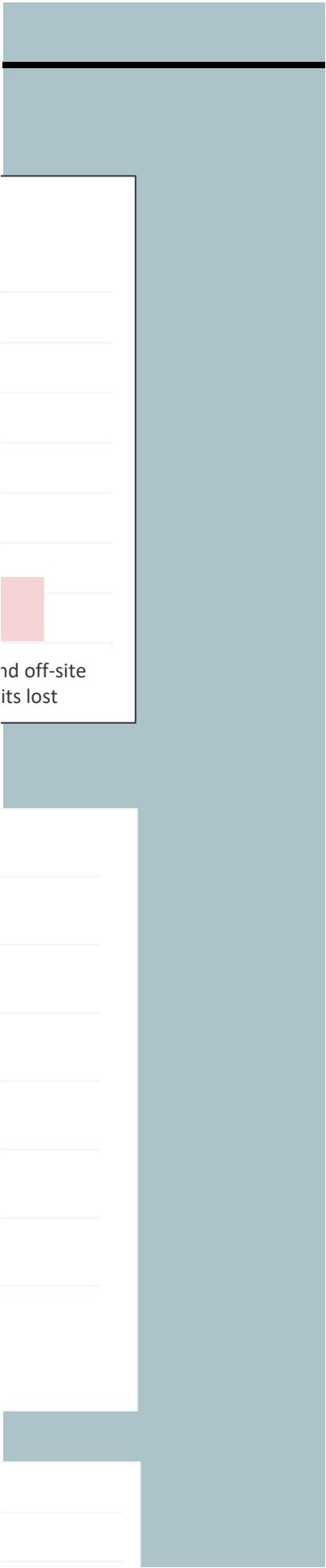


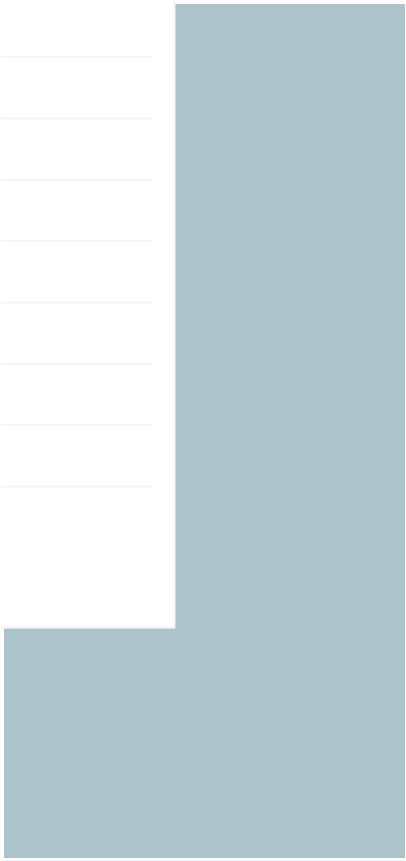


1555

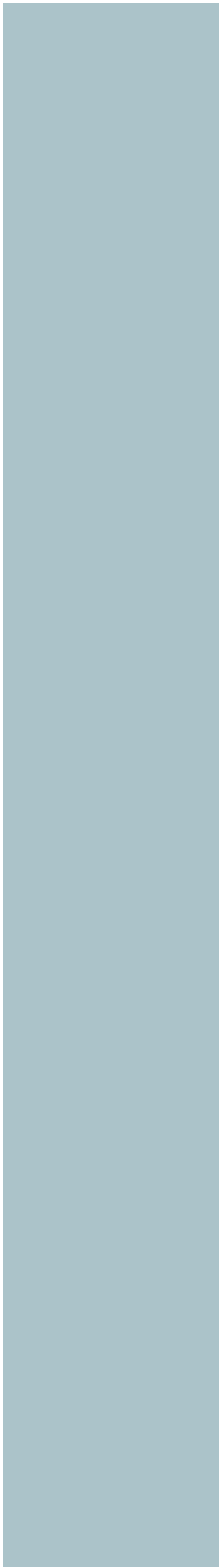
	Hedge
	Fundamental Non
	Native

	Hedge	Ornamental Non Native
th off-site		



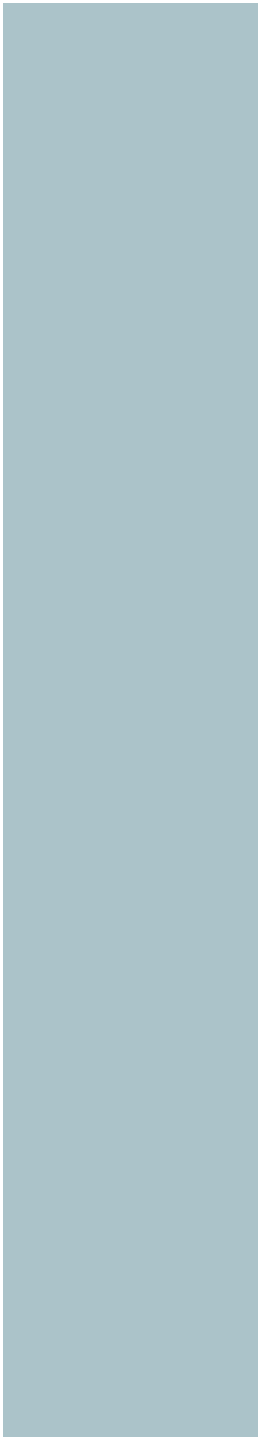


Return to
results
menu





In



Trading

Distinctiveness Group

Very High

High

Medium

Low

Very High

Habitat group

Grassland - Lowland dry acid grassland

Grassland - Lowland meadows

Grassland - Upland hay meadows

Heathland and shrub - Mountain heaths and willow scrub

Lakes - Aquifer fed naturally fluctuating water bodies

Sparsely vegetated land - Calaminarian grasslands

Sparsely vegetated land - Limestone pavement

Wetland - Blanket bog

Wetland - Depressions on Peat substrates (H7150)

Wetland - Fens (upland and lowland)

Wetland - Lowland raised bog

Wetland - Oceanic Valley Mire[1] (D2.1)

Wetland - Purple moor grass and rush pastures

Wetland - Transition mires and quaking bogs (H7140)

Woodland and forest - Wood-pasture and parkland

Rocky shore - High energy littoral rock - on peat, clay or chalk

Rocky shore - Moderate energy littoral rock - on peat, clay or chalk

Rocky shore - Low energy littoral rock - on peat, clay or chalk

Rocky shore - Features of littoral rock - on peat, clay or chalk

Intertidal sediment - Littoral seagrass on peat, clay or chalk

High Dis

Habitat group

Grassland - Traditional orchards

Grassland - Floodplain Wetland Mosaic (CFGM)
Grassland - Lowland calcareous grassland
Grassland - Tall herb communities (H6430)
Grassland - Upland calcareous grassland
Heathland and shrub - Lowland Heathland
Heathland and shrub - Sea buckthorn scrub (Annex 1)
Heathland and shrub - Upland Heathland
Lakes - High alkalinity lakes
Lakes - Low alkalinity lakes
Lakes - Marl Lakes
Lakes - Moderate alkalinity lakes
Lakes - Peat Lakes
Lakes - Ponds (Priority Habitat)
Lakes - Temporary lakes, ponds and pools
Sparsely vegetated land - Coastal sand dunes
Sparsely vegetated land - Coastal vegetated shingle
Sparsely vegetated land - Inland rock outcrop and scree habitats
Sparsely vegetated land - Maritime cliff and slopes
Urban - Open Mosaic Habitats on Previously Developed Land
Wetland - Reedbeds
Woodland and forest - Felled
Woodland and forest - Lowland beech and yew woodland
Woodland and forest - Lowland mixed deciduous woodland
Woodland and forest - Native pine woodlands
Woodland and forest - Upland birchwoods
Woodland and forest - Upland mixed ashwoods
Woodland and forest - Upland oakwood
Woodland and forest - Wet woodland
Coastal lagoons - Coastal lagoons
Rocky shore - High energy littoral rock
Rocky shore - Moderate energy littoral rock
Rocky shore - Low energy littoral rock
Rocky shore - Features of littoral rock
Intertidal sediment - Littoral mud
Intertidal sediment - Littoral mixed sediments
Coastal saltmarsh - Saltmarshes and saline reedbeds
Intertidal sediment - Littoral biogenic reefs - Mussels
Intertidal sediment - Littoral biogenic reefs - Sabellaria
Intertidal sediment - Features of littoral sediment
Intertidal sediment - Littoral muddy sand



Habitat Group
Cropland - Arable field margins cultivated annually
Cropland - Arable field margins game bird mix
Cropland - Arable field margins pollen & nectar
Cropland - Arable field margins tussocky
Grassland - Other lowland acid grassland
Grassland - Other neutral grassland
Grassland - Upland acid grassland
Heathland and shrub - Blackthorn scrub
Heathland and shrub - Bramble scrub
Heathland and shrub - Gorse scrub
Heathland and shrub - Hawthorn scrub
Heathland and shrub - Hazel scrub
Heathland and shrub - Mixed scrub
Lakes - Ponds (Non- Priority Habitat)
Lakes - Reservoirs
Sparsely vegetated land - Other inland rock and scree
Urban - Cemeteries and churchyards
Urban - Biodiverse green roof
Urban - Urban Tree
Woodland and forest - Other Scot's Pine woodland
Woodland and forest - Other woodland; broadleaved
Woodland and forest - Other woodland; mixed
Intertidal sediment - Littoral coarse sediment
Intertidal sediment - Littoral sand

Intertidal Hard Structures - Artificial hard structures with Integrated Greening of Grey Infrastructure (IGGI)



Low Distinctiveness
Habitat group
Cropland - Cereal crops
Cropland - Horticulture
Cropland - Intensive orchards
Cropland - Non-cereal crops
Cropland - Temporary grass and clover leys
Cropland - Cereal crops winter stubble
Grassland - Modified grassland

Grassland - Bracken
Heathland and shrub - Rhododendron scrub
Lakes - Ornamental lake or pond
Sparsely vegetated land - Ruderal/Ephemeral
Urban - Bioswale
Urban - Allotments
Urban - Facade-bound green wall
Urban - Ground based green wall
Urban - Ground level planters
Urban - Other green roof
Urban - Intensive green roof
Urban - Introduced shrub
Urban - Rain garden
Urban - Actively worked sand pit quarry or open cast mine
Urban - Sustainable urban drainage feature
Urban - Vacant/derelict land/ bareground
Urban - Vegetated garden
Woodland and forest - Other coniferous woodland
Coastal saltmarsh - Artificial saltmarshes and saline reedbeds
Intertidal sediment - Artificial littoral coarse sediment
Intertidal sediment - Artificial littoral mud
Intertidal sediment - Artificial littoral sand
Intertidal sediment - Artificial littoral muddy sand
Intertidal sediment - Artificial littoral mixed sediments
Intertidal sediment - Artificial littoral seagrass
Intertidal sediment - Artificial littoral biogenic reefs
Intertidal Hard Structures - Artificial hard structures
Intertidal Hard Structures - Artificial features of hard structures
Heathland and shrub - Sea buckthorn scrub (other)



Trading Rule			
Bespoke compensation likely to be required ✖			
Same habitat required =			
Same broad habitat or a higher distinctiveness habitat required (≥)			
Same distinctiveness or better habitat required ≥			
Distinctiveness			
Group	On Site Unit Change	Off Site Unit Change	Project wide Unit Change
Grassland	0.00	0.00	0.00
Grassland	0.00	0.00	0.00
Grassland	0.00	0.00	0.00
Heathland and shrub	0.00	0.00	0.00
Lakes	0.00	0.00	0.00
Sparsely vegetated land	0.00	0.00	0.00
Sparsely vegetated land	0.00	0.00	0.00
Wetland	0.00	0.00	0.00
Wetland	0.00	0.00	0.00
Wetland	0.00	0.00	0.00
Wetland	0.00	0.00	0.00
Wetland	0.00	0.00	0.00
Wetland	0.00	0.00	0.00
Wetland	0.00	0.00	0.00
Woodland and forest	0.00	0.00	0.00
Rocky shore	0.00	0.00	0.00
Rocky shore	0.00	0.00	0.00
Rocky shore	0.00	0.00	0.00
Rocky shore	0.00	0.00	0.00
Intertidal sediment	0.00	0.00	0.00
	0.00	0.00	0.00

Instinctiveness

Group	On Site Unit Change	Off Site Unit Change	Project wide Unit Change
Grassland	0.00	0.00	0.00

Grassland	0.00	0.00	0.00
Grassland	0.00	0.00	0.00
Grassland	0.00	0.00	0.00
Grassland	0.00	0.00	0.00
Heathland and shrub	0.00	0.00	0.00
Heathland and shrub	0.00	0.00	0.00
Heathland and shrub	0.00	0.00	0.00
Lakes	0.00	0.00	0.00
Lakes	0.00	0.00	0.00
Lakes	0.00	0.00	0.00
Lakes	0.00	0.00	0.00
Lakes	0.00	0.00	0.00
Lakes	0.00	0.00	0.00
Lakes	0.00	0.00	0.00
Sparsely vegetated land	0.00	0.00	0.00
Sparsely vegetated land	0.00	0.00	0.00
Sparsely vegetated land	0.00	0.00	0.00
Sparsely vegetated land	0.00	0.00	0.00
Urban	0.00	0.00	0.00
Wetland	0.00	0.00	0.00
Woodland and forest	0.00	0.00	0.00
Woodland and forest	0.00	0.00	0.00
Woodland and forest	0.00	0.00	0.00
Woodland and forest	0.00	0.00	0.00
Woodland and forest	0.00	0.00	0.00
Woodland and forest	0.00	0.00	0.00
Woodland and forest	0.00	0.00	0.00
Woodland and forest	0.00	0.00	0.00
Coastal lagoons	0.00	0.00	0.00
Rocky shore	0.00	0.00	0.00
Rocky shore	0.00	0.00	0.00
Rocky shore	0.00	0.00	0.00
Rocky shore	0.00	0.00	0.00
Intertidal sediment	0.00	0.00	0.00
Intertidal sediment	0.00	0.00	0.00
Coastal Saltmarsh	0.00	0.00	0.00
Intertidal sediment	0.00	0.00	0.00
Intertidal sediment	0.00	0.00	0.00
Intertidal sediment	0.00	0.00	0.00
Intertidal sediment	0.00	0.00	0.00
Intertidal sediment	0.00	0.00	0.00
	0.00	0.00	0.00



Distinctiveness

Group	On site unit change	Off Site unit Change	Project wide unit change
Cropland	0.00	0.00	0.00
Cropland	0.00	0.00	0.00
Cropland	0.00	0.00	0.00
Cropland	0.00	0.00	0.00
Grassland	0.00	0.00	0.00
Grassland	-0.66	0.00	-0.66
Grassland	0.00	0.00	0.00
Heathland and shrub	0.00	0.00	0.00
Heathland and shrub	-0.06	0.00	-0.06
Heathland and shrub	0.00	0.00	0.00
Heathland and shrub	-0.02	0.00	-0.02
Heathland and shrub	0.00	0.00	0.00
Heathland and shrub	1.86	0.00	1.86
Lakes	0.39	0.00	0.39
Lakes	0.00	0.00	0.00
Sparsely vegetated land	0.00	0.00	0.00
Urban	0.00	0.00	0.00
Urban	0.00	0.00	0.00
Urban	7.48	0.00	7.48
Woodland and forest	0.00	0.00	0.00
Woodland and forest	0.16	0.00	0.16
Woodland and forest	0.00	0.00	0.00
Intertidal sediment	0.00	0.00	0.00
Intertidal sediment	0.00	0.00	0.00
Intertidal	0.00	0.00	0.00
	9.14	0.00	9.14

SS

Group	On site unit change	Off Site Unit Change	Project wide unit change
Cropland	0.00	0.00	0.00
Cropland	0.00	0.00	0.00
Cropland	0.00	0.00	0.00
Cropland	0.00	0.00	0.00
Cropland	0.00	0.00	0.00
Cropland	0.00	0.00	0.00
Grassland	-13.91	0.00	-13.91

Grassland	0.00	0.00	0.00
Heathland and shrub	0.00	0.00	0.00
Lakes	0.00	0.00	0.00
Sparsely vegetated land	0.00	0.00	0.00
Sparsely vegetated land	0.00	0.00	0.00
Urban	0.00	0.00	0.00
Urban	0.00	0.00	0.00
Urban	0.00	0.00	0.00
Urban	0.00	0.00	0.00
Urban	0.00	0.00	0.00
Urban	0.00	0.00	0.00
Urban	0.00	0.00	0.00
Urban	0.00	0.00	0.00
Urban	0.00	0.00	0.00
Urban	0.00	0.00	0.00
Urban	0.34	0.00	0.34
Urban	0.00	0.00	0.00
Urban	3.96	0.00	3.96
Woodland and forest	0.00	0.00	0.00
Coastal saltmarsh	0.00	0.00	0.00
Intertidal sediment	0.00	0.00	0.00
Intertidal sediment	0.00	0.00	0.00
Intertidal sediment	0.00	0.00	0.00
Intertidal sediment	0.00	0.00	0.00
Intertidal sediment	0.00	0.00	0.00
Intertidal sediment	0.00	0.00	0.00
Intertidal sediment	0.00	0.00	0.00
Intertidal	0.00	0.00	0.00
Intertidal	0.00	0.00	0.00
Heathland and shrub	0.00	0.00	0.00
	-9.61		-9.61

Trading Satisfied?
Yes ✓
Yes ✓
No ▲
Yes ✓

Unit Losses
0.00

Very High Distinctiveness Summary
Very High Distinctiveness Units available to offset lower distinctiveness deficit

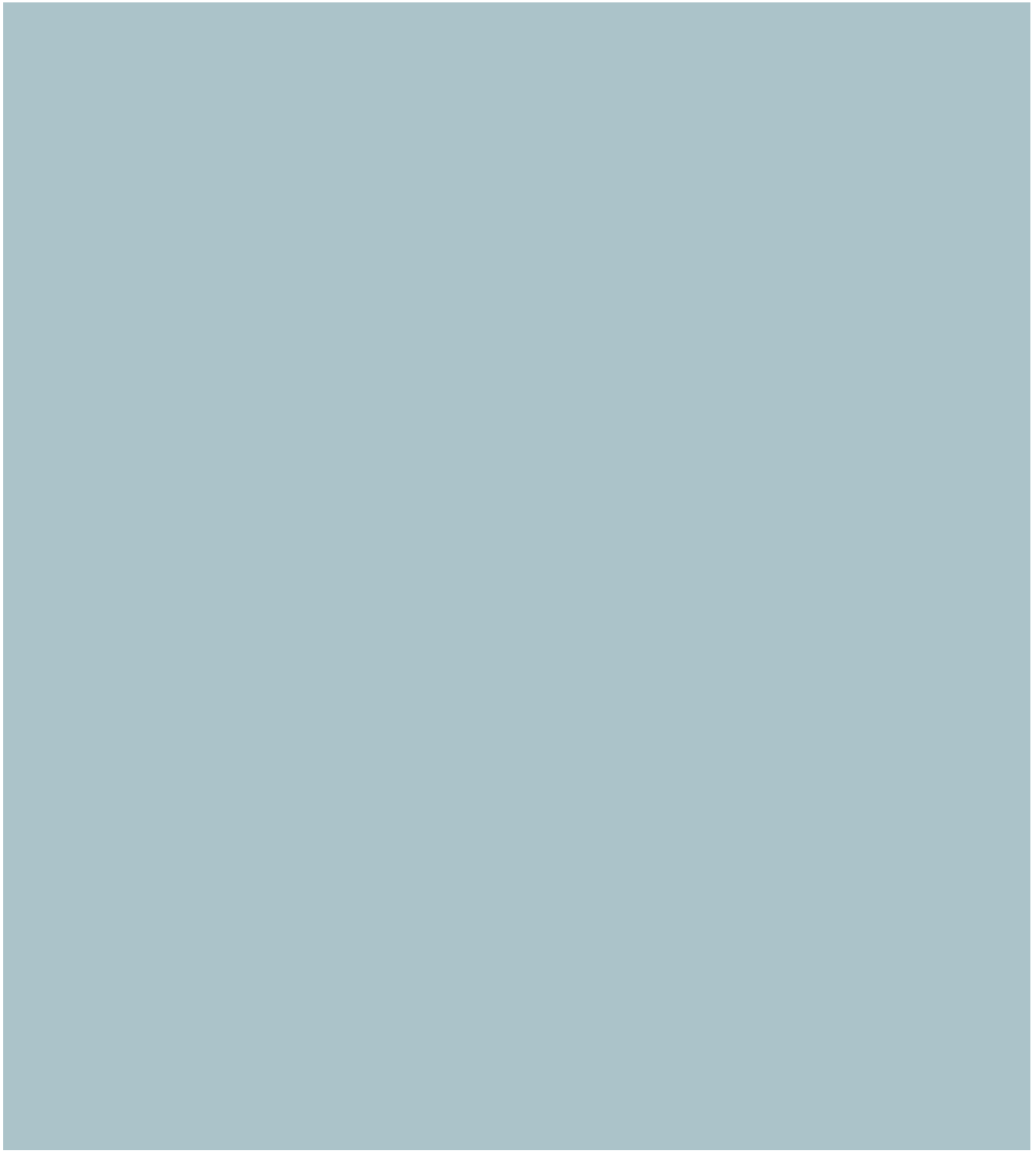
Losses not yet accounted for

High Distinctiveness Summary
High Distinctiveness Units available to offset lower distinctiveness deficit
Unit Defecit; Like for like not satisfied

Cumulative Broad Habitat Change
0.00
-0.66
1.78
0.39
0.00
7.48
0.16
0.00

Medium Distinctiveness Units available to offset lower distinctiveness deficit
Medium Distinctiveness Broad Habitat Deficit to be offset by trading up
Higher distinctiveness surplus units minus Medium Distinctiveness Broad Habitat Defecit
Cumulative surplus of units

Low Distinctiveness Summary
Low Distinctiveness Net Change in Units
Cumulative surplus of units



ary
0.00

y
0.00
✓ 0.00

ary

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Condense / Show C

Main Menu

Ref	Broad Habitat
1	Grassland
2	Grassland
3	Grassland
4	Grassland
5	Grassland
6	Grassland
7	Grassland
8	Heathland and shrub
9	Heathland and shrub
10	Lakes
11	Urban
12	Woodland and forest
13	Woodland and forest
14	
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18	



Land East of Windermere Avenue, Colne

A-1 Site Habitat Baseline

Columns

Condense / Show Rows

Instructions

Habitats and areas	
Habitat Type	Area (hectares)
Modified grassland	3.0247
Modified grassland	0.4524
Other neutral grassland	0.45
Other neutral grassland	0.7656
Other neutral grassland	0.766
Other neutral grassland	1.46
Other neutral grassland	2.42
Bramble scrub	0.0147
Hawthorn scrub	0.0051
Ponds (Non- Priority Habitat)	0.0039
Developed land; sealed surface	0.005
Other woodland; broadleaved	0.1042
Other woodland; broadleaved	0.0562
Total habitat area	9.53



Distinctiveness		Condition	
Distinctiveness	Score	Condition	Score
Low	2	Moderate	2
Low	2	Moderate	2
Medium	4	Good	3
Medium	4	Moderate	2
Medium	4	Moderate	2
Medium	4	Poor	1
Medium	4	Poor	1
Medium	4	Condition Assessment N/A	1
Medium	4	Poor	1
Medium	4	Moderate	2
V.Low	0	N/A - Other	0
Medium	4	Moderate	2
Medium	4	Poor	1



Strategic significance		
Strategic significance	Strategic significance	Strategic Significance multiplier
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1
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Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1



Suggested action to address habitat losses	Ecological baseline
	Total habitat units
Same distinctiveness or better habitat required $\geq$	12.10
Same distinctiveness or better habitat required $\geq$	1.81
Same broad habitat or a higher distinctiveness habitat required	5.40
Same broad habitat or a higher distinctiveness habitat required	6.12
Same broad habitat or a higher distinctiveness habitat required	6.13
Same broad habitat or a higher distinctiveness habitat required	5.84
Same broad habitat or a higher distinctiveness habitat required	9.68
Same broad habitat or a higher distinctiveness habitat required	0.06
Same broad habitat or a higher distinctiveness habitat required	0.02
Same broad habitat or a higher distinctiveness habitat required	0.03
Compensation Not Required	0.00
Same broad habitat or a higher distinctiveness habitat required	0.83
Same broad habitat or a higher distinctiveness habitat required	0.22
	48.25

Retention ca		
Area retained	Area enhanced	Baseline units retained
0	0	0.00
0	0.4523	0.00
0.02	0	0.24
0	0	0.00
0	0.7658	0.00
0	0	0.00
0.03	2.39	0.12
0	0	0.00
0	0	0.00
0.0022	0	0.02
0.005	0	0.00
0.1042	0	0.83
0	0.0562	0.00
0.16	3.66	1.21

Total area lost (excluding area of U
and Green walls)



Category biodiversity value			Bespoke compensation agreed for unacceptable losses
Baseline units enhanced	Area habitat lost	Units lost	
0.00	3.02	12.10	
1.81	0.00	0.00	
0.00	0.43	5.16	
0.00	0.77	6.12	
6.13	0.00	0.00	
0.00	1.46	5.84	
9.56	0.00	0.00	
0.00	0.01	0.06	
0.00	0.01	0.02	
0.00	0.00	0.01	
0.00	0.00	0.00	
0.00	0.00	0.00	
0.22	0.00	0.00	
17.72	5.70	29.32	



Urban trees	5.70	
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Comr

Assessor comments

Details of baseline habitat conditon are provided in
Appendix B of document reference: 9282.009



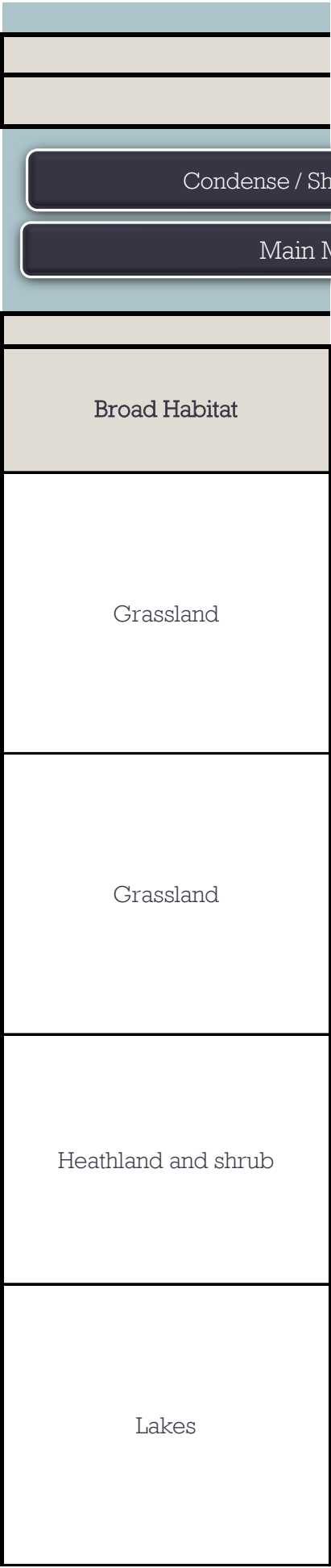


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Reviewer comments

[illegible]





Urban
Urban
Urban
Urban

Land East of Windermere Avenue, Colne

A-2 Site Habitat Creation

Show Columns

Condense / Show Rows

Menu

Instructions

Proposed habitat

Other neutral grassland

Other neutral grassland

Mixed scrub

Ponds (Non- Priority Habitat)

Developed land; sealed surface
Sustainable urban drainage feature
Vegetated garden
Urban Tree
Total habitat area
Site Area (Excluding area of Urban trees and Green walls)



Post development/ post inte

Area (hectares)	Distinctiveness	Condition	Strategic significance
	Distinctiveness	Condition	Strategic significance
0.0051	Medium	Moderate	Area/compensation not in local strategy/ no local strategy
0.0003	Medium	Moderate	Area/compensation not in local strategy/ no local strategy
0.2773	Medium	Moderate	Area/compensation not in local strategy/ no local strategy
0.0563	Medium	Moderate	Area/compensation not in local strategy/ no local strategy

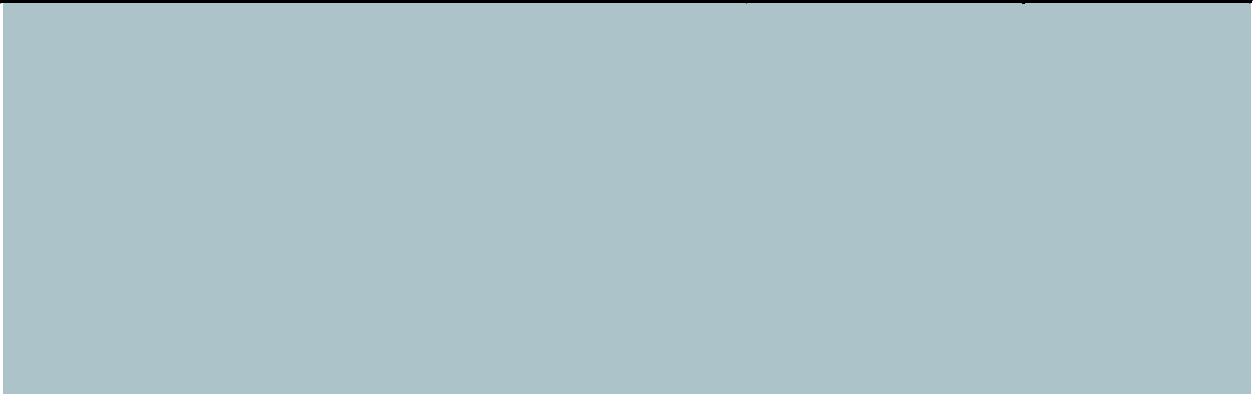
3.1682	V.Low	N/A - Other	Area/compensation not in local strategy/ no local strategy
0.14	Low	Moderate	Area/compensation not in local strategy/ no local strategy
2.0508	Low	Condition Assessment N/A	Area/compensation not in local strategy/ no local strategy
2.44573344	Medium	Moderate	Area/compensation not in local strategy/ no local strategy
8.14			
5.70			

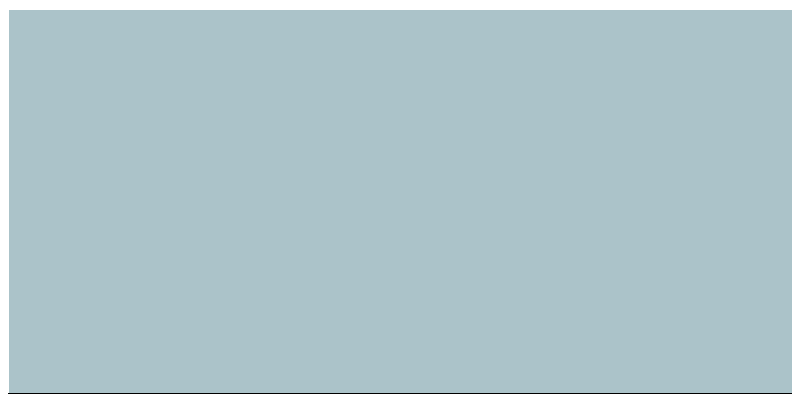


ervention habitats

Temporal multiplier		Difficulty multiplier
Standard or adjusted time to target condition	Final time to target condition/years	Final difficulty of creation
Standard time to target condition applied	5	Low
Standard time to target condition applied	5	Low
Standard time to target condition applied	5	Low
Standard time to target condition applied	3	Low

Standard time to target condition applied	0	Medium
Standard time to target condition applied	3	Medium
Standard time to target condition applied	1	Low
Standard time to target condition applied	27	Low





Habitat units delivered	Cor
	Assessor comments
0.03	Other neutral grassland: This represents a small area of grassland creation that will tie in with adjacent grassland enhancement. Utilising a suitable seed mix of local provenance and detailed management prescriptions, these grasslands could reasonably be expected to pass at least 3 criteria to achieve Moderate condition under a 30 year management plan.
0.00	Other neutral grassland: This represents a small area of grassland creation that will tie in with adjacent grassland enhancement. Utilising a suitable seed mix of local provenance and detailed management prescriptions, these grasslands could reasonably be expected to pass at least 3 criteria to achieve Moderate condition under a 30 year management plan.
1.86	included adjacent to retained woodland onsite and around truck and car parking areas as detailed in the Landscape Strategy. Through standard management prescriptions, could reasonably be expected to pass 3 of the 5 criteria to achieve Moderate condition under 30 year management plan.
0.40	Other neutral grassland: This represents a small area of grassland creation that will tie in with adjacent grassland enhancement. Utilising a suitable seed mix of local provenance and detailed management prescriptions, these grasslands could reasonably be expected to pass at least 3 criteria to achieve Moderate condition under a 30 year management plan.

0.00	
0.34	Sustainable urban drainage feature: SUDS swale features are proposed in the north, east and west of the site, planting of locally provenant wet meadow grassland is proposed as detailed within the Landscape Strategy. Through standard management prescriptions, could reasonably be expected to pass 3 of the 4 criteria to achieve Moderate condition under 30 year management plan
3.96	
7.48	as detailed in the Landscape General Arrangement Plan. It has been assumed 75%/25% split small/medium of moderate condition. That equates to 50 medium trees and 151 small trees. See urban tree helper. Through standard management prescriptions, these could reasonably be expected to pass at least 3 of the 6 criteria to achieve Moderate condition under 30 year management plan
14.07	

Comments
Reviewer comments

[illegible]

Land East of Windermere Avenue, Colne

A-3 Site Habitat Enhancement

Condense / Show Columns

Condense / Show Rows

Main Menu

Instructions

Baseline habitats

Baseline ref	Baseline habitat
2	Grassland - Modified grassland
5	Grassland - Other neutral grassland
7	Grassland - Other neutral grassland

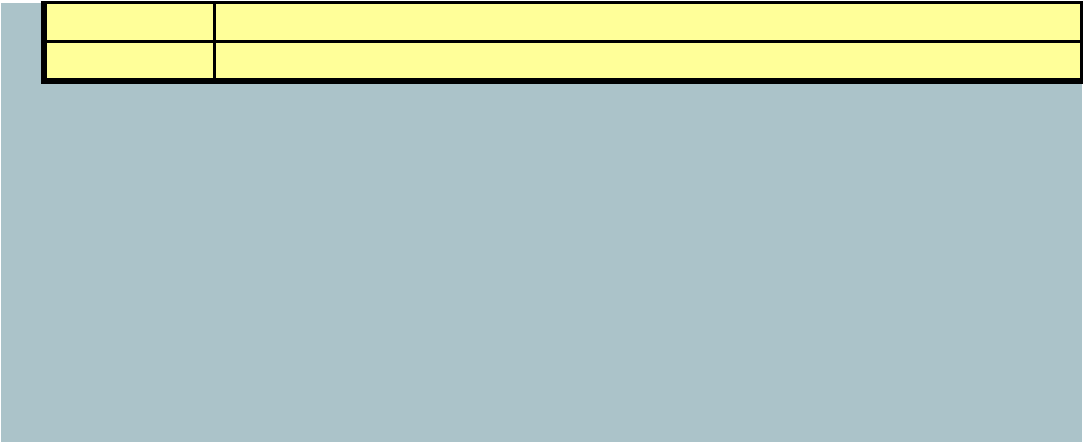
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Propo

Proposed Broad Habitat

Grassland

Grassland

Grassland

Woodland and forest

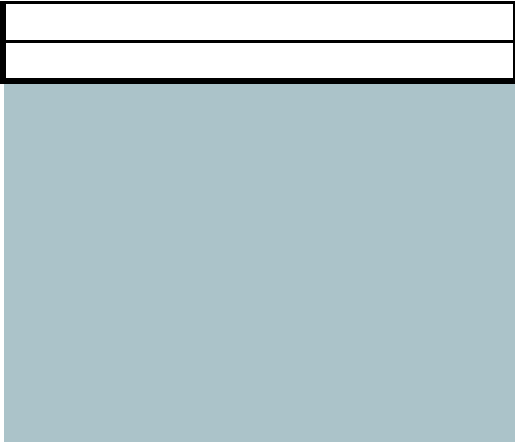
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sed Habitat (Pre-populated but can be overridden)

Proposed habitat

Other neutral grassland

Other neutral grassland

Other neutral grassland

[illegible]

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Post development/ post intervention habitats

Change in distinctiveness and condition		Area (hectares)
Distinctiveness change	Condition change	
Low - Medium	Lower Distinctiveness Habitat - Moderate	0.4523
Medium - Medium	Moderate - Good	0.7658
Medium - Medium	Poor - Good	2.39

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		3.66



Distinctiveness	Condition	Strategic significance
		Strategic significance
Medium	Moderate	Area/compensation not in local strategy/ no local strategy
Medium	Good	Area/compensation not in local strategy/ no local strategy
Medium	Good	Area/compensation not in local strategy/ no local strategy

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Temporal risk multiplier		Difficulty risk multipliers	Habitat units delivered
Standard or adjusted time to target condition	Final time to target condition/years	Final difficulty of enhancement	
Standard time to target condition applied	10	Low	3.08
Standard time to target condition applied	10	Low	8.27
Standard time to target condition applied	15	Low	20.76

[illegible]

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			32.49



Comments	
Assessor comments	Reviewer comments
Modified grassland: Retained areas of modified grassland in good condition within the west of the site will be enhanced to other neutral grassland of moderate condition through a combination of overseeding with a suitable seed mix of local provenance and detailed management prescriptions, this grassland could reasonably be expected to pass at least 3 of the 6 criteria to achieve Moderate condition under a 30 year management plan.	
Other neutral grassland: Retained areas of other neutral grassland in moderate condition within the north and west of the site will be enhanced to other neutral grassland of good condition through a combination of overseeding with a suitable seed mix of local provenance and detailed management prescriptions, this grasslands could reasonably be expected to pass at least 5 of the 6 criteria to achieve Good condition under a 30 year management plan.	
Other neutral grassland: Retained areas of other neutral grassland in poor condition within the north and west of the site will be enhanced to other neutral grassland of Good condition through a combination of overseeding with a suitable seed mix of local provenance and detailed management prescriptions, this grasslands could reasonably be expected to pass at least 5 of the 6 criteria to achieve Good condition under a 30 year management plan.	

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Condense / Show C

Main Menu

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B-1 Site Hedge Baseline

columns

Condense / Show Rows

UK Habitats - existing habitats

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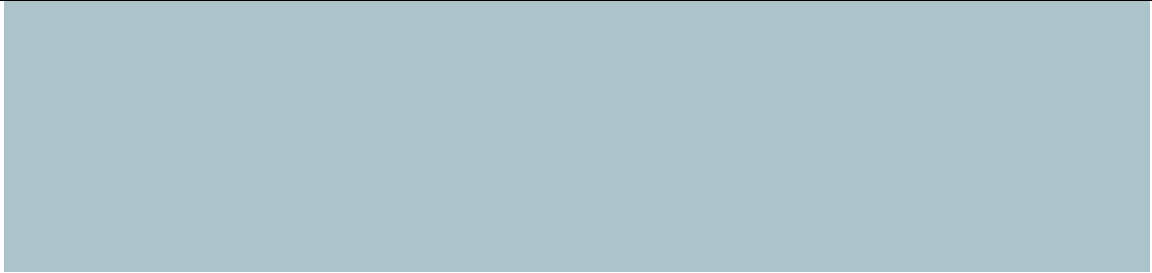
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Reviewer comments

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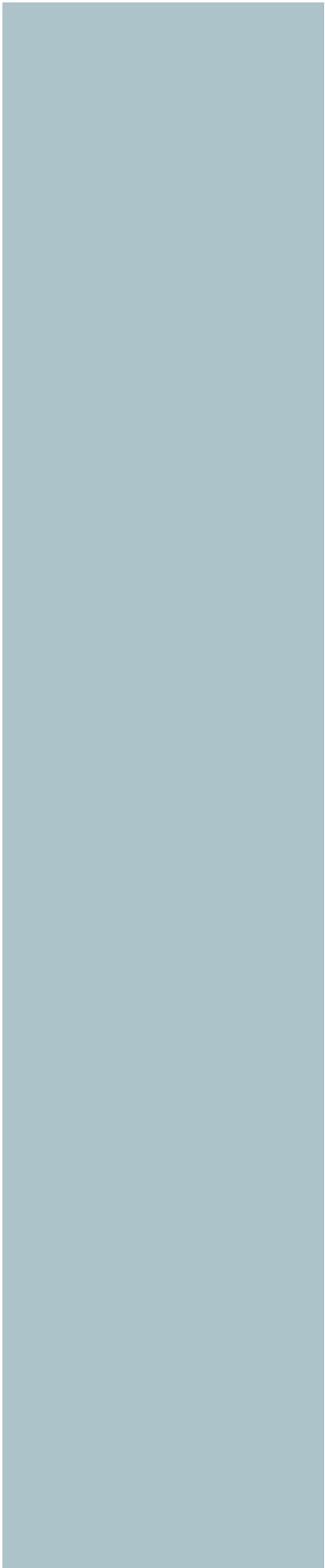
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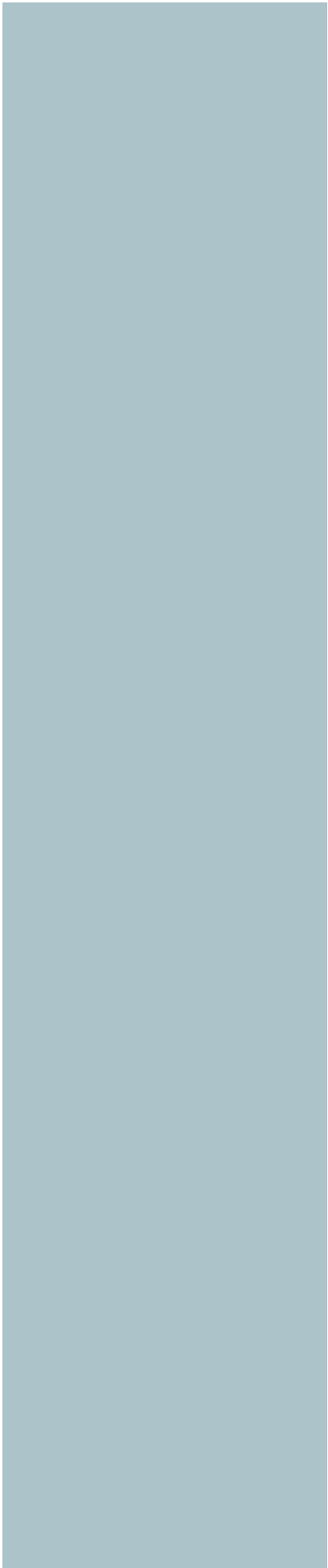
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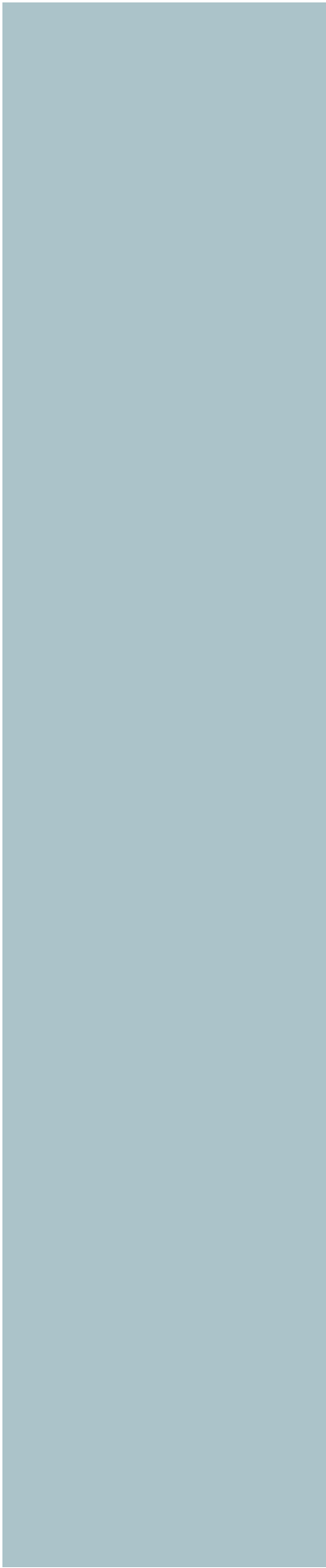
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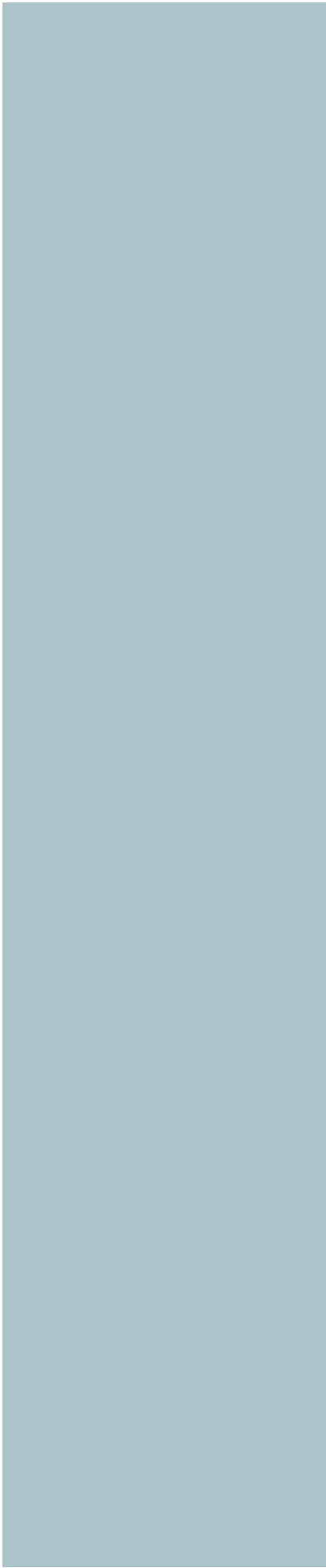
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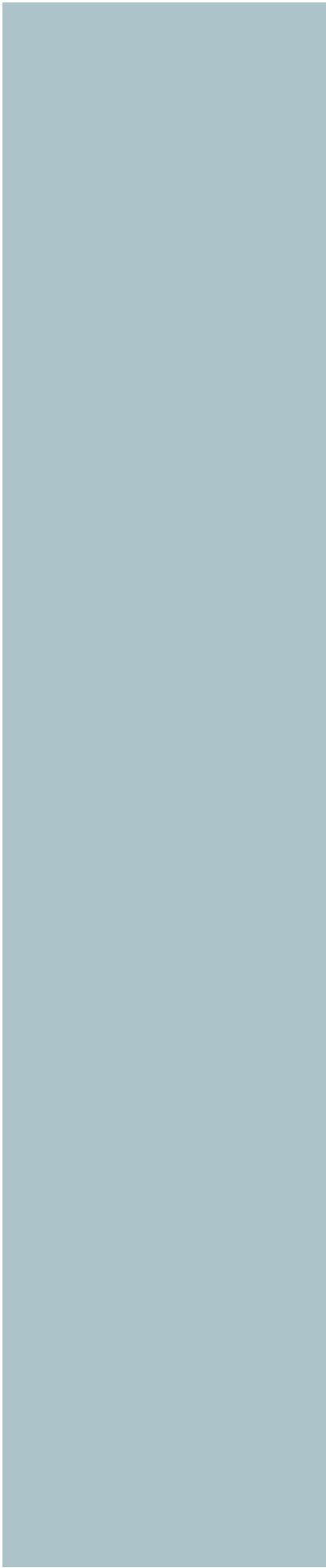
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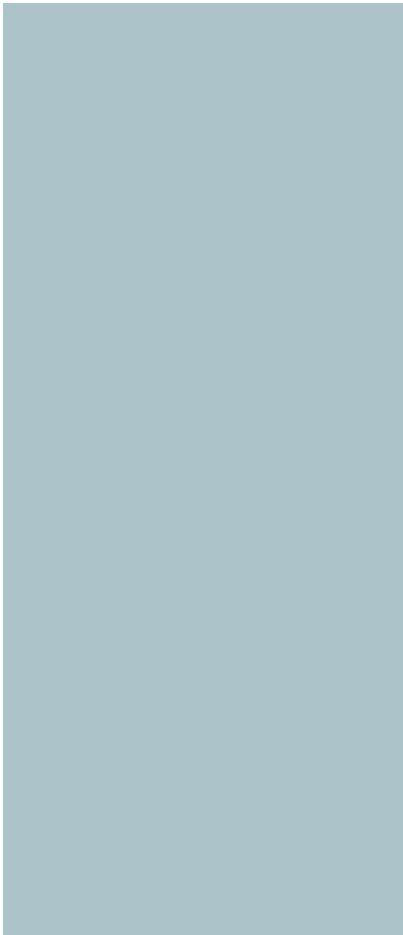












Condense / Show

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Suggested action

Same distinctiveness band or better

Same distinctiveness band or better



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Proposed (Pre-populated but can be overridden)

Native Hedgerow

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C-1 Site River Baseline

[Condense / Show Columns](#)[Condense / Show Rows](#)[Main Menu](#)[Instructions](#)

Existing river type

Baseline ref	River type	Length (km)
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0.64	0.09	0.14	



ments

Reviewer comments

[illegible]

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C-3 Site River Enhancement

Condense / Show Columns

Condense / Show Rows

Main Menu

Instructions

	Baseline habitats
Baseline ref	Baseline habitat
1	Ditches

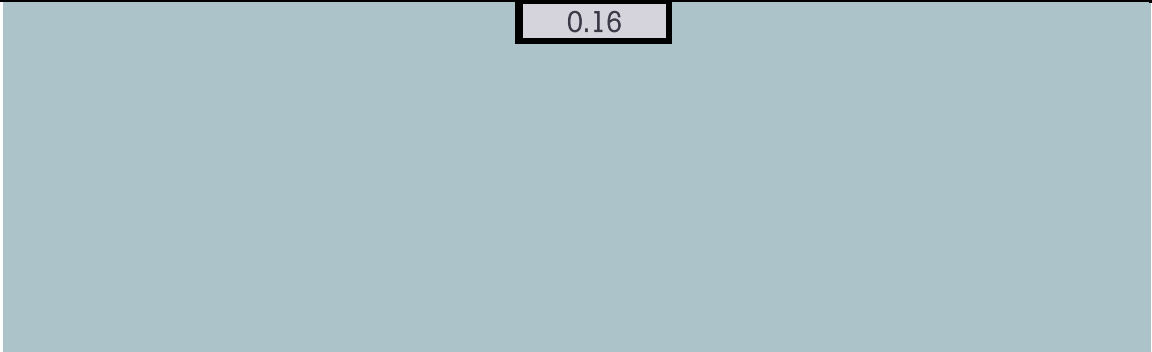


Proposed River Type (Pre-populated can be overridden)	Change in distinctiv
	Distinctiveness movement
Ditches	Medium - Medium





Post development/ post intervention			
Distinctiveness and condition	Length (km)	Habitat distinctiveness	Habitat condition
Condition movement		Distinctiveness	Condition
Poor - Moderate	0.16	Medium	Moderate
	0.16		





tion habitats

Strategic significance		Temporal multiplier	
Strategic significance	Standard or adjusted time to target condition	Final time to target condition/years	
Low potential/action not identified in any plan	Standard time to target condition applied	4	



Difficulty multipliers	Watercourse encroachment	Riparian encroachment	River units delivered
Final difficulty of enhancement	Extent of encroachment	Extent of encroachment	
Medium	No Encroachment	No Encroachment	1.01
			1.01

Comments	
Assessor comments	Reviewer comments
Ditches: Ditch D1 will be enhanced through detailed management prescriptions and could reasonably be expected to pass 6 of the 8 criteria to achieve Moderate condition under a 30 year management plan.	





LAND EAST OF WINDERMERE AVENUE
COLNE
ECOLOGY DESK STUDY

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CONTENTS

PAGE

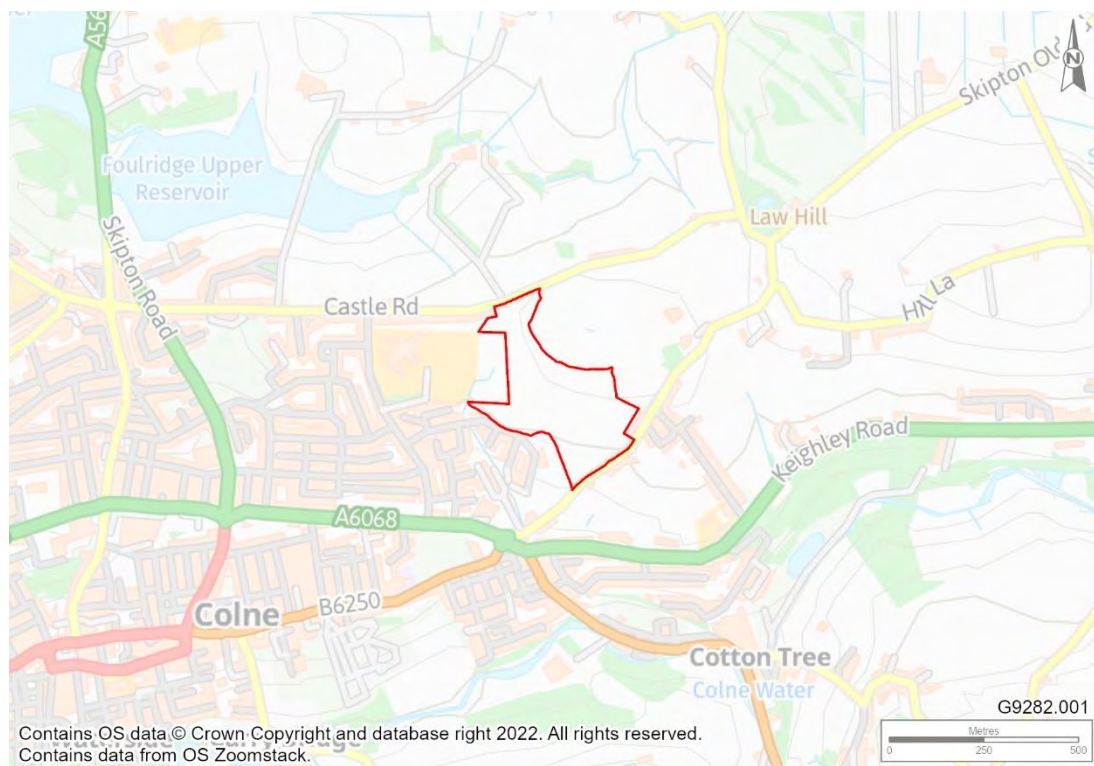
TABLES

PAGE

FIGURES

PAGE

APPENDICES



[illegible]

International Planning Policy

Bern Convention on the Conservation of European Wildlife & Natural Habitats

Bonn Convention on Conservation of Migratory Wild Species

EUROBATS Agreement

**Conservation of Habitats and Species Regulations 2017, as amended
by the Conservation of Habitats and Species (Amendments) (EU Exit)
Regulations 2019**

Wildlife and Countryside Act 1981 (as amended)

Countryside and Rights of Way Act 2000

Natural Environment and Rural Communities Act 2006

Hedgerow Regulations 1997 (as amended)

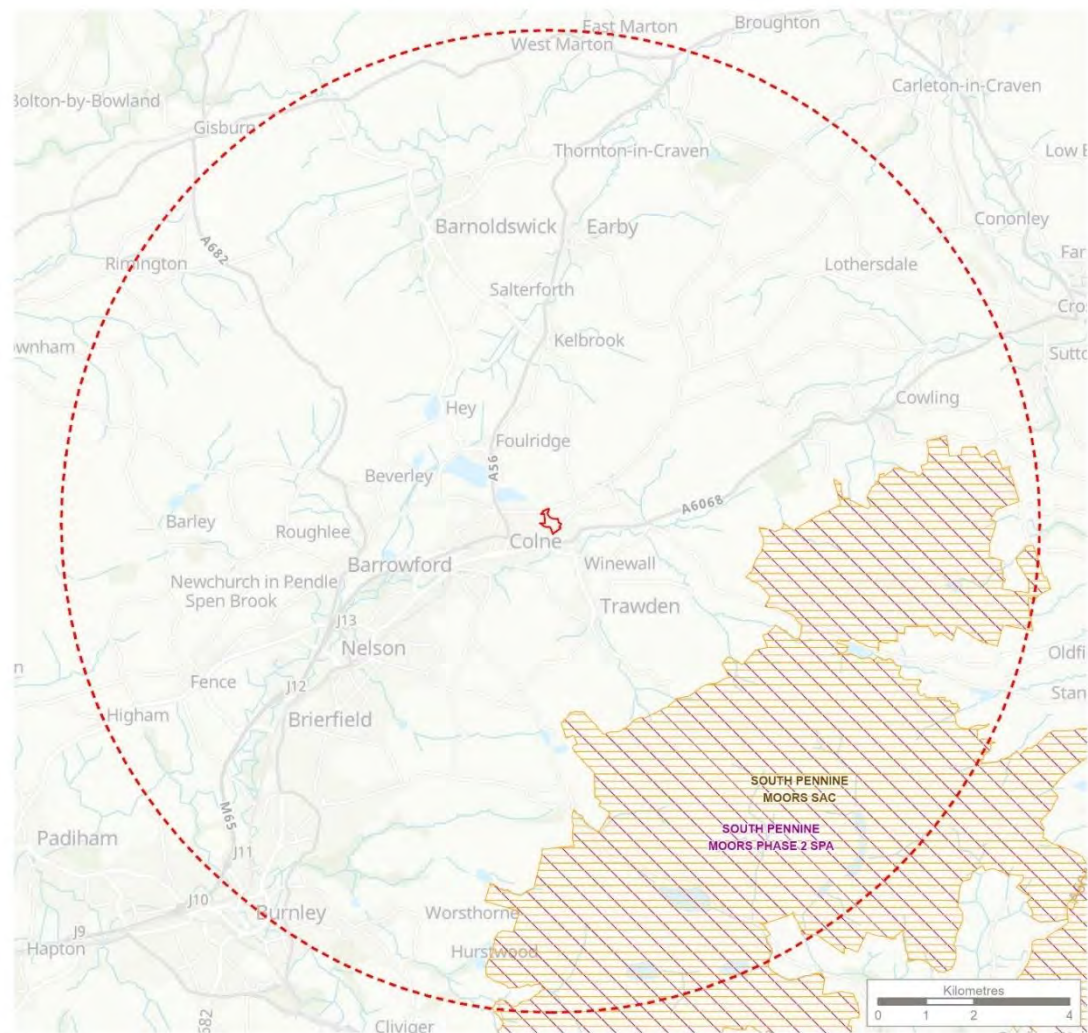
Protection of Badgers Act 1992

Relevant Policy

National Policy

Local Planning Policy

Statutory Designated Wildlife Sites of International Importance



- Key**
- Site boundary
 - Site boundary - 10km buffer
 - Special Areas of Conservation (SAC)
 - Special Protection Areas (SPA)

Sites searched for were as follows:

- Ramsar
- Special Protection Areas (SPA)
- Special Areas of Conservation (SAC)



THE ENVIRONMENT PARTNERSHIP

Genesis Centre, Birchwood Science Park, Warrington WA3 7BH
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project
Land East of Windermere Ave, Colne

Title
Internationally Designated Sites Within a 10km Buffer

Drawing Number
G9282.003

Scale
1:110,000@ A4

Date
10/02/2022

Drawn
BJ

Checked
CW

Approved
VG

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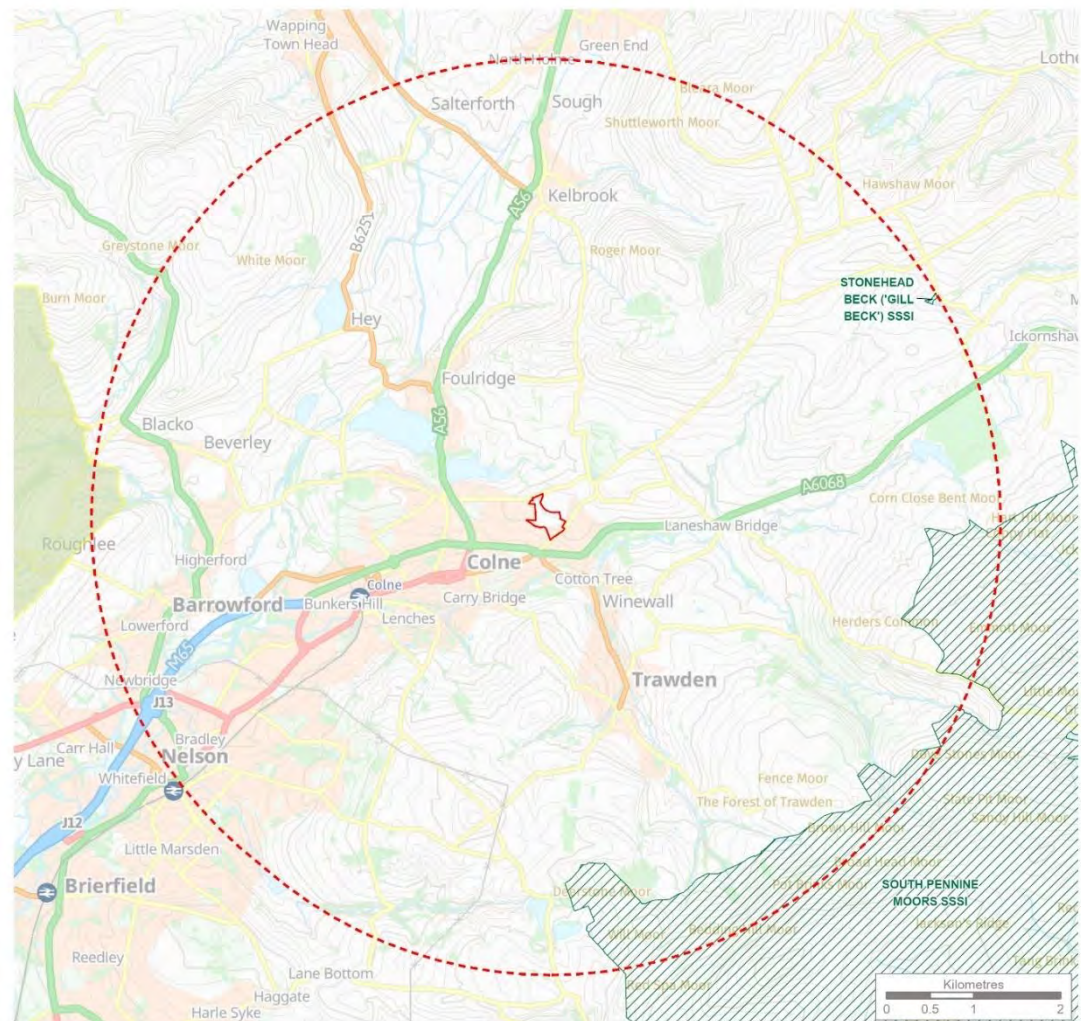
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Statutory Designated Wildlife Sites of National Importance



- Key**
- Site boundary
 - Site boundary - 5km buffer
 - Areas of Outstanding Natural Beauty
 - Sites of Special Scientific Interest (SSSI)

Sites searched for were as follows:
 - Sites of Special Scientific Interest (SSSI)
 - National Nature Reserve (NNR)
 - Area of Outstanding Natural Beauty (AONB)

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 Project
 Land East of Windermere Ave, Colne

Title
 Nationally Designated Sites Within a 5km Buffer

Drawing Number
 G9282.004

Scale
 1:60,000 @ A4

Date
 10/02/2022

Drawn BJ	Checked CW	Approved VG
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[illegible]



Key

- Site boundary
- Site boundary - 5km buffer
- Sites of Special Scientific Interest
- Sites of Special Scientific Interest - Impact Risk Zone

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Project
Land East of Windermere Ave, Colne

Title
Sites of Special Scientific Interest - Impact Risk Zone

Drawing Number
G9282.007

Scale
1:60,000 @ A4

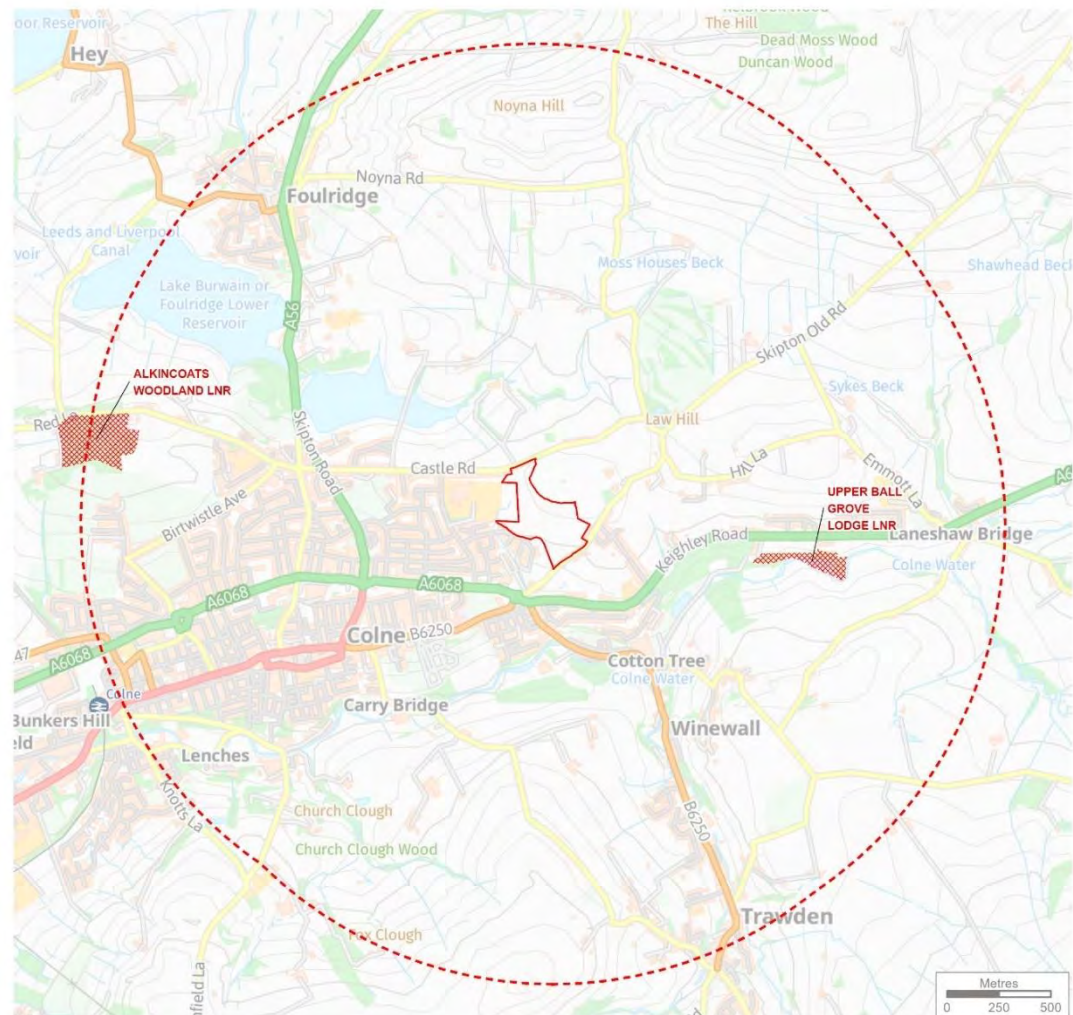
Date
10/02/2022

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Statutory Designated Wildlife Sites of Local Importance



Key
 Site boundary
 Site boundary - 2km buffer
 Local Nature Reserve

Sites searched for were as follows:
 - Local Nature Reserves

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Project
 Land East of Windermere Ave, Colne

Title
 Statutory Locally Designated Sites Within
 2km Buffer

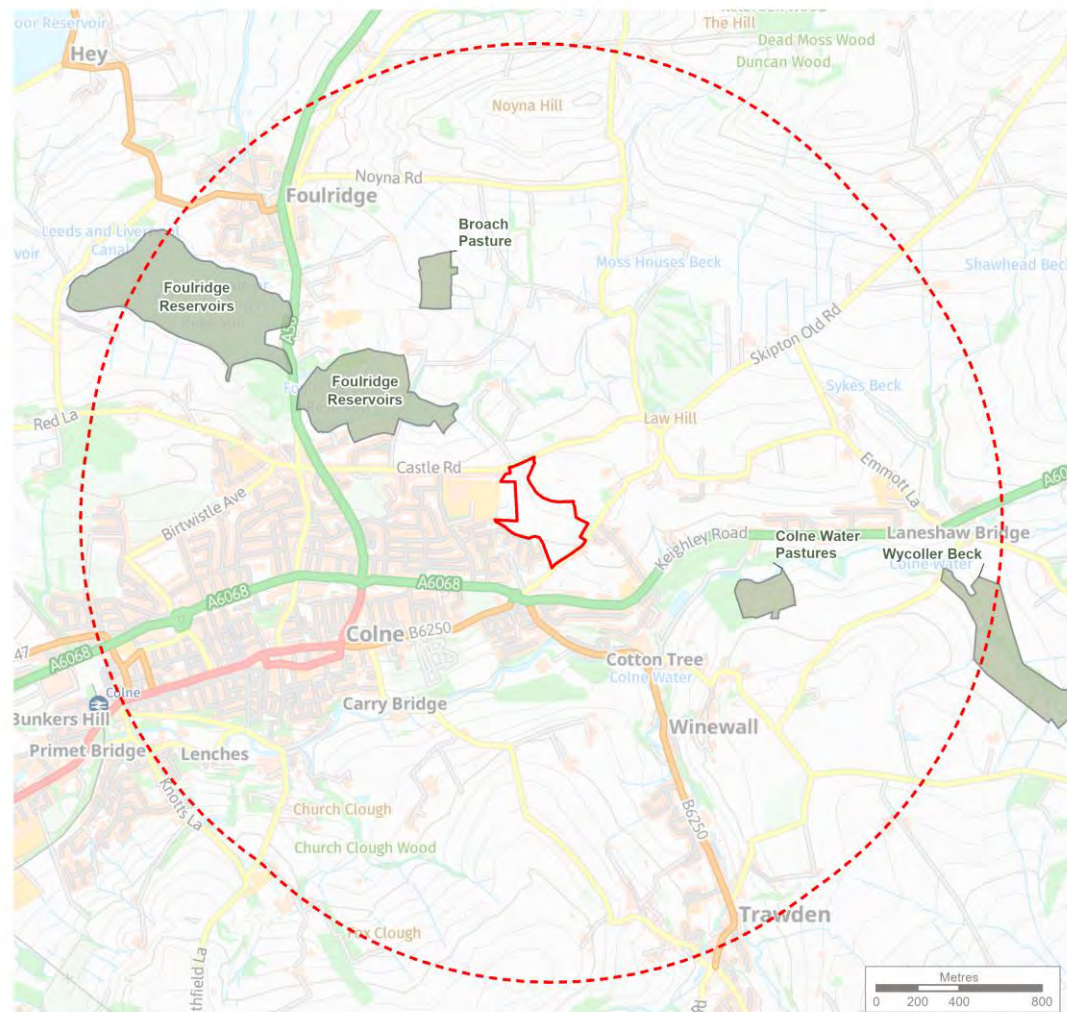
Drawing Number
 G9282.005

Scale 1:25,000 @ A4	Date 10/02/2022
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Non-statutory Designated Wildlife Sites of Local Importance



Key
 Site boundary
 Site boundary - 2km buffer
 Biological Heritage Site (BHS)

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 Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com
 Project
 Land East of Windermere Avenue, Colne

Title
 Non-Statutory Locally Designated Sites
 Within 2km Buffer

Drawing Number
 G9282.021

Scale: 1:25,000 @ A4	Date: 07/09/2022
Drawn BJ	Checked CW
	Approved GH

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Lancashire Environment Record Network
 Biological Heritage Sites provided by LERN

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- Key**
- Site boundary
 - Site boundary - 500m buffer
 - Statutory main rivers (England)
 - Open mosaic habitats on previously developed land
 - Deciduous woodland

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Genesis Centre, Birchwood Science Park, Warrington WA3 7BH
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project
Land East of Windermere Ave. Colne

Title
Notable Habitats Within and Adjacent to the Site

Drawing Number
G9282.006

Scale 1:9,000	Date 10/02/2022
Drawn BJ	Checked CW
	Approved VG

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APPENDIX A: Citations for Statutory Designated Wildlife Sites of International Importance

EC Directive 92/43 on the Conservation of Natural Habitats and of Wild Fauna and Flora

Citation for Special Area of Conservation (SAC)

Name:	South Pennine Moors
Unitary Authority/County:	Barnsley, Bradford, Calderdale, Cheshire, Derbyshire, Kirklees, Lancashire, Leeds, North Yorkshire, Oldham, Rochdale, Sheffield, Staffordshire, Tameside
SAC status:	Designated on 1 April 2005
Grid reference:	SK144960
SAC EU code:	UK0030280
Area (ha):	64983.13
Component SSSI:	Dark Peak SSSI, Eastern Peak District Moors SSSI, Goyt Valley SSSI, Leek Moors SSSI, South Pennine Moors SSSI

Site description:

This site covers the key moorland blocks of the Southern Pennines from Ilkley Moor in the north to the Peak District in the south. The moorlands are on a rolling dissected plateau formed from rocks of Millstone Grit at altitudes of between 300m – 600m and a high point of over 630m at Kinder Scout. The greater part of the gritstone is overlain by blanket peat with the coarse gravely mineral soils occurring only on the lower slopes. The moorlands as a whole support a breeding bird community of national and international importance.

The site is representative of upland dry heath which covers extensive areas, occupies the lower slopes of the moors on mineral soils or where peat is thin, and occurs in transitions to acid grassland, wet heath and blanket bogs. The upland heath of the South Pennines is strongly dominated by *Calluna vulgaris* – *Deschampsia flexuosa* heath and *C. vulgaris* – *Vaccinium myrtillus* heath. More rarely *C. vulgaris* – *Ulex gallii* heath and *C. vulgaris* – *Erica cinerea* heath are found. On the higher, more exposed ground *V. myrtillus* – *D. flexuosa* heath becomes more prominent. The smaller area of wet heath is characterised by cross-leaved heath *Erica tetralix* and purple moor grass *Molinia careulea*. The site also supports extensive areas of acid grassland largely derived from dry and wet heath. In the cloughs, or valleys, which extend into the heather moorlands, a greater mix of dwarf shrubs can be found together with more lichens and mosses. The moors support a rich invertebrate fauna, especially moths, and important bird assemblages.

This site also contains areas of blanket bog, although the bog vegetation communities are botanically poor. Hare's-tail cottongrass *Eriophorum vaginatum* is often overwhelmingly dominant and the usual bog-building *Sphagnum* mosses are scarce. Where the blanket peats are slightly drier, heather *C. vulgaris*, crowberry *Empetrum nigrum* and bilberry *V. myrtillus* become more prominent. The cranberry *Vaccinium oxycoccus* and the uncommon cloudberry *Rubus chamaemorus* is locally abundant in bog vegetation. Bog pools provide diversity and are often characterised by common cottongrass *E. angustifolium*. Substantial areas of the bog surface are eroding, and there are extensive areas of bare peat. In some areas erosion may be a natural process reflecting the great age (up to 9000 years) of the South Pennine peats.

Around the fringes of the upland heath and areas of bog are blocks of old sessile oak woods, usually on slopes. These tend to be dryer than those further north and west, such that the bryophyte communities are less developed (although this lowered diversity may in some instances have been exaggerated by the effects of 19th century air pollution). Other

components of the ground flora such as grasses, dwarf shrubs and ferns are common. Small areas of alder woodland along stream-sides add to the overall richness of the woods.

The moorland also supports a range of flush and fen habitats associated with bogs, cloughs, rivers and streams. Although generally small scale features they have a specialised flora and fauna, which makes a great contribution to the overall biodiversity of the moors. Acid flushes are the most common type and these include transition mires and quaking bogs characterised by a luxuriant carpet of bog mosses *Sphagnum* spp., rushes and sedges.

Qualifying habitats: The site is designated under **article 4(4)** of the Directive (92/43/EEC) as it hosts the following habitats listed in Annex I:

Blanket bogs*

European dry heaths

Northern Atlantic wet heaths with *Erica tetralix*. (Wet heathland with cross-leaved heath)

Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles. (Western acidic oak woodland)

Transition mires and quaking bogs. (Very wet mires often identified by an unstable 'quaking' surface)

This citation relates to a site entered in the Register of European Sites for Great Britain.

Register reference number: UK0030280

Date of registration: 14 June 2005

Signed: *Trevor Salmon*

On behalf of the Secretary of State for Environment, Food and Rural Affairs

EC Directive 79/409 on the Conservation of Wild Birds: Special Protection Area

SOUTH PENNINE MOORS
(SOUTH PENNINE MOORS, PHASE 2)

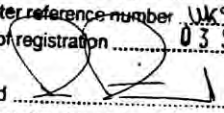
The South Pennine Moors proposed Special Protection Area is an upland of international importance. It provides habitat for an important assemblage of breeding moorland and moorland fringe birds.

The South Pennine Moors (phase 2) qualifies under Article 4.1 of the EC Directive on the Conservation of Wild Birds (79/409) by supporting nationally important breeding populations of two species listed in Annex 1. The most recent count is of 28 pairs of merlin *Falco columbarius* (4.3% of the British breeding population) and 292 pairs of golden plover *Pluvialis apricaria* (1.2%). The density of breeding golden plover is high compared to other regional populations in northern England and Scotland.

The site qualifies under Article 4.2 by supporting, in summer, a diverse assemblage of breeding migratory birds of moorland and moorland fringe habitats including: golden plover, lapwing *Vanellus vanellus*, dunlin *Calidris alpina*, snipe *Gallinago gallinago*, curlew, redshank *Tringa totanus*, common sandpiper *Actitis hypoleucos*, short-eared owl *Asio flammeus*, whinchat *Saxicola rubetra*, wheatear *Oenanthe oenanthe*, ring ouzel *Turdus torquatus* and twite *Carduelis flavirostris*. The population of twite in the South Pennines is geographically distinct and isolated from others in northern Britain, Ireland and Europe.

The South Pennine Moors support the southernmost assemblage in Britain of breeding merlin, red grouse *Lagopus lagopus*, golden plover, dunlin, short-eared owl and twite. These species are either extremely local, rare or absent further south. Together with the scattered populations of merlin, golden plover, dunlin and twite in Ireland these are the most southwestern breeding populations in the world. The South Pennine Moors thus have an important role in maintaining the breeding range of these species.

CAR
January 1995

This citation / map relates to a site entered in
the Register of European sites for Great Britain.
Register reference number UK908022
Date of registration 03 SEP 1998
Signed 
on behalf of the Secretary of State for the Environment

APPENDIX B: Citations for Statutory Designated Wildlife Sites of National Importance

County: West Yorkshire, Lancashire,
Greater Manchester, North Yorkshire.

Site Name: South Pennine Moors

District: Bradford, Calderdale, Kirklees, Leeds, Craven, Burnley, Pendle, Oldham, Rochdale.

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act, 1981

Local Planning Authority: Bradford Metropolitan District Council
Calderdale Metropolitan Borough Council
Kirklees Metropolitan District Council
Leeds City Council
Craven District Council
Burnley District Council
Pendle District Council
Oldham Metropolitan Borough Council
Rochdale Metropolitan Borough Council

National Grid Reference: SD 920300 **Area:** 20,938.05 (ha)

Ordnance Survey Sheet 1:50,000: 103, 104, 109, 110 **1:10,000:** SD 82 NE
SD 83 SE
SD 91 NW, NE,
SW, SE
SD 92 NW, NE,
SW, SE
SD 93 NW, NE,
SW, SE
SD 94 SW, SE
SE 00 NW
SE 01 NW, SW
SE 02 NW, SW
SE 03 NW, SW, SE
SE 04 NW, SW, SE
SE 14 NW, NE,
SW, SE

Date Notified (Under 1981 Act): 26 September 1994 **Date of Last Revision:** –

Other Information:

1. This site incorporates the existing Haworth Moor, Derby Delph, Pule Hill and Standedge Road Cutting SSSIs.
2. This site includes land which has been proposed for designation as a Special Protection Area under the EC Directive 79/409 on the Conservation of Wild Birds.

Description and Reasons for Notification:

This site forms part of the Southern Pennines lying between Ilkley in the north and the Peak District National Park boundary in the south. The majority of the site is within West Yorkshire but it also covers areas of Lancashire, Greater Manchester and North Yorkshire. The largest moorland blocks are Ilkley Moor, the Haworth Moors, Rishworth Moor and Moss Moor.

The underlying rock is Millstone Grit which outcrops at Boulsworth Hill and on the northern boundary of Ilkley Moor. The moorlands are on a rolling dissected plateau between 300m and 450m AOD with a high point of 517m at Boulsworth Hill. The greater part of the gritstone is overlain by blanket peat with the coarse gravelly mineral soils occurring only on the lower slopes.

The site is the largest area of unenclosed moorland within West Yorkshire and contains the most diverse and extensive examples of upland plant communities in the county. Extensive areas of blanket bog occur on the upland plateaux and are punctuated by species rich acidic flushes and mires. There are also wet and dry heaths and acid grasslands. Three habitat types which occur on the site are rare enough within Europe to be listed on Annex 1 of the EC habitats and Species Directive (92/43) EEC. These communities are typical of and represent the full range of upland vegetation classes found in the South Pennines.

This mosaic of habitats supports a moorland breeding bird assemblage which, because of the range of species and number of breeding birds it contains, is of regional and national importance. The large numbers of breeding merlin *Falco columbarius*, golden plover *Pluvialis apricaria* and twite *Carduelis flavirostris* are of international importance.

The southern end of the site has good exposures of the Millstone Grit series and three localities are described under the heading 'Geology'.

Vegetation:

The blanket bogs of the South Pennine Moorlands are dominated by cotton-grass *Eriophorum* spp., and heather *Calluna vulgaris*. Other dwarf shrubs such as crowberry *Empetrum nigrum* and bilberry *Vaccinium myrtillus* occur in varying amounts. Crowberry is abundant on the eroding margins of the blanket bogs of the South Pennine Moors. Unusually it is also abundant in some areas of the cotton grass and heather moors. This crowberry dominant moor is restricted to the South Pennines and is particularly extensive on Ilkley Moor. Areas of wet heath containing cross-leaved heath *Erica tetralix* and cranberry *Vaccinium oxycoccos* have also developed on the blanket mires.

The lower slopes are dominated by heather moorland with large areas of acid grassland. Some parts of the heather moors are burnt for red grouse *Lagopus lagopus* and sheep management. Other dwarf shrubs occur on the heather moors including bilberry, crowberry and the locally uncommon cloud berry *Rubus chamaemorus*.

The large areas of acid grassland on former heathland reflect patterns of heavy grazing and burning. These grasslands are dominated by mat-grass *Nardus stricta* and wavy hair-grass *Deschampsia flexuosa*. On wet slopes purple moor grass *Molinia caerulea* is dominant with the wettest areas supporting heath rush *Juncus squarrosus*.

The most species rich and diverse habitats are the acidic flushes, mires and seepage lines. The more acidic flushes on the blanket peat are dominated by cotton-grass *Eriophorum vaginatum* with sedges like carnation sedge *Carex panicea*, star sedge *C. echinata* and commons sedge *C. nigra* present. In some of these flushes bog asphodel *Narthecium ossifragum* is present or even dominant amongst the moss *Sphagnum* spp/*Polytrichum* spp carpets which also often have dense populations of cranberry. The majority of flushes are less acidic and soft rush *Juncus effusus* tends to dominate in these wetlands with a few herbs like marsh bedstraw *Galium palustre* or bog stichwort *Stellaria alsine* present. Where the waters are richer in minerals, e.g. below springs, a wider range of herbs occur. Marsh violet *Viola palustris*, marsh

pennywort *Hydrocotyle vulgaris* and blinks *Montia fontana* are most common but in a few places rarer species like bogbean *Menyanthes trifoliata* and round-leaved sundew *Drosera rotundifolia* occur. The latter is now very rare in West Yorkshire. The most notable species in these flushes is the pale forget-me-not *Myosotis stolonifera*. This nationally scarce plant is found in only 32 1km squares in Britain, but occurs at two locations on the South Pennine Moors.

There are several regionally important plant communities within the site. Green Withins holds the largest population of bog pondweed *Potamogeton polygonifolius* within West Yorkshire and Ilkley Moor has the only known locality for chickweed wintergreen *Trientalis europaea* in the county. The latter is close to the site where the famous 17th century botanist John Ray found this species in the 1600s. Craggs within the cloughs have ungrazed ledge communities which include ferns not found in other parts of the moors. The beech fern *Phegopteris connectilis* which is now very rare in West Yorkshire survives in at least on clough at the southern end of the site.

Birds:

The moorlands support nationally important numbers of golden plover *Pluvialis apricaria*, curlew *Numenius arquata*, merlin *Falco columbarius* and twite *Carduelis flavirostris*.

These species and the rest of the moorland breeding bird assemblage require the mosaic of habitats and large area of the moors for their survival. The blanket bogs are the main breeding grounds for the golden plover and dunlin *Calidris alpina*. These birds need relatively short vegetation to nest in and access to wet areas to feed, a combination provided by the blanket mires. The South Pennine Moors hold 1.3% of the British breeding population of golden plovers. The very large number of meadow pipits *Anthus pratensis* nesting on the bogs are a major food source for the merlin.

The deeper cover provided by the heather provides nest sites for a range of other species. The merlin population of the South Pennine Moors is particularly important. 4.7% of the British population nests on these moors and the numbers appear to be increasing. Merlin prefer nest sites in the older leggy heather, bracken beds or small trees on the moorland edge and they feed on skylarks *Alauda arvensis* and meadow pipits. Most reliant on the heather moors are the red grouse *Lagopus lagopus scoticus* a sub-species of the willow grouse restricted to the British Isles. Their stronghold is on the managed moors of the Haworth Moors complex. Golden plover are also known to nest on recently burnt areas of heather.

Curlews favour the wet acid grasslands and semi-improved areas on the edge of the moors to breed. A significant number (0.8%) of the British curlew population breed on the South Pennine Moors sharing this habitat with lapwing *Vanellus vanellus* and in the wettest areas snipe *Gallinago gallinago* and redshank *Tringa totanus*.

Twite *Carduelis flavirostris* on the South Pennine Moors represent 1% of the British breeding population. These birds are an isolated southern out-post of the race *pipilans* that occurs only in Scandinavia and the British Isles and is itself isolated from the rest of the world population in the mountains of Central Asia. The birds on the South Pennine Moors are vital to maintain the present world distribution. Twite use virtually all the moorland habitats at different stages of their lifecycle. They prefer heather for nesting but also use bracken, boulder scree, grass tussocks and dry stone walls. Feeding on small seeds they utilise grassy areas throughout the moorlands, weedy areas on the moorland edge, semi-improved pastures and even areas of burnt *Molinia* grassland.

Peregrine *Falco peregrinus* nest in small numbers on suitable crags and disused quarries and up to three pairs of short-eared owl *Asio flammeus* have nested in recent years. The moors also support wheatear *Oenanthe oenanthe*, whinchat *Saxicola rubetra*, ring ouzel *Turdus torquatus* and in some years stonechat *Saxicola torquata*.

The large reservoirs within and adjacent to the site provide feeding areas for moorland nesting birds like dunlin as well as nesting habitat for common sandpiper *Actitis hypoleucos* and grey wagtail *Motacilla cinerea*.

Two more unusual species that nest on the reservoirs are the little ringed plover *Charadrius dubius* and the shelduck *Tadorna tadorna*. The pair of shelduck nesting at Blackstone Edge reservoir are believed to be the highest altitude (1100 feet) nesting birds of this species in Britain. The streams draining the reservoirs and the moors support small numbers of dippers *Cinclus cinclus*.

Geology:

Three locations of special geological interest are identified within the South Pennine Moors: two areas of deltaic sedimentary rocks and a type locality for two diagnostic fossils.

Derby Delph Quarry (SE 017161). This quarry is of considerable sedimentological interest, it displays sandstones of Namurian age displaying two distinct bed form types, one consisting of large scale cross-bedded units and the other showing undulatory bedding. The latter type of structure was first described from this locality, and its relationship to the cross-bedded units is clearly visible. The interpretation of these structures has been a key factor in establishing a model for coarse sediment deposition in distributary channels, and thus for deltaic sedimentation as a whole.

In layman's terms, the quarry and rock outcrops within this site provide excellent exposures of sandstone layers of the Namurian Series, formed during the Carboniferous Period of geological history, about 315 million years ago. The sandstones originally accumulated on the bed of a major river delta, perhaps comparable to the modern Mississippi delta. The form of the sandstone layers is remarkably well displayed and detailed research here has enabled geologists to understand for the first time some of the characteristics of sand deposits formed in river deltas. This is thus an important site for geological study of the Namurian which has made a significant contribution to the understanding of river-bed deposits.

Standedge Road Cutting (SE 018095-023098). This site provides one of the most complete sections through the Namurian Kinderscout Grit, almost in their entirety, with the Butterly Marine Band intervening. The readily accessible sequence presents an excellent example of deltaic cyclothems, with shales and sandstones capped by seat earths and thin coals.

A key section of great sedimentological interest in a thick stratigraphically important sandstone sequence.

In layman's terms, this road cutting provides important exposures of the Kinderscout Grit which formed during the Carboniferous Period of geological time, about 320 million years ago. The rock sequence consists of thick sandstone layers separated by layers of shale, clay and thin coal seams. The rocks accumulated on a large river delta and contain important layers rich in the fossilised remains of marine animals which accumulated during periods when the delta became flooded by the sea. The rock layers accumulated in a repeated (or cyclic) sequence characteristic of sediments formed on a river delta. This is an important site for geological

study of the Namurian series, and is of special interest as a reference section for comparative purposes.

Pule Hill (SE 032112-032117). The section here exposed contains the Namurian Pule Hill Grit, at its type locality, overlying a sequence of goniatite-bearing shales. These constitute the type locality of the stratigraphically diagnostic goniatites *Reticuloceras bilingue* and *R. gracile*. The Pule Hill Grit is of particular interest at this locality for containing abundant bivalve and gastropod fauna. A key locality for studies of Upper Carboniferous goniatites with important implications for stratigraphic studies of the late Namurian (Marsdenian Stage).

In layman's terms, the quarry faces and rock outcrops within this site provide excellent exposures of rocks of the Namurian Series originally formed during the Carboniferous Period of geological history, about 320 million years ago. The rocks consist of shales overlain by a thick sandstone layer known as the Pule Hill Grit, both rock-types containing fossils of particular interest. The most important fossils here are the remains of marine animals known as goniatites which can be used to accurately date the rocks for the purposes of comparison with rock sequences elsewhere in Britain and overseas. Pule Hill is the locality where two particularly useful goniatites were first found and described. This is an important site for geological study of the Namurian Series especially in respect of the fossils used for dating rocks of this age.

County: North Yorkshire **Site name:** Stonehead Beck ('Gill Beck')

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981, as amended.

Local Planning Authority: Craven District Council.

National Grid Reference: SD 947432

Ordnance Survey Sheet 1: 50,000: 103 **1: 10,000:** SD 94 SW

Area: 0.58 (ha) 1.43 (ac)

First Notified: 1986

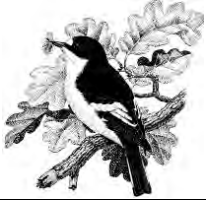
Description:

A 40M sequence of shales with seven marine beds is exposed in the bank of Stonehead Beck, a tributary of 'Gill Beck', (by which name the site is internationally known to geologists), clearly demonstrating the boundary between the E² and H^{1/2} goniatite zones. The marked difference in goniatite and bivalve faunas between the two is well seen here, as is the transition in miospore floras. Gill Beck has been proposed as the boundary stratotype for the base of the Chokerian Stage, a chronostratigraphical unit to be adopted throughout western Europe. Since this horizon may also be used as the dividing line between the upper and lower Carboniferous subsystems (equivalent to the Mississippian-Pennsylvania boundary in North America, and the lower-middle Carboniferous boundary in the U.S.S.R.), Gill Beck is a site of considerable international importance.

Other Information:

This site is identified as of international importance in the Geological Conservation Review.

APPENDIX C: Citations for Non-statutory Designated Wildlife Sites of Local Importance



Lancashire County Heritage Sites

Site Name:

Site Ref:

Approved:

Area (ha):

Date written/last updated:

Grid Ref:

Owner/Occupier:

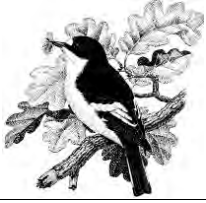
Districts:

Parishes:

Description:

Guideline(s) for Site Selection:

Other Information/Comments:



Lancashire County Heritage Sites

Site Name:

Site Ref:

Approved:

Area (ha):

Date written/last updated:

Grid Ref:

Owner/Occupier:

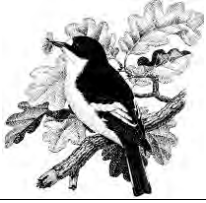
Districts:

Parishes:

Description:

Guideline(s) for Site Selection:

Other Information/Comments:



Lancashire County Heritage Sites

Site Name:

Site Ref:

Approved:

Area (ha):

Date written/last updated:

Grid Ref:

Owner/Occupier:

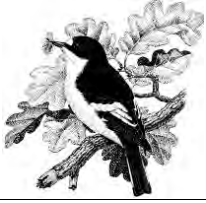
Districts:

Parishes:

Description:

Guideline(s) for Site Selection:

Other Information/Comments:



Lancashire County Heritage Sites

Site Name:

Site Ref:

Approved:

Area (ha):

Date written/last updated:

Grid Ref:

Owner/Occupier:

Districts:

Parishes:

Description:

Guideline(s) for Site Selection:

Other Information/Comments:

APPENDIX D: Species Records within 2km of the Site



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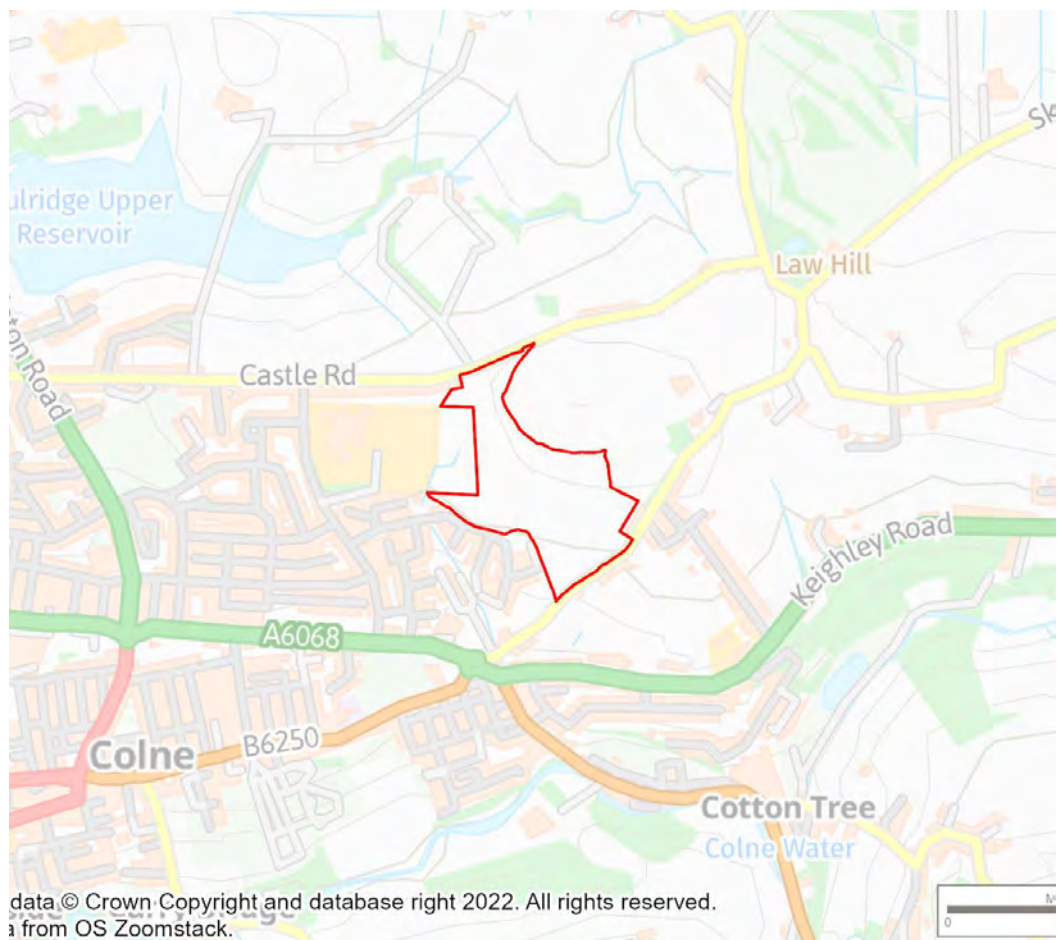
LAND EAST OF WINDERMERE AVENUE

COLNE

GREAT CRESTED NEWT EDNA SURVEY REPORT

[illegible]

Scope



Habitat Suitability Index (HSI) Assessments

Qualifications

Environmental DNA (eDNA)

Qualifications

Egg Searches

Qualifications



Habitat Suitability Index (HSI) Assessments

[illegible]

Suitability Index	Measure	Pond 1 HSI Scores

eDNA

Egg Searches

APPENDIX A: eDNA Results Letters

Client: Danielle Langton,
The Environment Partnership



ADAS
Spring Lodge
172 Chester Road
Helsby
WA6 0AR

Tel: 01159 229249
Email: Helen.Rees@adas.co.uk
www.adas.uk

Sample ID: ADAS-4300 Condition on Receipt: Low Sediment Volume: Passed
Client Identifier: Pond 1, Windermere Ave, 9282 Description: pond water samples in preservative
Date of Receipt: 13/05/2022 Material Tested: eDNA from pond water samples

Determinant	Result	Method	Date of Analysis
Inhibition Control [†]	2 of 2	Real Time PCR	16/05/2022
Degradation Control [§]	Evidence of degradation	Real Time PCR	16/05/2022
Great Crested Newt*	Indeterminate	Real Time PCR	16/05/2022
Negative PCR Control (Nuclease Free Water)	0 of 4	Real Time PCR	As above for GCN
Positive PCR Control (GCN DNA 10 ⁻⁴ ng/μL) [#]	4 of 4	Real Time PCR	As above for GCN
Report Prepared by:	Dr Helen Rees	Report Issued by:	Dr Ben Maddison
Signed:		Signed:	
Position:	Director: Biotechnology	Position:	MD: Biotechnology
Date of preparation:	18/05/2022	Date of issue:	18/05/2022

eDNA analysis was carried out in accordance with the stipulated methodology found in the Technical Advice Note (WC1067 Appendix 5 Technical Advice Note) published by DEFRA and adopted by Natural England.

** If all PCR controls and extraction blanks give the expected results a sample is considered: negative for great crested newt if all of the replicates are negative; positive for great crested newt if one or more of the replicates are positive.*

[†] Recorded as the number of positive replicate reactions at expected C_t value. If the expected C_t value is not achieved, the sample is considered inhibited and is diluted as per the technical advice note prior to amplification with great crested newt primer and probes.

[§] No degradation is expected within time frame of kit preparation, sample collection and analysis.

[#] Additional positive controls (10⁻¹, 10⁻², 10⁻³ ng/μL) are also routinely run, results not shown here.

Appendix 1: Interpretation of results

Sample Condition

Upon sample receipt we score your samples according to quality: good, low sediment, medium sediment, high sediment, white precipitate, and presence of algae.

There are three reasons as to why sediment should be avoided:

1. It is possible for DNA to persist within the sediment for longer than it would if it was floating in the water which could lead to a false positive result i.e. in this case GCN not recently present but present a long time ago
2. In some cases sediment can cause inhibition of the PCR analysis used to detect GCN eDNA within samples which could lead to an indeterminate result.
3. In some cases sediment can interfere with the DNA extraction procedure resulting in poor recovery of the eDNA which in turn can lead to an indeterminate result.

Algae can make the DNA extraction more difficult to perform so if it can be avoided then this is helpful.

Sometimes samples contain a white precipitate which we have found makes the recovery of eDNA very difficult. This precipitate can be present in such high amounts that it interferes with the eDNA extraction process meaning that we cannot recover the degradation control (nor most likely the eDNA itself) at sufficient levels for the control to be within the acceptable limits for the assay, therefore we have to classify these type of samples as indeterminate.

What do my results mean?

A positive result means that great crested newts are present in the water or have been present in the water in the recent past (eDNA degrades over around 7-21 days).

A negative result means that DNA from the great crested newt has not been detected in your sample.

On occasion an inconclusive result will be issued. This occurs where the DNA from the great crested newt has not been detected but the controls have indicated that either: the sample has been degraded and/or the eDNA was not fully extracted (poor recovery); or the PCR inhibited in some way. This may be due to the water chemistry or may be due to the presence of high levels of sediment in samples which can interfere with the DNA extraction process. A re-test could be performed but a fresh sample would need to be obtained. We have successfully performed re-tests on samples which have had high sediment content on the first collection and low sediment content (through improved sample collection) on the re-test. If water chemistry was the cause of the indeterminate then a re-test would most likely also return an inconclusive result.

The results will be recorded as indeterminate if the GCN result is negative and the degradation result is recorded as:

1. evidence of decay - meaning that the degradation control was outside of accepted limits
2. evidence of degradation or residual inhibition - meaning that the degradation control was outside of accepted limits but that this could have been due to inhibitors not being removed sufficiently by the dilution of inhibited samples (according to the technical advice note)

Client: Danielle Langton,
The Environment Partnership



ADAS
Spring Lodge
172 Chester Road
Helsby
WA6 0AR

Tel: 01159 229249
Email: Helen.Rees@adas.co.uk
www.adas.uk

Sample ID: ADAS-4314 Condition on Receipt: Good Volume: Passed
Client Identifier: Pond 1, 9282 Description: pond water samples in preservative
Date of Receipt: 25/05/2022 Material Tested: eDNA from pond water samples

Determinant	Result	Method	Date of Analysis
Inhibition Control [†]	2 of 2	Real Time PCR	26/05/2022
Degradation Control [§]	Evidence of degradation	Real Time PCR	26/05/2022
Great Crested Newt*	Indeterminate	Real Time PCR	26/05/2022
Negative PCR Control (Nuclease Free Water)	0 of 4	Real Time PCR	As above for GCN
Positive PCR Control (GCN DNA 10 ⁻⁴ ng/μL) [#]	4 of 4	Real Time PCR	As above for GCN

Report Prepared by: Dr Helen Rees Report Issued by: Dr Ben Maddison

Signed:

Signed:

Position: Director: Biotechnology Position: MD: Biotechnology

Date of preparation: 26/05/2022 Date of issue: 26/05/2022

eDNA analysis was carried out in accordance with the stipulated methodology found in the Technical Advice Note (WC1067 Appendix 5 Technical Advice Note) published by DEFRA and adopted by Natural England.

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LAND EAST OF WINDERMERE AVENUE
COLNE
BREEDING BIRD SURVEY

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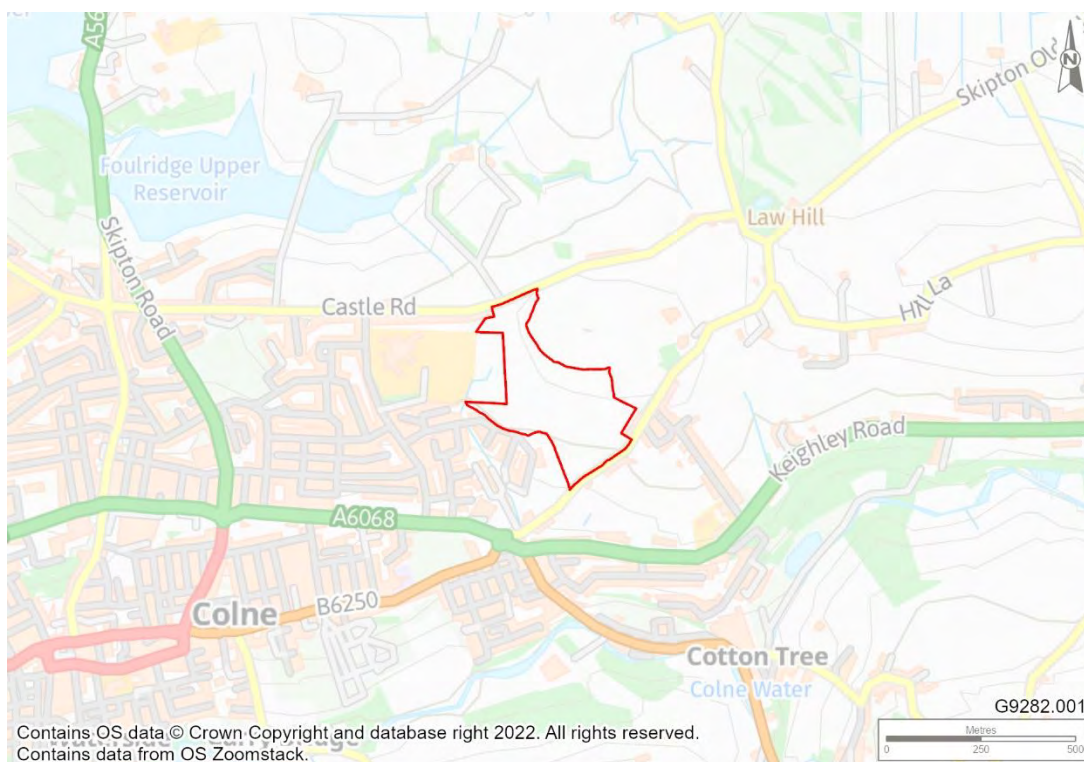
CONTENTS

PAGE

TABLES

PAGE

DRAWINGS



[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Date(s)	
Surveyor	
Weather	
Seasonal Constraints	
Drawing References	
Survey Periods	

Land East of Windermere Avenue
Colne
Breeding Bird Survey

[illegible]

Land East of Windermere Avenue
Colne
Breeding Bird Survey

[illegible]

Land East of Windermere Avenue Colne Breeding Bird Survey



	1		2		3		4		5		6		7	8	
Total Species	8	27	10	33	7	29	10	27	4	20	10	29			

Results Summary

Evaluation of Site Value for Breeding Birds

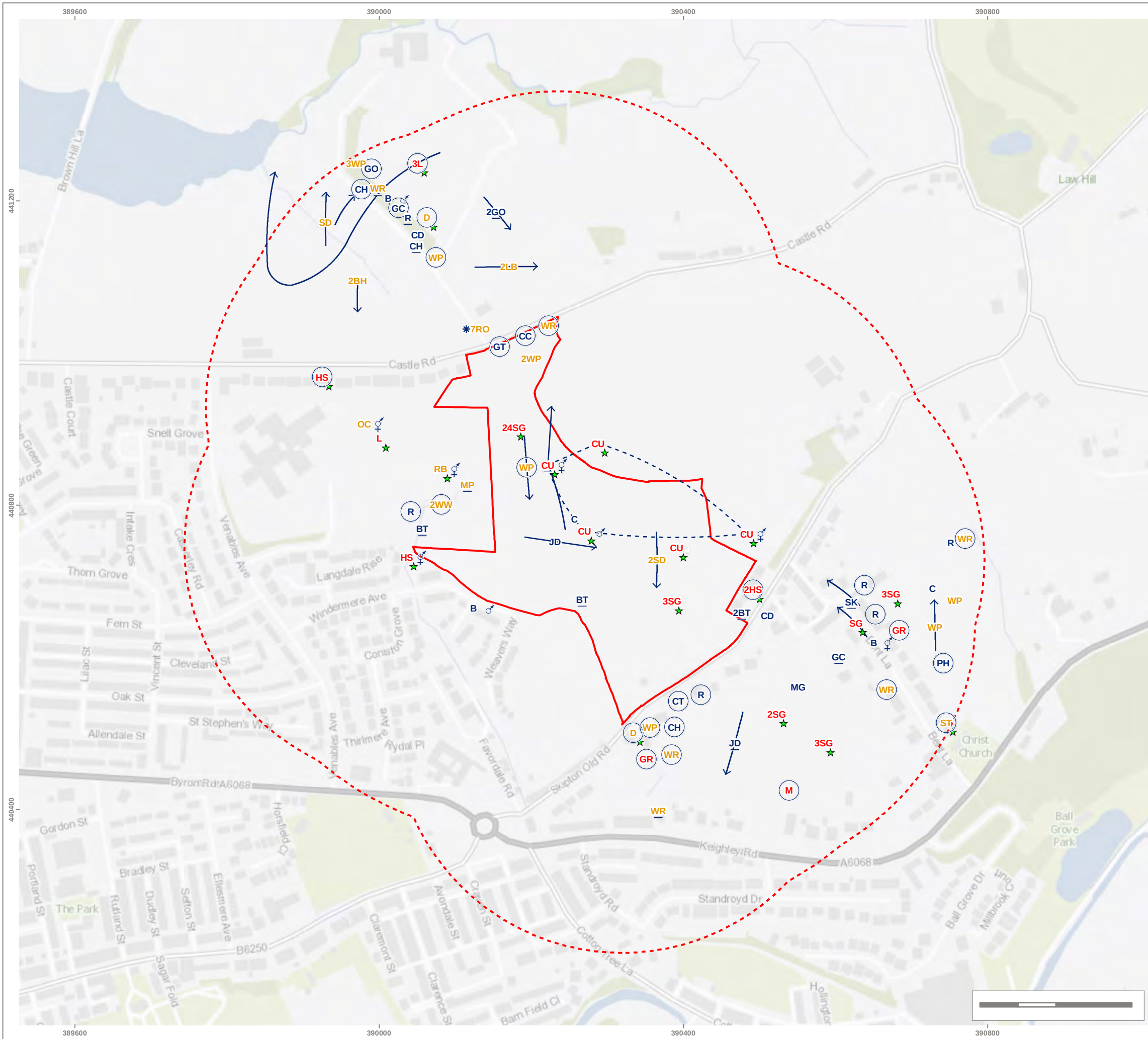
significance for breeding birds less than local

Individual Species Assessment

Habitat Discussion

DRAWINGS

G9282.010 Breeding Bird Survey Visit 1 - 22.03.2022
G9282.011 Breeding Bird Survey Visit 2 - 19.04.2022
G9282.012 Breeding Bird Survey Visit 3 - 09.05.2022
G9282.013 Breeding Bird Survey Visit 4 - 25.05.2022
G9282.014 Breeding Bird Survey Visit 5 - 13.06.2022
G9282.015 Breeding Bird Survey Visit 6 - 01.07.2022



KEY



Species Codes

Note

Red

Amber



Site Map





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LAND EAST OF WINDERMERE AVENUE COLNE WINTER BIRD HABITAT ASSESSMENT

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Offices in Warrington, Market Harborough, Gateshead, London and Cornwall

Document Title	Winter Bird Habitat Assessment
Prepared for	Accrue Limited
Prepared by	TEP - Warrington
Document Ref	9282.006

Author	Mike Walker
Date	October 2022
Checked	Tim Ross
Approved	Tim Ross

Amendment History					
Version	Date	Modified by	Check / Approved by	Reason(s) issue	Status
1.0	02/09/2022	MW	TR	Draft for client review	DRAFT
2.0	03/10/2022	MW	VG	Updates following client review and September surveys	FINAL

CONTENTS	PAGE
1.0 Introduction	5
2.0 Method 6	
3.0 Protected Site and Species Records	7
4.0 Winter Bird Habitat Assessment	17
5.0 Discussion	25

TABLES	PAGE
Table 1: Sources of Ecological Information	6
Table 2: Notable Bird Species Records within 2km of the Site obtained from LERN	7
Table 3. Notable wintering bird records, as well as all waterbird species within tetrad containing the site (SD94A).....	11
Table 4. Bird species recorded within the site and surrounding area during the January and two September 2022 winter bird survey visits.....	13

FIGURES	PAGE
Figure 1: Site Location Plan	5
Figure 2. Looking north into site from southwest corner of the site.	18
Figure 3. Defunct outgrown hedgerow within the centre of the site.....	19
Figure 4. Small building in south west corner of site, and strip of woodland along southern site boundary.	20
Figure 5. Public footpath passing through rough grassland within site (looking south towards southern site boundary).	21
Figure 6. Looking north down slope from outside of the site to the north, towards Foulridge Upper Reservoir, with a group of wildfowl present within the Foulridge Reservoirs BHS.	23
Figure 7. Outside of site to northeast. Looking south up sloping field to the north eastern site boundary	24

APPENDICES

APPENDIX A: Citations for Statutory Designated Wildlife Sites of International Importance

APPENDIX B: Citations for Statutory Designated Wildlife Sites of National Importance

DRAWINGS

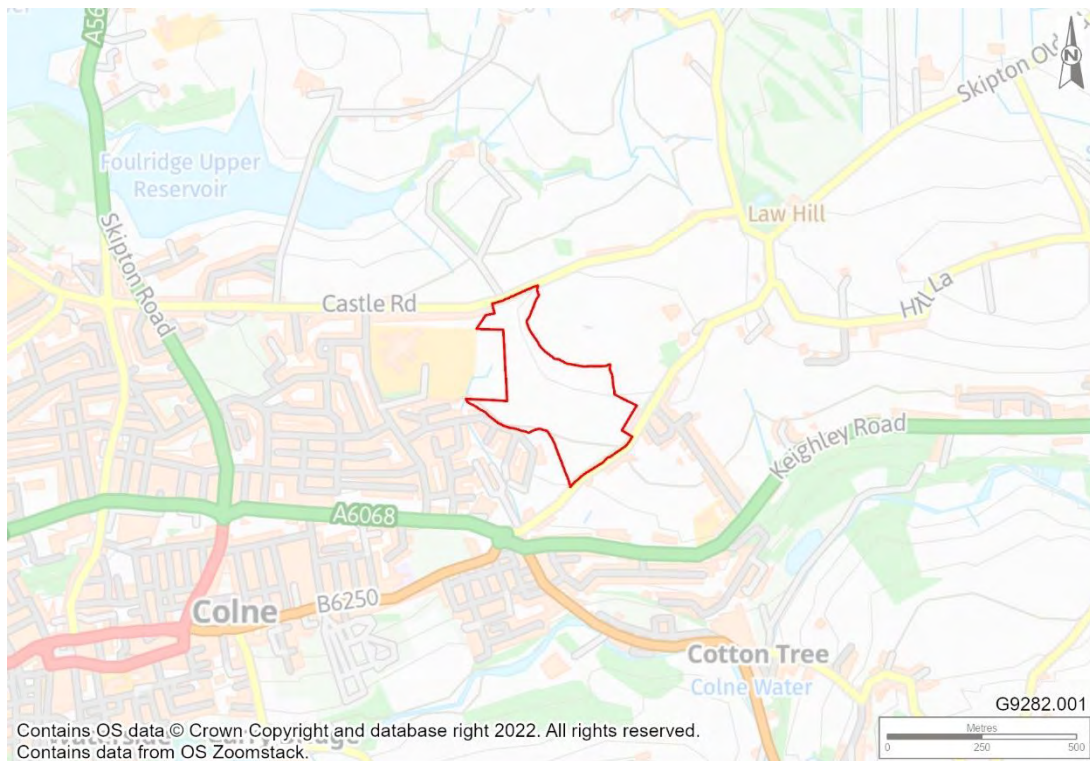
G9282.008 Winter Bird Survey Visit 1

G9282.022 Winter Bird Survey Visit 2

G9282.023 Winter Bird Survey Visit 3

1.0 Introduction

- 1.1 The Environment Partnership (TEP) were commissioned, by Accrue Capital Ltd in November 2021, to complete a Winter Bird Habitat Assessment of land known as Land East of Windermere Avenue in Colne (hereafter referred to as 'the site'). This assessment is required to inform the proposed housing-led development.
- 1.2 The central grid reference of the site is SD 90279 40749 and the location of the site is shown in Figure 1 below.



- 1.3 The purpose of this assessment is to:
- assess the habitats in the vicinity of the proposed development for their potential value for wintering birds, especially wildfowl and wading bird species; and
 - determine the suitability of the site for wintering birds and its current usage by wintering birds.

2.0 Method

- 2.1 Information regarding historic bird species records and protected sites was requested/gathered from the sources listed in Table 1. This collated data gives a useful indication of the distribution and abundance of bird species at a given locale. An absence of records does not indicate the absence of species from the search area.

Source of Information	Nature of Information
Magic Map	Statutory designated wildlife sites of international importance within 10km Statutory designated wildlife sites of national importance within 5km Statutory designated wildlife sites of local importance within 2km
Lancashire Environmental Records Network	Protected species records within 2km Non-statutory designated wildlife sites of local importance within 2km
Lancashire and Cheshire Fauna Society	Winter and breeding bird records for the tetrad containing the site (SD94A)
Lancaster City Council	Land allocations and relevant policies
ArcMap10	Ordnance & Aerial survey mapping

Survey Visit

- 2.2 The site was visited by experienced ornithologist Lausanne Jenkins on 31st January 2022. During the site visit the site and surrounding landscape was assessed for its suitability to support wintering birds.
- 2.3 During the survey visit a single winter bird survey visit was also undertaken over a 2.5-hour period which commenced at mid-day. This involved walking a transect around the site and surrounding land to record all wader, wildfowl, raptor and other notable bird species present within the site and surrounding 500m buffer. Birds were also recorded outside of the buffer on the Foulridge Upper Reservoir.
- 2.4 Due to the known importance of the nearby Foulridge Reservoirs Biological Heritage Site for migrating waders, two additional transect surveys around the site and surrounding 500m buffer of the site, as well as at the Foulridge Upper Reservoir were undertaken on the 13th September by experienced ornithologist Bill Aspin and on the 22nd September by experienced principal ornithologist Dr Mike Walker. Both survey visits commenced before sunrise to increase the chances of recording any migrating birds that had stopped off in the survey area.

3.0 Protected Site and Species Records

Protected Sites Designated for Birds

- 3.1 There is one internationally designated site, designated for its bird interest within 10km of the site. This is South Pennine Moors Phase 2 Special Protection Area (SPA), located 4.8km southeast of the site. The protected site is designated for its diverse assemblage of breeding birds of moorland and moorland fringe habitats including golden plover, lapwing, and common sandpiper. The SPA is not designated for any wintering bird features.
- 3.2 There is one nationally designated site within 5km partly designated for its bird interest. This is South Pennine Moors SSSI, located 4.8km southeast of the site. This SSSI is designated for its breeding populations of golden plover, curlew, merlin and twite. Other species listed include red grouse, lapwing, snipe, redshank, peregrine, wheatear, whinchat, ring ouzel, stonechat, dunlin, grey wagtail, little ringed plover, shelduck and dipper. The SSSI is not designated for any wintering bird features.
- 3.3 There are no statutory locally designated wildlife sites within 2km of the site that are designated for their bird interest.
- 3.4 There is one non-statutory Local Wildlife Site within 2km of the site: Foulridge Reservoirs Biological Heritage Site (BHS). The BHS is located 0.5km north of the site and is used by wintering birds include mallard, wigeon, teal, pochard, tufted duck, goldeneye, goosander and snipe. The fields adjacent to the upper reservoir are used during the winter by golden plover, lapwing, grazing wigeon and Canada geese.
- 3.5 The reservoirs are located on a trans-Pennine migration route and are one of the most important sites for wintering wildfowl and wading birds on passage migration in east Lancashire. Spring and autumn passage birds include little ringed-plover, ringed plover, little stint, dunlin, ruff, spotted redshank, greenshank, green sandpiper and common sandpiper.

Species Records

- 3.6 There are records of 60 notable species within 2km of the site. These are shown in Table 2.
- 3.7 It is important to note that these records are from year-round meaning that even if some of these species may be using the site it is not necessarily within the wintering period, as some of these species may only use the search area during the breeding season.

Name of Species	Legislation	Number of Records Returned	Closest Record to Site	Most recent record
Barn Owl	WCA1	1	1km	1999
Bewick's Swan	WCA1, LBAP	1	1.5km North	1977

Name of Species	Legislation	Number of Records Returned	Closest Record to Site	Most recent record
Black-headed Gull	LBAP	10	Within 2km	2020
Blue Tit	-	11	0.1km East	2020
Bullfinch	LBAP	6	0.1km West	2020
Buzzard	-	2	0.05km North	2017
Coal Tit	-	3	0.5km South	1999
Common Sandpiper	LBAP	3	0.1km	1999
Coot	-	12	0.05km East	2020
Cormorant	-	5	0.05km North	2017
Cuckoo	LBAP, S41	2	1km	1999
Curlew	LABP, S41	17	0.05km West	2020
Dipper	-	5	0.05km North	2021
Dunnock	LBAP	8	0.5km West	2020
Fieldfare	WCA1	6	Within 2km	2016
Goldcrest	-	6	Within 2km	2016
Golden Plover	LBAP	1	Within 2km	1993
Goldeneye	WCA1	2	Within 2km	1976
Goldfinch	-	7	Within 2km	2020
Goosander	-	4	Within 2km	2020
Great Black-backed Gull	LBAP	2	Within 2km	2017
Great Crested Grebe	-	8	Within 2km	2017
Great Spotted Woodpecker	-	3	Within 2km	1999
Great Tit	-	5	Within 2km	2020

Name of Species	Legislation	Number of Records Returned	Closest Record to Site	Most recent record
Green Woodpecker	-	1	Within 2km	1999
Greenfinch	-	4	Within 2km	2006
Grey Heron	LBAP	4	Within 2km	2017
Grey Partridge	S41, LBAP	2	Within 2km	2005
Grey Wagtail	-	4	Within 2km	1999
Herring Gull	LBAP	1	Within 2km	2017
House Martin	-	8	Within 2km	1999
House Sparrow	S41, LBAP	5	Within 2km	2020
Kestrel	LBAP	5	Within 2km	2020
Kingfisher	WCA1,	3	Within 2km	2013
Lapwing	S41, LBAP	15	Within 2km	2016
Lesser Black-backed Gull	LBAP	5	Within 2km	2016
Lesser Spotted Woodpecker	LBAP	3	Within 2km	2004
Linnet	-	3	Within 2km	1999
Little Egret	LBAP	1	Within 2km	2016
Little Owl	-	2	Within 2km	1999
Mallard	-	15	Within 2km	2020
Meadow Pipit	LBAP	4	Within 2km	1999
Mistle Thrush	-	5	Within 2km	2020
Moorhen	-	5	Within 2km	2020
Mute Swan	-	2	Within 2km	2017
Oystercatcher	LBAP	3	Within 2km	2017
Peregrine	WCA1, LBAP	1	Within 2km	1999

Name of Species	Legislation	Number of Records Returned	Closest Record to Site	Most recent record
Pied Flycatcher	-	3	Within 2km	2004
Pied Wagtail	-	4	Within 2km	2017
Pochard	LBAP	5	Within 2km	1988
Raven	LBAP	1	Within 2km	1963
Redshank	LBAP	3	Within 2km	2005
Redstart	-	1	Within 2km	1970
Redwing	-	1	Within 2km	2020
Reed Bunting	S41, LBAP	1	Within 2km	1999
Robin	-	8	Within 2km	2020
Rock Dove	-	3	Within 2km	2016
Sand Martin	-	2	Within 2km	1967
Skylark	S41, LBAP	2	Within 2km	1999
Snipe	LBAP	6	Within 2km	2005
Song Thrush	LBAP	6	Within 2km	2020
Sparrowhawk	-	3	Within 2km	1999
Spotted Flycatcher	S41, LBAP	9	Within 2km	2004
Starling	LBAP	7	Within 2km	2020
Swallow	-	15	Within 2km	2017
Swift	LBAP	7	Within 2km	1999
Tawny Owl	-	4	Within 2km	1999
Teal	LBAP	3	Within 2km	2016
Tree Pipit	S41, LBAP	5	Within 2km	2004
Tree Sparrow	S41, LBAP	3	Within 2km	2004
Treecreeper	-	3	Within 2km	1999

Name of Species	Legislation	Number of Records Returned	Closest Record to Site	Most recent record
Tufted Duck	-	9	Within 2km	2017
Wheatear	-	6	Within 2km	1999
Whinchat	LBAP	3	Within 2km	2004
Whooper Swan	WCA1, LBAP	5	Within 2km	1977
Wigeon	LBAP	3	Within 2km	2016
Willow Warbler	LBAP	4	Within 2km	1999
Wood Warbler	S41, LBAP	1	Within 2km	2003
Wren	-	10	Within 2km	2020
Yellow Wagtail	LBAP	3	Within 2km	2005
Yellowhammer	S41, LBAP	1	Within 2km	1999

S41: Listed on Section 41 of NERC Act 2006. BAm: Amber listed Bird of Conservation Concern. BRd: Red listed Bird of Conservation Concern. LBAP: Local Biodiversity Action Plan species. WCA1: Listed on Schedule 1 of Wildlife and Countryside Act 1981. WCA9: Listed on Schedule 9 of Wildlife and Countryside Act 1981.

- 3.8 Records of a total of 21 notable bird species recorded within the tetrad containing the site during the winter period were provided by Lancashire and Cheshire Fauna Society. These are summarised in Table 3 along with the peak counts recorded. Records of an additional three non-notable waterbird species were also provided and these records are also summarised in the table below.

Species	Legislation	Peak Count
Black headed gull	BAm	56
Bullfinch	S41, BAm	1
Dipper	BAm	1
Duncock	S41, BAm	3
Fieldfare	WCA1, BRd	1
Goosander		1
Greenfinch	BRd	1
Grey wagtail	BAm	Present

Species	Legislation	Peak Count
House sparrow	S41, BRd	4
Kestrel	BAm	Present
Kingfisher	WCA1, BAm	1
Mallard	BAm	120
Mistle thrush	BRd	2
Moorhen	BAm	1
Redwing	WCA1, BRd	Present
Reed bunting	S41, BAm	1
Rook	BAm	23
Song thrush	S41, BRd	Present
Starling	S41, BRd	58
Tawny owl	BAm	Present
Tufted duck		Present
Water rail		1
Wigeon	BAm	1
Wren	BAm	Present

S41: Listed on Section 41 of NERC Act 2006. BAm: Amber listed Bird of Conservation Concern. BRd: Red listed Bird of Conservation Concern. LBAP: Local Biodiversity Action Plan species. WCA1: Listed on Schedule 1 of Wildlife and Countryside Act 1981. WCA9: Listed on Schedule 9 of Wildlife and Countryside Act 1981.

2022 Bird Survey

- 3.9 During the winter bird survey visit undertaken on 31st January 2022, a total of 16 notable species were recorded. The majority of these were associated with Foulridge Upper Reservoir (part of Foulridge Reservoirs BHS), with small groups of teal, moorhen, mallard and barnacle goose recorded at this location just within 500m of the site, and a goldeneye recorded just further than 500m from the site. Large numbers of Canada goose were also recorded on the reservoir.
- 3.10 Few birds were recorded within the site itself, with four woodpigeon and two mistle thrush within the site, a single wren at the southern site boundary and a lesser black-backed gull recorded flying over the site.

- 3.11 During the September visits, almost all of the birds recorded were outside of the site, with the large majority at Foulridge Upper Reservoir. A number of waterbirds were recorded at the reservoir, including Canada goose, coot, great crested grebe, teal, tufted duck and mandarin. Heron and little egret were also recorded at the shores of the reservoir, as well as a number of wader species including common sandpiper, lapwing and snipe.
- 3.12 The findings of the surveys are presented in Table 4 and the locations of the birds are shown in drawings G9282.008, G9282.022 and G9282.023.

Species	Legislation	Visits recorded (1, 2 or 3*)	Peak count	Location
Barnacle Goose	BAm, WCA9	1	2	Foulridge Upper Reservoir, within 500m buffer
Black-headed gull	BAm	1,2	15	Adjacent to west of site and at Foulridge Upper Reservoir
Canada goose	WCA9	1, 2, 3	90	Foulridge Upper Reservoir
Common sandpiper	BAm	2	1	Foulridge Upper Reservoir
Coot		2	1	Foulridge Upper Reservoir
Dunnock	S41, BAm	1,2,3	2	Within 500m buffer to southeast
Fieldfare	WCA1, BRd	1	3	Flying adjacent to east site boundary.

Species	Legislation	Visits recorded (1, 2 or 3*)	Peak count	Location
Goldeneye	BRd	1	1	Foulridge Upper Reservoir, outside of 500m buffer
Great crested grebe		2, 3	4	Foulridge Upper Reservoir
Greenfinch	BRd	1,2	1	Within 500m buffer to southeast and at reservoir
Grey wagtail	BAm	2	1	Foulridge Upper Reservoir
Herring gull	S41, BRd	1	4	3 Flying in 500m buffer to north. 1 flying over 500m buffer to south.
Heron		2,3	2	Foulridge Upper Reservoir
House sparrow	S41, BRd	1,3	2 colonies	Residential area to south
Kestrel	BAm	3	2	Southern end of site
Lapwing	S41, BRd	2,3	22	Foulridge Upper Reservoir
Lesser black-backed gull	BAm	1	1	Flying over site
Little egret		2	3	Foulridge Upper Reservoir

Species	Legislation	Visits recorded (1, 2 or 3*)	Peak count	Location
Mallard	BAm	1,2,3	20	Foulridge Upper Reservoir
Mandarin	BAm	2	1	Foulridge Upper Reservoir
Meadow pipit	BAm	2,3	5	Single bird on grassland in site, remaining birds by reservoir.
Mistle thrush	BRd	1,2	1	To east of site within 500m buffer
Moorhen	BAm	1	2	Foulridge Upper Reservoir
Rook	BAm	1,2	11	Within 500m buffer to north and south
Snipe	BAm	2	5	Foulridge Upper Reservoir
Starling	S41, BRd	2	10	Within 500m buffer to south
Stock dove	BAm	2	5	Foulridge Upper Reservoir
Teal	BAm	1,2,3	10	Foulridge Upper Reservoir
Tufted duck		2, 3	9	Foulridge Upper Reservoir

Species	Legislation	Visits recorded (1, 2 or 3*)	Peak count	Location
Woodpigeon	BAm	1	16	4 within site and 12 Within 500m buffer (4 to southeast and 8 to northeast)
Wren	BAm	1,2	2	South site boundary and residential area to southeast

S41: Listed on Section 41 of NERC Act 2006. BAm: Amber listed Bird of Conservation Concern. BRd: Red listed Bird of Conservation Concern. LBAP: Local Biodiversity Action Plan species. WCA1: Listed on Schedule 1 of Wildlife and Countryside Act 1981. WCA9: Listed on Schedule 9 of Wildlife and Countryside Act 1981.

*Visit 1 = 31st January 2022, Visit 2 = 13th September 2022, Visit 3 = 22nd September 2022.

4.0 Winter Bird Habitat Assessment

- 4.1 The site itself consists predominantly of semi-improved rough grassland with some areas of marshy grassland, more dominated by rush species within this. Much of the site is sloping, with the higher ground to the north east, and is crossed by a number of short grassland tracks, including a regularly used public footpath that runs in a north-south direction through the east of the site. There are strips of woodland along the southern and north eastern site boundaries and some hedgerows within the site. The site is bordered to the west and the south by housing, as well as a school and playing fields to the north west.
- 4.2 The grassland and marshy areas within the site could provide suitable feeding resources for wading bird species such as lapwing, curlew and snipe. Each of these species were recorded either within the site or buffer during the March Breeding Bird Survey visit (report ref 9282.002), indicating that the site is used during the winter and/or spring passage periods by low numbers of these species. During the September visits, lapwing and snipe were recorded, however only at Foulridge upper Reservoir more than 500m from the site.





- 4.3 The woodland and hedgerows within the site reduce open sight lines and provide potential predator perches/habitat, therefore reducing the likelihood that the site would be used by moderate or large groups of waders or wildfowl. The well-used footpath that is often used by dog walkers will also deter the use of the site by groups of waders and wildfowl.

- 4.4 It is likely that notable birds such as fieldfare and redwing as well as flocks of finches and buntings may occasionally use the hedgerows within the site.





- 4.5 Further north of the site on the far side of Castle Road, the land slopes steeply down to Foulridge Upper Reservoir. Groups of wildfowl were recorded adjacent to the reservoir during the winter bird survey visits, including mallard, barnacle goose, great crested grebe, teal, tufted duck and goldeneye. The dominant species, however, was the invasive Schedule 9 species Canada goose.

- 4.6 Foulridge Upper Reservoir and the adjacent fields form part of the Foulridge Reservoirs BHS which is known to be used by groups of wildfowl throughout the winter period. The BHS, which also includes the Foulridge Lower Reservoir, is stated on the BHS citation to be one of the most important sites for wintering wildfowl and wading birds on passage migration in east Lancashire. The desktop records indicate a range of wildfowl species use the reservoir area. Whooper swan and Bewick's swan have been recorded to use the reservoirs (peak count 35 Bewick's swan and 21 whooper swan), but these swan species have not been recorded here since the 1970's. Apart from Canada geese, only low numbers of wintering wildfowl were recorded at the reservoir and surrounding land during the January and September survey visits, with the majority over 500m from the site.
- 4.7 Spring and autumn passage birds known to use the BHS include little ringed-plover, ringed plover, little stint, dunlin, ruff, spotted redshank, greenshank, green sandpiper and common sandpiper. These birds are likely to remain on the reservoirs and the immediately adjacent fields and are highly unlikely to venture onto the proposed development site or within influencing distance of it. During the September passage bird survey visits a single common sandpiper was recorded on the shore of Foulridge Upper Reservoir, however this bird was more than 500m from the site. No other waders listed on the BHS citation were recorded.
- 4.8 Due to the distance of the site from the reservoir and the sloping ground, as well as the separation from the reservoir by a road, tree lines and hedgerows and woodland, it is highly unlikely that there would be any disturbance impacts from the proposed development on birds using the reservoir and adjacent land.





- 4.9 The sloping land to the east of the site could potentially be used by groups of waders and wildfowl, however the land does not seem particularly wet, with no pools or flooded areas present, reducing the attractiveness to these birds. In addition, the tree line between the site and these fields would deter usage by waders and wildfowl close to the site to some extent. The trees would also screen potential disturbance impacts from the site to these adjacent fields.

5.0 Discussion

- 5.1 The proposed site is considered to hold some suitability for wintering and passage waders, mainly potential foraging habitat. However, it is unlikely that the site would be used by moderate or large groups of waders or wildfowl due to the limited suitability, mainly due to limited open sightlines and regular disturbance. Waders and wildfowl require open sightlines to be able to see approaching predators such as foxes and these birds do not tend to tolerate regular disturbance from walkers, especially dog walkers.
- 5.2 There are no nearby internationally or nationally designated sites that are designated for wintering birds and therefore the proposals at the site would not impact bird features on any internationally or nationally designated sites.
- 5.3 The main wintering bird interest associated with the area surrounding the site is the Foulridge Upper Reservoir and immediately adjacent land which forms part of the Foulridge Reservoirs BHS and is known to be important for wintering wildfowl and wading birds on passage migration. This area is located approximately 0.5km to the north of the site. The bird species which the BHS is known to be important for are likely to remain on the reservoir (e.g. little stint, little ringed-plover, ringed plover, little stint, dunlin, ruff, spotted redshank), its shores and immediately adjacent land and are unlikely to use land closer to or within the proposed development site. This was confirmed by the findings of the bird survey visits. Due to the location of the reservoir and the topography of the site and surrounding land, there will be no disturbance impacts from the development to birds using this reservoir.
- 5.4 It is possible that the development could result in a minor increase in numbers of walkers and dog walkers using the public footpath that passes close to the eastern end of the Foulridge Upper Reservoir. However, since the footpaths already connect residential areas and are regularly used, the birds using the BHS in this location are likely to be habituated to disturbance from pedestrians in this location and the amount of disturbance is likely to be limited.

APPENDIX A: Citations for Statutory Designated Wildlife Sites of International Importance

EC Directive 79/409 on the Conservation of Wild Birds: Special Protection Area

SOUTH PENNINE MOORS
(SOUTH PENNINE MOORS, PHASE 2)

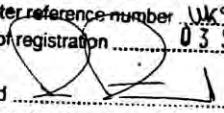
The South Pennine Moors proposed Special Protection Area is an upland of international importance. It provides habitat for an important assemblage of breeding moorland and moorland fringe birds.

The South Pennine Moors (phase 2) qualifies under Article 4.1 of the EC Directive on the Conservation of Wild Birds (79/409) by supporting nationally important breeding populations of two species listed in Annex 1. The most recent count is of 28 pairs of merlin *Falco columbarius* (4.3% of the British breeding population) and 292 pairs of golden plover *Pluvialis apricaria* (1.2%). The density of breeding golden plover is high compared to other regional populations in northern England and Scotland.

The site qualifies under Article 4.2 by supporting, in summer, a diverse assemblage of breeding migratory birds of moorland and moorland fringe habitats including: golden plover, lapwing *Vanellus vanellus*, dunlin *Calidris alpina*, snipe *Gallinago gallinago*, curlew, redshank *Tringa totanus*, common sandpiper *Actitis hypoleucos*, short-eared owl *Asio flammeus*, whinchat *Saxicola rubetra*, wheatear *Oenanthe oenanthe*, ring ouzel *Turdus torquatus* and twite *Carduelis flavirostris*. The population of twite in the South Pennines is geographically distinct and isolated from others in northern Britain, Ireland and Europe.

The South Pennine Moors support the southernmost assemblage in Britain of breeding merlin, red grouse *Lagopus lagopus*, golden plover, dunlin, short-eared owl and twite. These species are either extremely local, rare or absent further south. Together with the scattered populations of merlin, golden plover, dunlin and twite in Ireland these are the most southwestern breeding populations in the world. The South Pennine Moors thus have an important role in maintaining the breeding range of these species.

CAR
January 1995

This citation / map relates to a site entered in
the Register of European sites for Great Britain.
Register reference number UK908022
Date of registration 03 SEP 1998
Signed 
on behalf of the Secretary of State for the Environment

European Site Conservation Objectives for South Pennine Moors Phase 2 Special Protection Area Site Code: UK9007022



With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- **The extent and distribution of the habitats of the qualifying features**
- **The structure and function of the habitats of the qualifying features**
- **The supporting processes on which the habitats of the qualifying features rely**
- **The population of each of the qualifying features, and,**
- **The distribution of the qualifying features within the site.**

This document should be read in conjunction with the accompanying document, which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

Qualifying Features:

A098 ; Merlin (Breeding)
A140 ; European golden plover (Breeding)
Breeding bird assemblage

Explanatory Notes: European Site Conservation Objectives

These Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2017 (as amended) ('the Habitats Regulations'). They must be considered when a competent authority is required to make a 'Habitats Regulations Assessment' including an Appropriate Assessment, under the relevant parts of this legislation.

These Conservation Objectives, and the accompanying Supplementary Advice (where this is available), will also provide a framework to inform the management of the European Site and the prevention of deterioration of habitats and significant disturbance of its qualifying features

These Conservation Objectives are set for each bird feature for a [Special Protection Area \(SPA\)](#).

Where these objectives are being met, the site will be considered to exhibit a high degree of integrity and to be contributing to achieving the aims of the Wild Birds Directive.

Publication date: 28 October 2019 (version 4). This document updates and replaces an earlier version dated 21 February 2019 to clarify the qualifying features.

County: West Yorkshire, Lancashire,
Greater Manchester, North Yorkshire.

Site Name: South Pennine Moors

District: Bradford, Calderdale, Kirklees, Leeds, Craven, Burnley, Pendle, Oldham, Rochdale.

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act, 1981

Local Planning Authority: Bradford Metropolitan District Council
Calderdale Metropolitan Borough Council
Kirklees Metropolitan District Council
Leeds City Council
Craven District Council
Burnley District Council
Pendle District Council
Oldham Metropolitan Borough Council
Rochdale Metropolitan Borough Council

National Grid Reference: SD 920300 **Area:** 20,938.05 (ha)

Ordnance Survey Sheet 1:50,000: 103, 104, 109, 110 **1:10,000:** SD 82 NE
SD 83 SE
SD 91 NW, NE,
SW, SE
SD 92 NW, NE,
SW, SE
SD 93 NW, NE,
SW, SE
SD 94 SW, SE
SE 00 NW
SE 01 NW, SW
SE 02 NW, SW
SE 03 NW, SW, SE
SE 04 NW, SW, SE
SE 14 NW, NE,
SW, SE

Date Notified (Under 1981 Act): 26 September 1994 **Date of Last Revision:** –

Other Information:

1. This site incorporates the existing Haworth Moor, Derby Delph, Pule Hill and Standedge Road Cutting SSSIs.
2. This site includes land which has been proposed for designation as a Special Protection Area under the EC Directive 79/409 on the Conservation of Wild Birds.

Description and Reasons for Notification:

This site forms part of the Southern Pennines lying between Ilkley in the north and the Peak District National Park boundary in the south. The majority of the site is within West Yorkshire but it also covers areas of Lancashire, Greater Manchester and North Yorkshire. The largest moorland blocks are Ilkley Moor, the Haworth Moors, Rishworth Moor and Moss Moor.

The underlying rock is Millstone Grit which outcrops at Boulsworth Hill and on the northern boundary of Ilkley Moor. The moorlands are on a rolling dissected plateau between 300m and 450m AOD with a high point of 517m at Boulsworth Hill. The greater part of the gritstone is overlain by blanket peat with the coarse gravelly mineral soils occurring only on the lower slopes.

The site is the largest area of unenclosed moorland within West Yorkshire and contains the most diverse and extensive examples of upland plant communities in the county. Extensive areas of blanket bog occur on the upland plateaux and are punctuated by species rich acidic flushes and mires. There are also wet and dry heaths and acid grasslands. Three habitat types which occur on the site are rare enough within Europe to be listed on Annex 1 of the EC habitats and Species Directive (92/43) EEC. These communities are typical of and represent the full range of upland vegetation classes found in the South Pennines.

This mosaic of habitats supports a moorland breeding bird assemblage which, because of the range of species and number of breeding birds it contains, is of regional and national importance. The large numbers of breeding merlin *Falco columbarius*, golden plover *Pluvialis apricaria* and twite *Carduelis flavirostris* are of international importance.

The southern end of the site has good exposures of the Millstone Grit series and three localities are described under the heading 'Geology'.

Vegetation:

The blanket bogs of the South Pennine Moorlands are dominated by cotton-grass *Eriophorum* spp., and heather *Calluna vulgaris*. Other dwarf shrubs such as crowberry *Empetrum nigrum* and bilberry *Vaccinium myrtillus* occur in varying amounts. Crowberry is abundant on the eroding margins of the blanket bogs of the South Pennine Moors. Unusually it is also abundant in some areas of the cotton grass and heather moors. This crowberry dominant moor is restricted to the South Pennines and is particularly extensive on Ilkley Moor. Areas of wet heath containing cross-leaved heath *Erica tetralix* and cranberry *Vaccinium oxycoccos* have also developed on the blanket mires.

The lower slopes are dominated by heather moorland with large areas of acid grassland. Some parts of the heather moors are burnt for red grouse *Lagopus lagopus* and sheep management. Other dwarf shrubs occur on the heather moors including bilberry, crowberry and the locally uncommon cloud berry *Rubus chamaemorus*.

The large areas of acid grassland on former heathland reflect patterns of heavy grazing and burning. These grasslands are dominated by mat-grass *Nardus stricta* and wavy hair-grass *Deschampsia flexuosa*. On wet slopes purple moor grass *Molinia caerulea* is dominant with the wettest areas supporting heath rush *Juncus squarrosus*.

The most species rich and diverse habitats are the acidic flushes, mires and seepage lines. The more acidic flushes on the blanket peat are dominated by cotton-grass *Eriophorum vaginatum* with sedges like carnation sedge *Carex panicea*, star sedge *C. echinata* and commons sedge *C. nigra* present. In some of these flushes bog asphodel *Narthecium ossifragum* is present or even dominant amongst the moss *Sphagnum* spp/*Polytrichum* spp carpets which also often have dense populations of cranberry. The majority of flushes are less acidic and soft rush *Juncus effusus* tends to dominate in these wetlands with a few herbs like marsh bedstraw *Galium palustre* or bog stichwort *Stellaria alsine* present. Where the waters are richer in minerals, e.g. below springs, a wider range of herbs occur. Marsh violet *Viola palustris*, marsh

pennywort *Hydrocotyle vulgaris* and blinks *Montia fontana* are most common but in a few places rarer species like bogbean *Menyanthes trifoliata* and round-leaved sundew *Drosera rotundifolia* occur. The latter is now very rare in West Yorkshire. The most notable species in these flushes is the pale forget-me-not *Myosotis stolonifera*. This nationally scarce plant is found in only 32 1km squares in Britain, but occurs at two locations on the South Pennine Moors.

There are several regionally important plant communities within the site. Green Withins holds the largest population of bog pondweed *Potamogeton polygonifolius* within West Yorkshire and Ilkley Moor has the only known locality for chickweed wintergreen *Trientalis europaea* in the county. The latter is close to the site where the famous 17th century botanist John Ray found this species in the 1600s. Craggs within the cloughs have ungrazed ledge communities which include ferns not found in other parts of the moors. The beech fern *Phegopteris connectilis* which is now very rare in West Yorkshire survives in at least on clough at the southern end of the site.

Birds:

The moorlands support nationally important numbers of golden plover *Pluvialis apricaria*, curlew *Numenius arquata*, merlin *Falco columbarius* and twite *Carduelis flavirostris*.

These species and the rest of the moorland breeding bird assemblage require the mosaic of habitats and large area of the moors for their survival. The blanket bogs are the main breeding grounds for the golden plover and dunlin *Calidris alpina*. These birds need relatively short vegetation to nest in and access to wet areas to feed, a combination provided by the blanket mires. The South Pennine Moors hold 1.3% of the British breeding population of golden plovers. The very large number of meadow pipits *Anthus pratensis* nesting on the bogs are a major food source for the merlin.

The deeper cover provided by the heather provides nest sites for a range of other species. The merlin population of the South Pennine Moors is particularly important. 4.7% of the British population nests on these moors and the numbers appear to be increasing. Merlin prefer nest sites in the older leggy heather, bracken beds or small trees on the moorland edge and they feed on skylarks *Alauda arvensis* and meadow pipits. Most reliant on the heather moors are the red grouse *Lagopus lagopus scoticus* a sub-species of the willow grouse restricted to the British Isles. Their stronghold is on the managed moors of the Haworth Moors complex. Golden plover are also known to nest on recently burnt areas of heather.

Curlews favour the wet acid grasslands and semi-improved areas on the edge of the moors to breed. A significant number (0.8%) of the British curlew population breed on the South Pennine Moors sharing this habitat with lapwing *Vanellus vanellus* and in the wettest areas snipe *Gallinago gallinago* and redshank *Tringa totanus*.

Twite *Carduelis flavirostris* on the South Pennine Moors represent 1% of the British breeding population. These birds are an isolated southern out-post of the race *pipilans* that occurs only in Scandinavia and the British Isles and is itself isolated from the rest of the world population in the mountains of Central Asia. The birds on the South Pennine Moors are vital to maintain the present world distribution. Twite use virtually all the moorland habitats at different stages of their lifecycle. They prefer heather for nesting but also use bracken, boulder scree, grass tussocks and dry stone walls. Feeding on small seeds they utilise grassy areas throughout the moorlands, weedy areas on the moorland edge, semi-improved pastures and even areas of burnt *Molinia* grassland.

Peregrine *Falco peregrinus* nest in small numbers on suitable crags and disused quarries and up to three pairs of short-eared owl *Asio flammeus* have nested in recent years. The moors also support wheatear *Oenanthe oenanthe*, whinchat *Saxicola rubetra*, ring ouzel *Turdus torquatus* and in some years stonechat *Saxicola torquata*.

The large reservoirs within and adjacent to the site provide feeding areas for moorland nesting birds like dunlin as well as nesting habitat for common sandpiper *Actitis hypoleucos* and grey wagtail *Motacilla cinerea*.

Two more unusual species that nest on the reservoirs are the little ringed plover *Charadrius dubius* and the shelduck *Tadorna tadorna*. The pair of shelduck nesting at Blackstone Edge reservoir are believed to be the highest altitude (1100 feet) nesting birds of this species in Britain. The streams draining the reservoirs and the moors support small numbers of dippers *Cinclus cinclus*.

Geology:

Three locations of special geological interest are identified within the South Pennine Moors: two areas of deltaic sedimentary rocks and a type locality for two diagnostic fossils.

Derby Delph Quarry (SE 017161). This quarry is of considerable sedimentological interest, it displays sandstones of Namurian age displaying two distinct bed form types, one consisting of large scale cross-bedded units and the other showing undulatory bedding. The latter type of structure was first described from this locality, and its relationship to the cross-bedded units is clearly visible. The interpretation of these structures has been a key factor in establishing a model for coarse sediment deposition in distributary channels, and thus for deltaic sedimentation as a whole.

In layman's terms, the quarry and rock outcrops within this site provide excellent exposures of sandstone layers of the Namurian Series, formed during the Carboniferous Period of geological history, about 315 million years ago. The sandstones originally accumulated on the bed of a major river delta, perhaps comparable to the modern Mississippi delta. The form of the sandstone layers is remarkably well displayed and detailed research here has enabled geologists to understand for the first time some of the characteristics of sand deposits formed in river deltas. This is thus an important site for geological study of the Namurian which has made a significant contribution to the understanding of river-bed deposits.

Standedge Road Cutting (SE 018095-023098). This site provides one of the most complete sections through the Namurian Kinderscout Grit, almost in their entirety, with the Butterly Marine Band intervening. The readily accessible sequence presents an excellent example of deltaic cyclothems, with shales and sandstones capped by seat earths and thin coals.

A key section of great sedimentological interest in a thick stratigraphically important sandstone sequence.

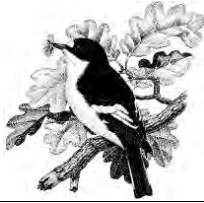
In layman's terms, this road cutting provides important exposures of the Kinderscout Grit which formed during the Carboniferous Period of geological time, about 320 million years ago. The rock sequence consists of thick sandstone layers separated by layers of shale, clay and thin coal seams. The rocks accumulated on a large river delta and contain important layers rich in the fossilised remains of marine animals which accumulated during periods when the delta became flooded by the sea. The rock layers accumulated in a repeated (or cyclic) sequence characteristic of sediments formed on a river delta. This is an important site for geological

study of the Namurian series, and is of special interest as a reference section for comparative purposes.

Pule Hill (SE 032112-032117). The section here exposed contains the Namurian Pule Hill Grit, at its type locality, overlying a sequence of goniatite-bearing shales. These constitute the type locality of the stratigraphically diagnostic goniatites *Reticuloceras bilingue* and *R. gracile*. The Pule Hill Grit is of particular interest at this locality for containing abundant bivalve and gastropod fauna. A key locality for studies of Upper Carboniferous goniatites with important implications for stratigraphic studies of the late Namurian (Marsdenian Stage).

In layman's terms, the quarry faces and rock outcrops within this site provide excellent exposures of rocks of the Namurian Series originally formed during the Carboniferous Period of geological history, about 320 million years ago. The rocks consist of shales overlain by a thick sandstone layer known as the Pule Hill Grit, both rock-types containing fossils of particular interest. The most important fossils here are the remains of marine animals known as goniatites which can be used to accurately date the rocks for the purposes of comparison with rock sequences elsewhere in Britain and overseas. Pule Hill is the locality where two particularly useful goniatites were first found and described. This is an important site for geological study of the Namurian Series especially in respect of the fossils used for dating rocks of this age.

APPENDIX B: Citations for Statutory Designated Wildlife Sites of National Importance



Lancashire County Heritage Sites

Biological Heritage Site

Site Name: Foulridge Reservoirs

Site Ref: 84SE07

Approved: 01 September 1993

Area (ha): 56.82

Date written/last updated: 01 October 1997

Grid Ref: SD885418

Owner/Occupier: Private

Districts:

Pendle

Parishes:

Colne, Foulridge

Description:

The site comprises Foulridge Upper and Lower Reservoirs, situated between Foulridge and Colne. The reservoirs, together with a number of fields adjacent to the upper reservoir, are of significant ornithological value and also support good inundation vegetation. Two species listed in the , namely mudwort and small water-pepper, are present.

Wintering birds include mallard, wigeon, teal, pochard, tufted duck, goldeneye, goosander and snipe. The fields adjacent to the upper reservoir are used during the winter by golden plover, lapwing, grazing wigeon and Canada geese. The reservoirs are located on a trans-Pennine migration route and are one of the most important sites for wintering wildfowl and wading birds on passage migration in east Lancashire. Spring and autumn passage birds include little ringed-plover, ringed plover, little stint, dunlin, ruff, spotted redshank, greenshank, green sandpiper and common sandpiper.

Along the eastern margin of the lower reservoir is a wide band of inundation vegetation. Next to the road, in the outer zone, willow scrub (mainly grey willow and crack willow) dominates over abundant butterbur. This grades into a central zone dominated by purple-loosestrife and common spike-rush. A wetter inner zone fringing the open water is dominated by water horsetail. Other species present around the lower reservoir include water mint, marsh woundwort, marsh pennywort, lesser spearwort and reed canary-grass.

The draw-down zone of the upper reservoir supports a diverse assemblage of species associated with seasonal inundation, including abundant mudwort and small water-pepper. Other plants occurring in the draw-down zone include amphibious bistort, water-purslane, water-pepper, marsh cudweed, marsh yellow-cress, shoreweed, knotgrass, water and tufted forget-me-not, trifid bur-marigold and bulbous rush. Marginal vegetation around the edge of the reservoir includes species such as water horsetail, common spike-rush, lesser spearwort and common water-crowfoot.

Guideline(s) for Site Selection:

Swamp and Fen (Fe1)

Flowering Plants and Ferns (Ff3)

Flowering Plants and Ferns (Ff2)

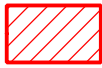
Birds (Bi8)

Other Information/Comments:

Lancashire County Heritage Sites

Biological Heritage Site

Foulridge Reservoirs



Site Boundary

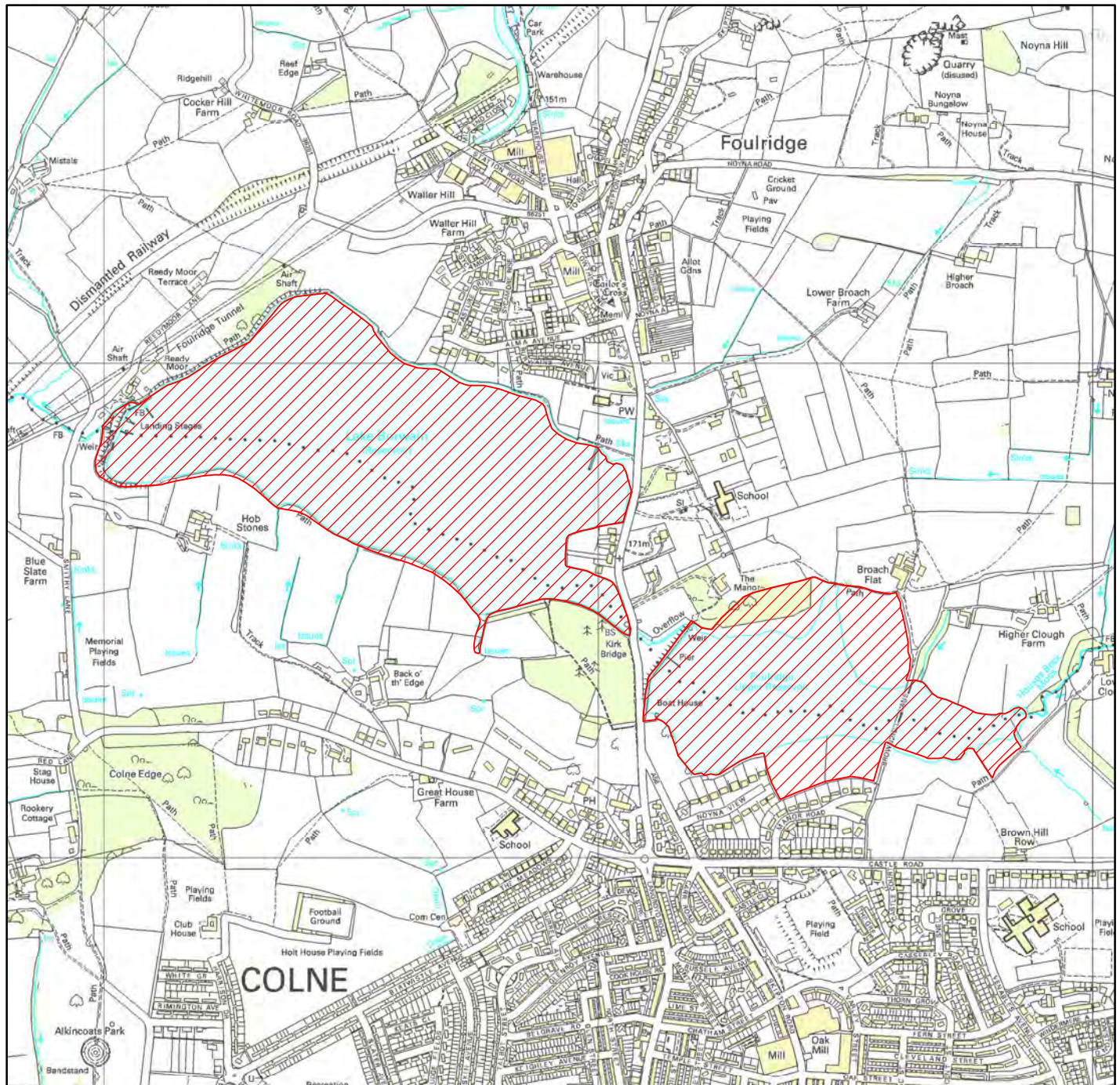
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This map shows only the boundary of the Biological Heritage Site named above. It does not show any other designated sites which may occur within the area covered by the map.

Ref No. 84SE07

Biological Heritage Sites Partnership

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Natural England



Grid ref. SD885418

Site approved

Boundary revised

Scale 1:12,000

Map 1 of 1

Date of Map 29/09/14



Lancashire
County Council

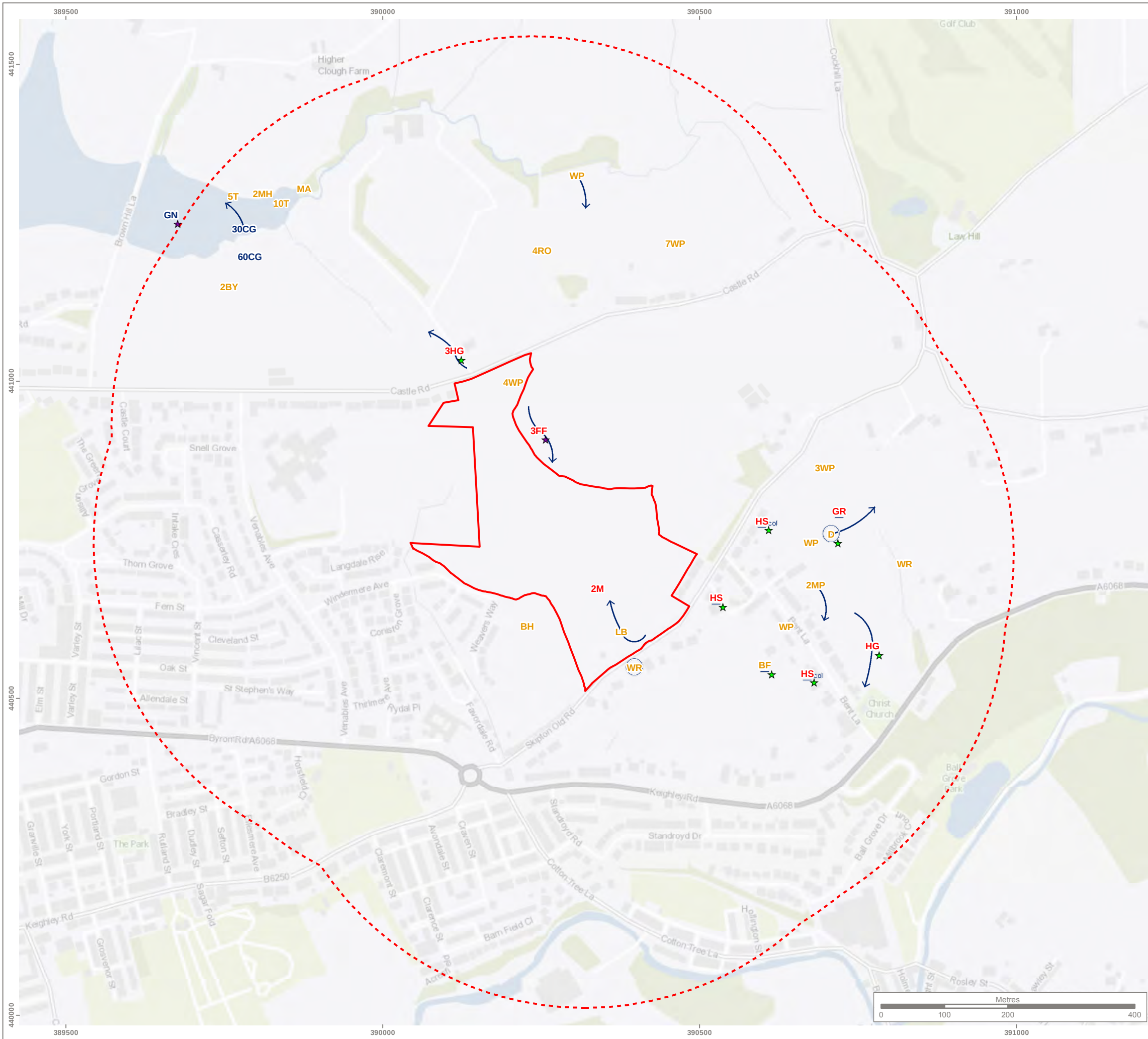


DRAWINGS

G9282.008 Winter Bird Survey Visit 1

G9282.022 Winter Bird Survey Visit 2

G9282.023 Winter Bird Survey Visit 3



KEY

Site boundary

Site boundary 500m offset

★

Section 41 species

★

Schedule 1 species

col

A colony of birds

—

A bird calling

○

A bird in song

→

Directional flight line

Species Codes

BF Bullfinch

BH Black-headed gull

BY Barnacle goose

CG Canada goose

D Dunnock

FF Fieldfare

GN Goldeneye

GR Greenfinch

HG Herring gull

HS House sparrow

LB Lesser black-backed gull

M Mistle thrush

MA Mallard

MH Moorhen

MP Meadow pipit

RO Rook

T Teal

WP Woodpigeon

WR Wren

Note

Red Red List Species

Amber Amber List Species

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Site Map

1:60,000

Rev	Description	Drawn	Approved	Date

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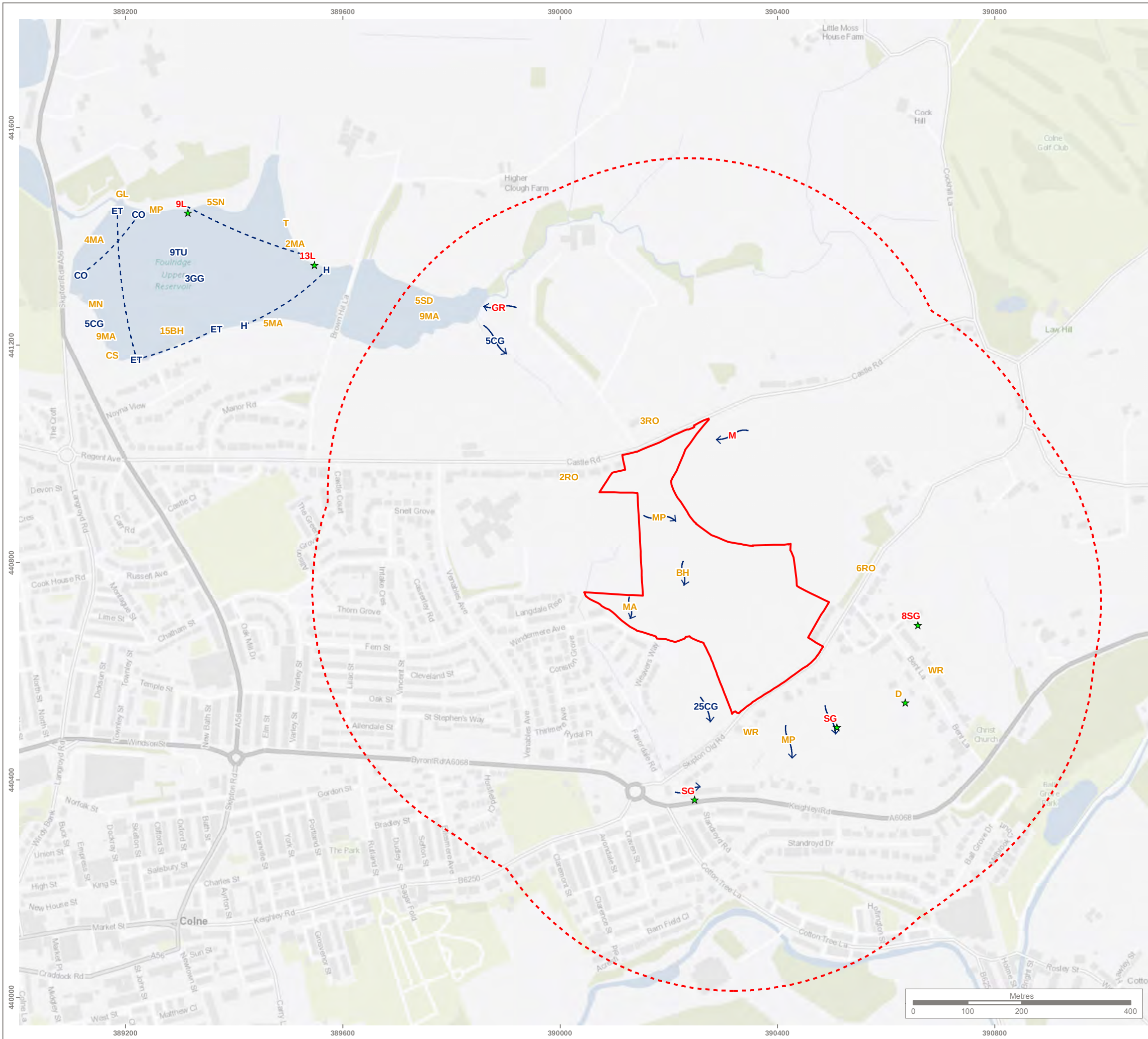
Genesis Centre, Birchwood Science Park, Warrington WA3 7BH
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project
Land East of Windermere Ave

Title
Winter Bird Survey
Visit 1 - 31st January 2022

Drawing Number
G9282.008

Drawn	Checked	Approved	Scale	Date
SP	CW	LJ	1:6,000 @ A3	21/02/2022



KEY

- Site boundary
- Site boundary 500m offset
- Section 41 species
- Directional flight line
- Simultaneous registration (different birds)

Species Codes

- BH Black-headed gull
- CG Canada goose
- CO Coot
- CS Common sandpiper
- D Dunnock
- ET Little egret
- GG Great crested grebe
- GL Grey wagtail
- GR Greenfinch
- H Grey heron
- L Lapwing
- M Mistle thrush
- MA Mallard

- MN Mandarin
- MP Meadow pipit
- RO Rook
- SD Stock dove
- SG Starling
- SN Snipe
- T Teal
- TU Tufted duck
- WR Wren

Note

- Red Red List Species
- Amber Amber List Species

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Rev	Description	Drawn	Approved	Date



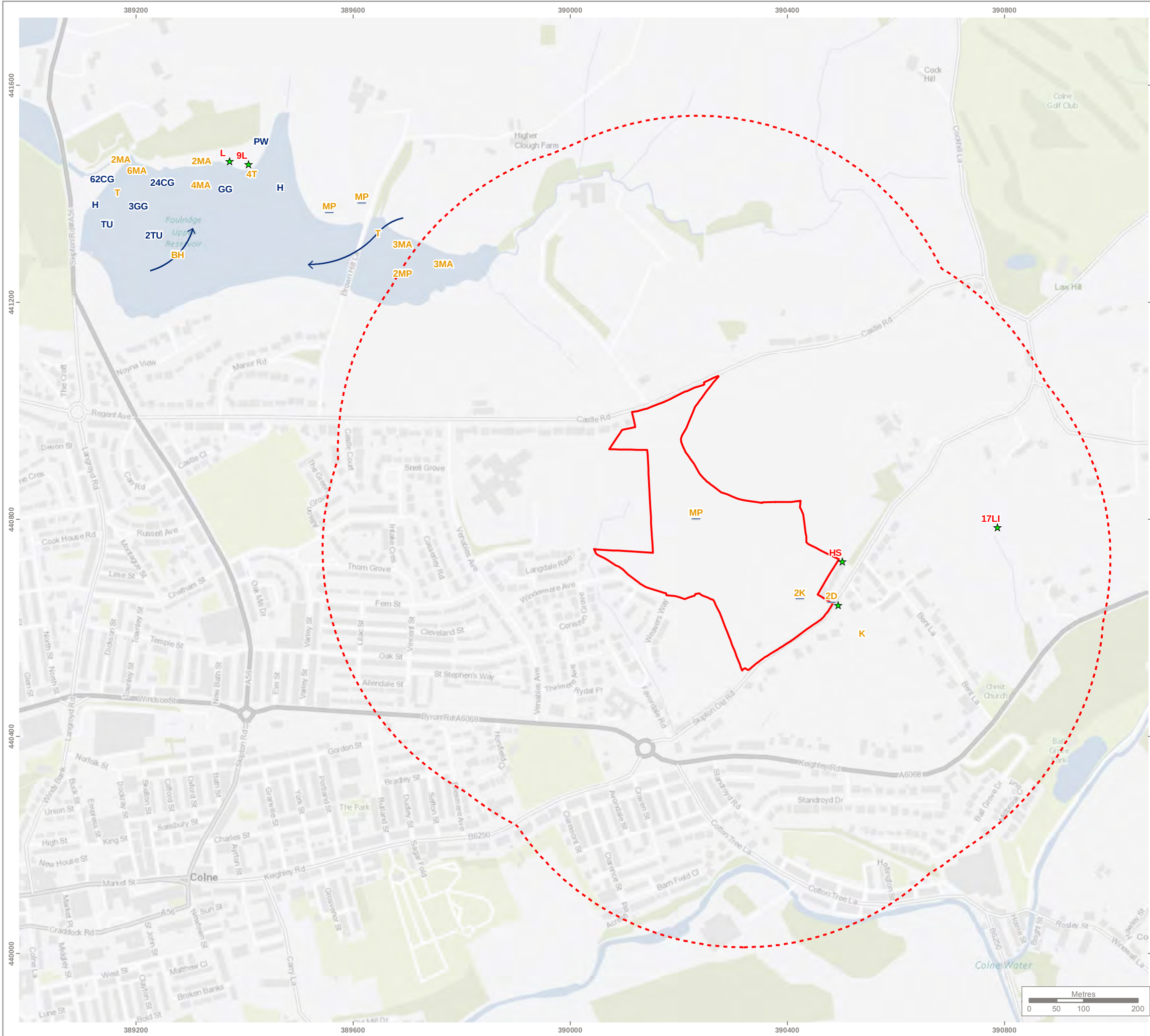
Genesis Centre, Birchwood Science Park, Warrington WA3 7BH
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project
Land East of Windermere Ave

Title
Winter Bird Survey
Visit 2 - 13th September 2022

Drawing Number
G9282.022

Drawn	Checked	Approved	Scale	Date
SP	AP	MHS	1:7,000 @ A3	03/10/2022



KEY

Site boundary

Site boundary 500m offset

★

Section 41 species

—

A bird calling

→

Directional flight line

Species Codes

BH Black-headed gull

CG Canada goose

D Dunnock

GG Great crested grebe

H Grey heron

HS House sparrow

K Kestrel

L Lapwing

LI Linnet

MA Mallard

MP Meadow pipit

PW Pied wagtail

T Teal

TU Tufted duck

Note

Red

Red List Species

Amber

Amber List Species

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Site Map

1:70,000

Rev	Description	Drawn	Approved	Date

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Project

Land East of Windermere Ave

Title

Winter Bird Survey
Visit 3 - 22nd September 2022

Drawing Number

G9282.023

Drawn	Checked	Approved	Scale	Date
SP	AP	MHS	1:7,000 @ A3	03/10/2022



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Cury,
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LAND EAST OF WINDERMERE AVENUE
COLNE
BAT SURVEY TECHNICAL REPORT

[illegible]

CONTENTS

PAGE

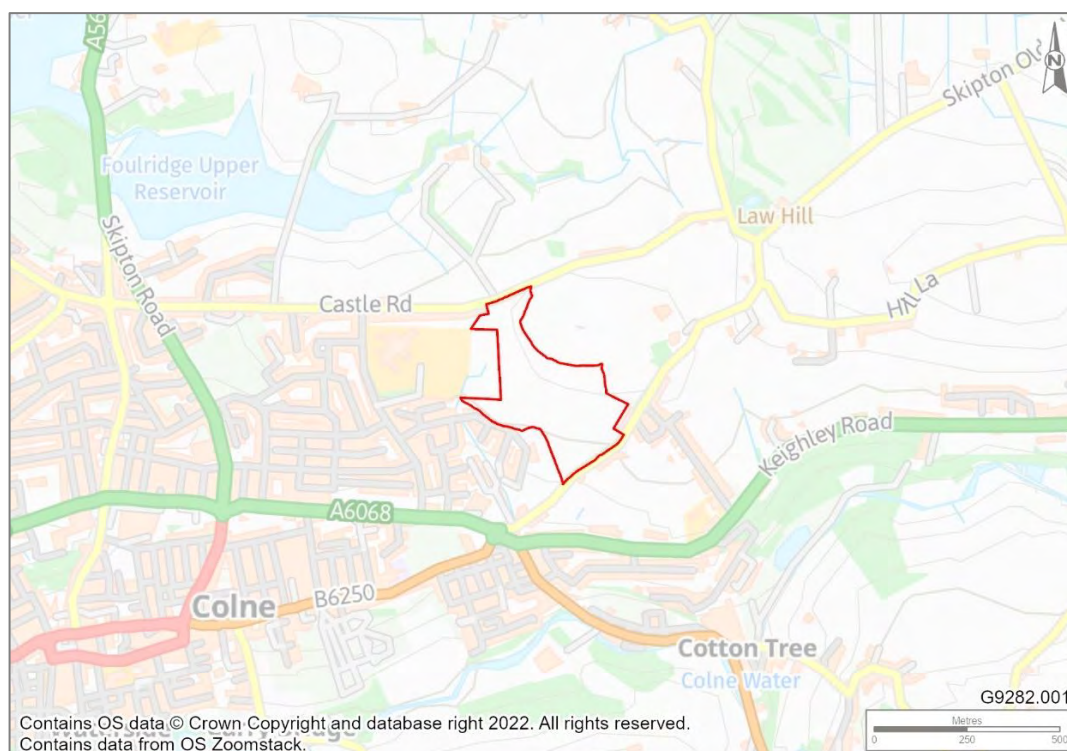
TABLES

PAGE

FIGURES

PAGE

DRAWINGS



**Conservation of Habitats and Species Regulations 2017, as amended
by the Conservation of Habitats and Species (Amendments) (EU Exit)
Regulations 2019**

Wildlife and Countryside Act 1981 (as amended)

Natural Environment and Rural Communities Act 2006

Lancashire Region Biodiversity Action Plan

Preliminary Roost Assessment

Ground Level Tree Assessment

Roost Habitat Suitability Category	Roosting Habitats
High	
Moderate	
Low	
Negligible	

Activity Transect Surveys

Foraging and Commuting Habitat Suitability Category	Commuting/ Foraging Habitats Descriptions
High	
Moderate	
Low	
Negligible	

Date	Sunset	Moon Phase	Time		Weather Conditions			

Static Remote Monitoring

Static Detector Location	Survey Dates	Description of Location and Orientation of Microphone
A		
B		

[illegible]

Static Location	Survey Date	Time of Sunset	Time of Sunrise	Recording Time (mins)	Sunset Temp °C	Midnight Temp °C	Sunrise Temp°C	Wind Speed (km/ph)	Wind Direction	Rain (hours)

Data Analysis and Species Identification

Rarity	Species
Common	
Rarer	
Rarest	

Geographic Scale of Importance	Roost Type

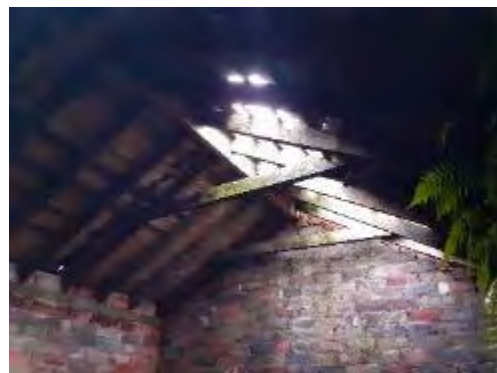
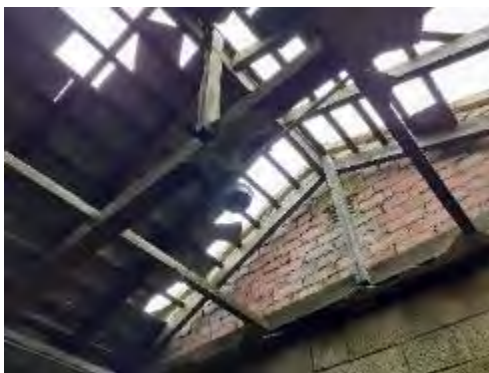
Geographic Scale of Importance	Roost Type

Species (Score)		Number Of Bats (Score)		Roosts/Potential Roosts Nearby (Score)		Type and Complexity of Linear Features (Score)	
	2		5		1		1
	5		10		3		2
	20		20		4		3
					5		4
					20		5

Species (Score)		Number Of Bats (Score)		Roosts/Potential Roosts Nearby (Score)		Type and Complexity of Features (Score)	
	2		5		1		1
	5		10		3		2
	20		20		4		3
					5		4
					20		5

Score	Geographic Value

Preliminary Roost Assessment



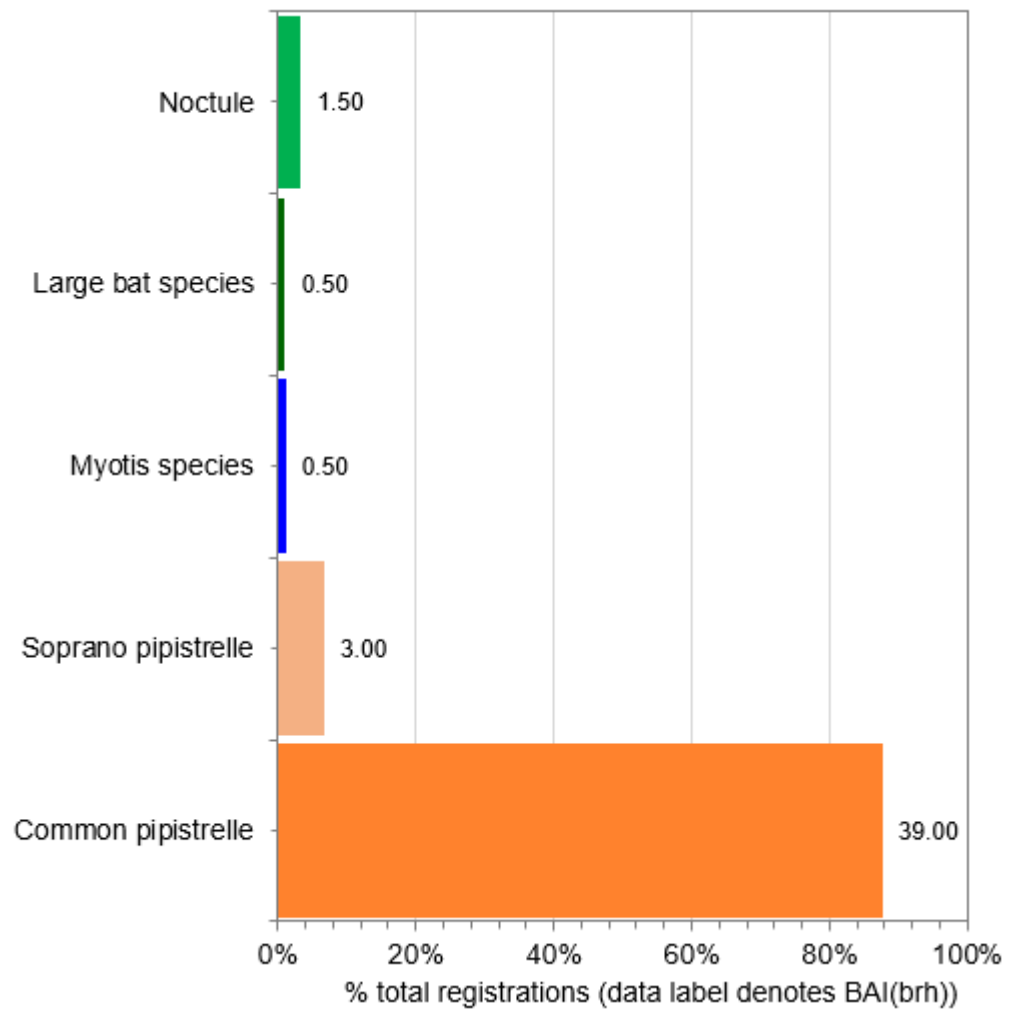
Ground Level Tree Assessment

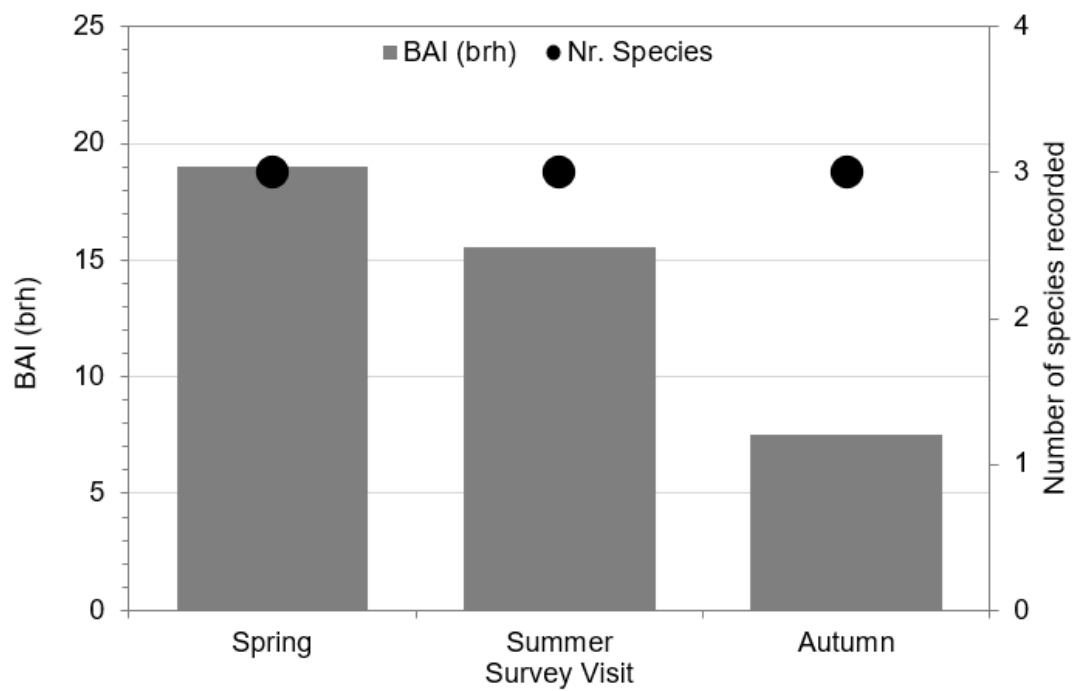
Tree ID & Grid Reference	Description and PRF Characteristics	Photograph	Roost Suitability
			
			
			

Tree ID & Grid Reference	Description and PRF Characteristics	Photograph	Roost Suitability
			
		 	
			

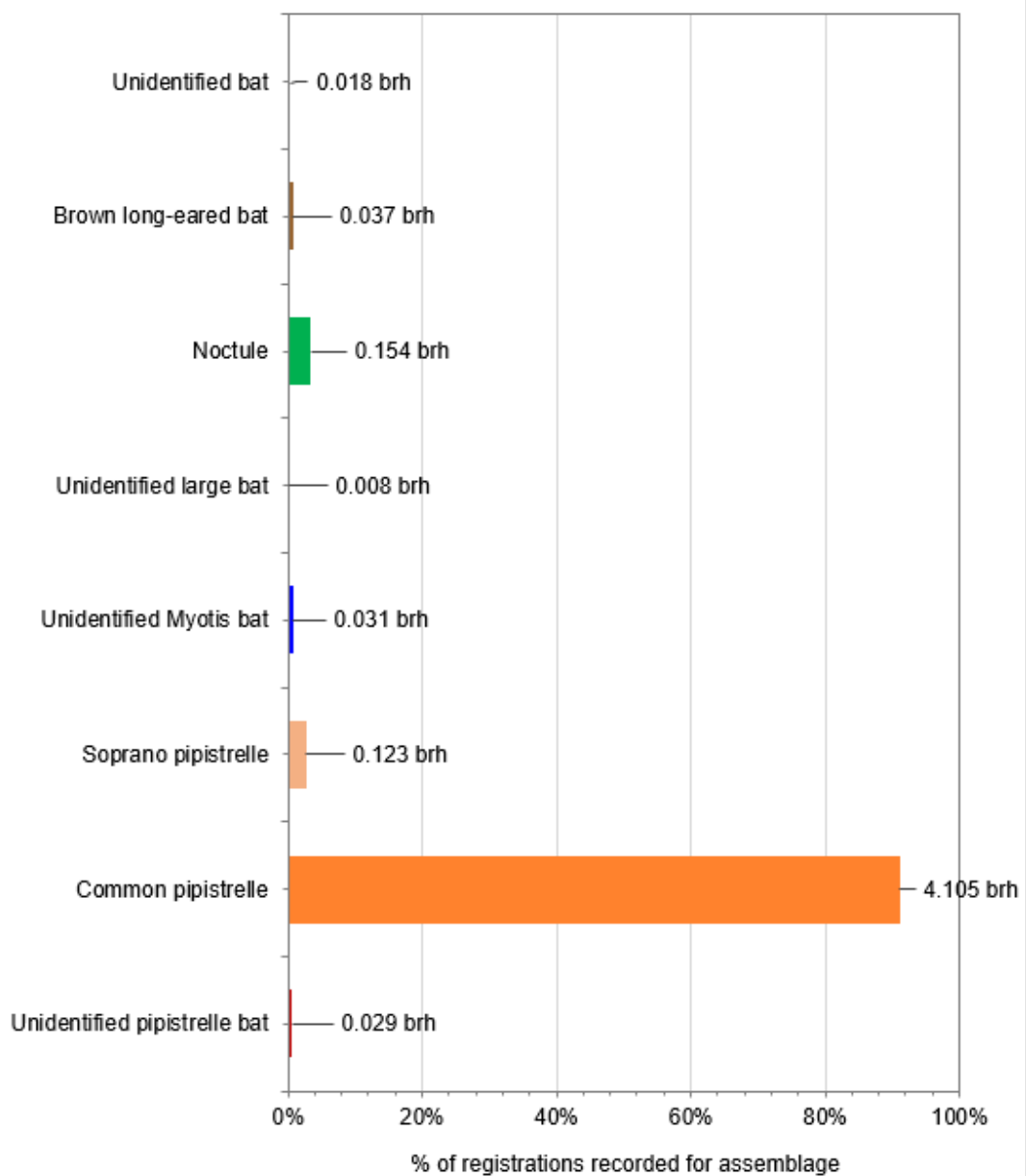
Tree ID & Grid Reference	Description and PRF Characteristics	Photograph	Roost Suitability
			

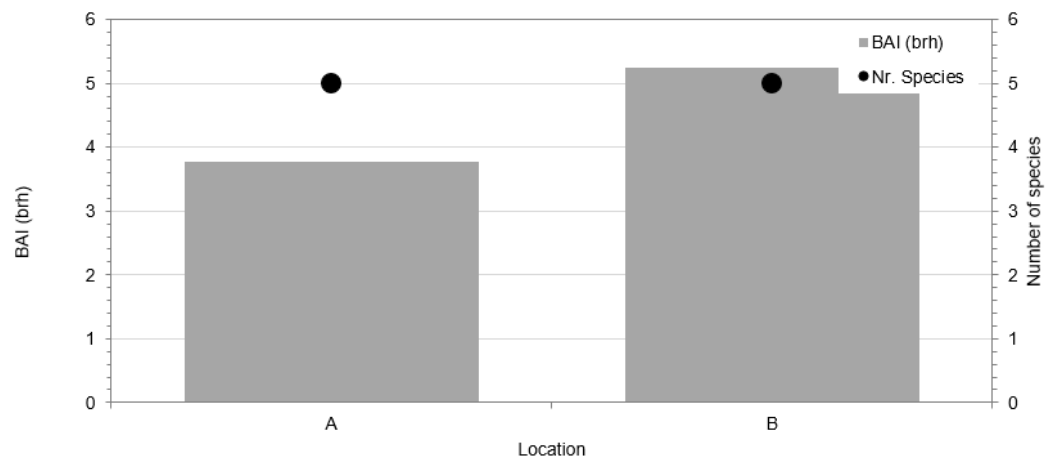
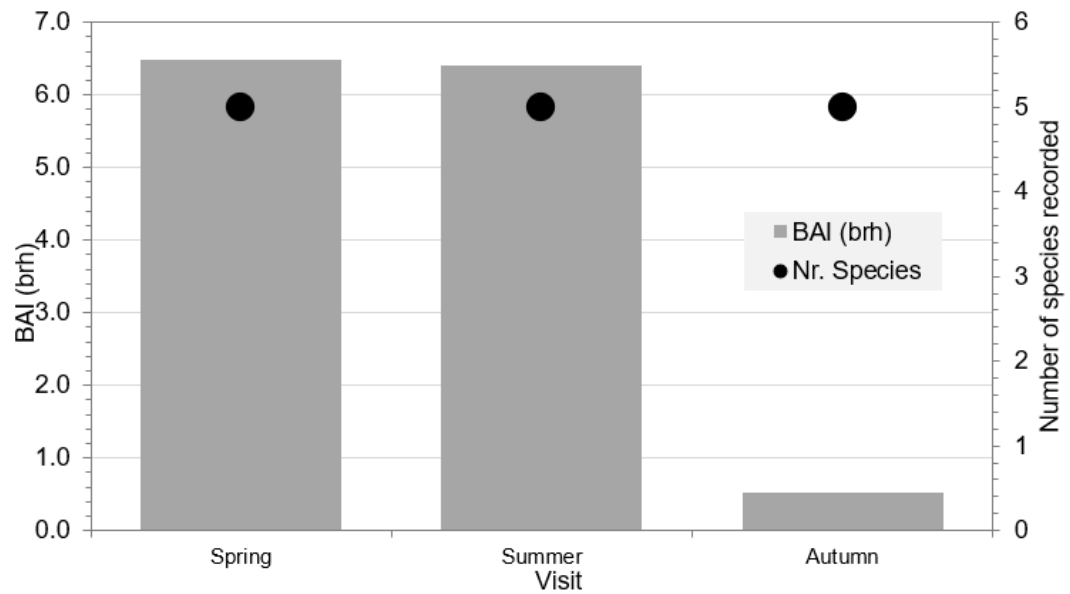
Activity Transect Surveys





Static Remote Monitoring





Roost Habitat

Foraging and Commuting Habitat

Species (Score)	Number Of Bats (Score)	Roosts/Potential Roosts Nearby (Score)	Type And Complexity of Linear Features (Score)	Value (Score)

Species (Score)	Number Of Bats (Score)	Roosts/Potential Roosts Nearby (Score)	Type And Complexity of Linear Features (Score)	Value (Score)

Species (Score)	Number Of Bats (Score)	Roosts/Potential Roosts Nearby (Score)	Type And Complexity of Features (Score)	Value (Score)

Roost Habitat

Foraging and Commuting Habitat

Roost Habitat

Foraging and Commuting Habitat

Sensitive Lighting Scheme

DRAWINGS

Drawing G9282.009 - Bat Tree Location Plan

Drawing G9282.020 - Bat Transect Route and Static Detector Locations

Drawing G9282.018 - Bat Transect Survey Results - Visit 1 23.05.2022

Drawing G9282.019 - Bat Transect Survey Results - Visit 2 03.08.2022

Drawing G9282.029 - Bat Transect Survey Results - Visit 3 21.09.2022



KEY

-  Site boundary
-  Broad-leaved tree with low bat potential
-  Broad-leaved tree with high bat potential

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Rev	Description	Drawn	Approved	Date



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Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project
Land East of Windermere Ave

Title
Bat Tree Location Plan

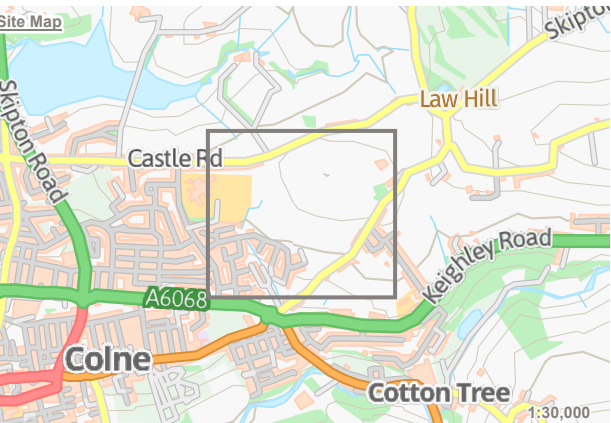
Drawing Number
G9282.009

Drawn	Checked	Approved	Scale	Date
SP	AP	JC	1:2,500 @ A3	05/10/2022



- KEY**
- Site boundary
 - Static detector
 - Transect route

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Project
Land East of Windermere Avenue, Colne

Title
Bat Transect Route and Static Detector Locations

Drawing Number
G9282.020

Drawn	Checked	Approved	Scale	Date
CW	SA	VG	1:2,500 @ A3	09/09/2022

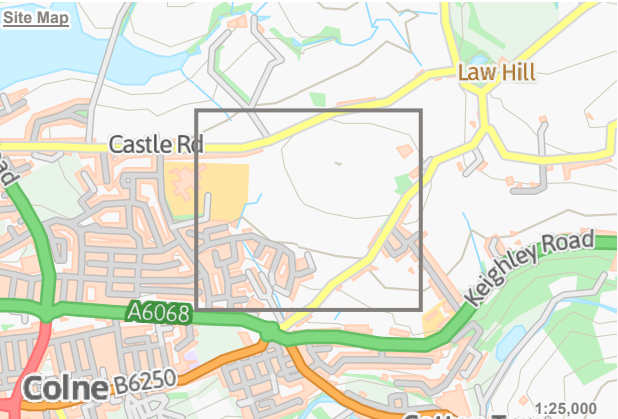


KEY

- Site boundary
- Common pipistrelle
- Common pipistrelle feeding buzz
- Soprano pipistrelle
- Noctule
- Bat flightline (colour denotes bat species)

Note:
Multiple bat records in the same location may obscure some results from display on the map.

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Project
Land East of Windermere Ave

Title
Bat Transect Survey
Visit 1 - 23rd May 2022

Drawing Number
G9282.018

Drawn	Checked	Approved	Scale	Date
SA	CW	RL	1:2,500 @ A3	09/09/2022

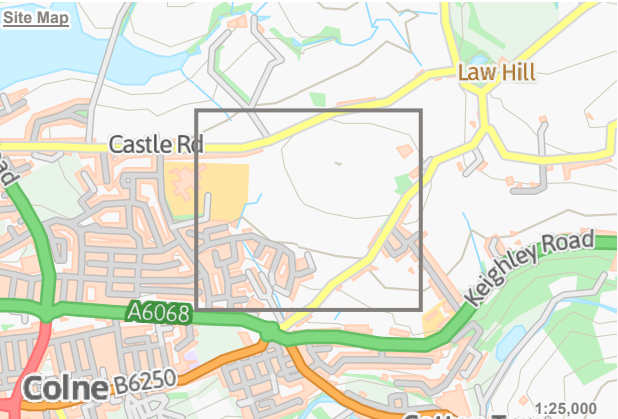


KEY

- Site boundary
- Common pipistrelle
- Bat flightline (colour denotes bat species)

Note:
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Project
Land East of Windermere Ave

Title
Bat Transect Survey
Visit 2 - 3rd August 2022

Drawing Number
G9282.019

Drawn	Checked	Approved	Scale	Date
SA	CW	RL	1:2,500 @ A3	09/09/2022

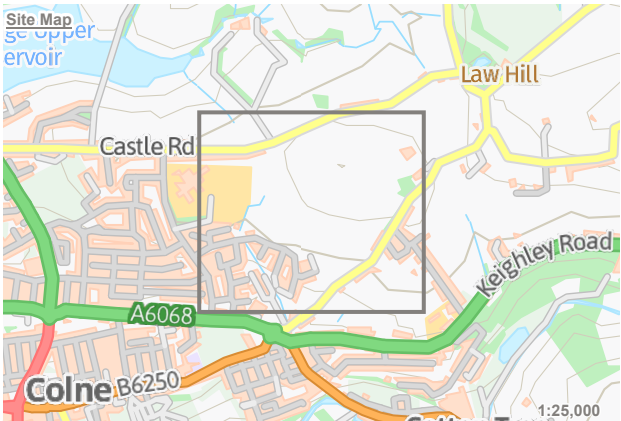


KEY

-  Site boundary
-  Common pipistrelle
-  Common pipistrelle feeding buzz
-  Daubenton's bat

Note:
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Project
Land East of Windermere Ave

Title
Bat Transect Survey
Visit 3 - 21st September 2022

Drawing Number
G9282.029

Drawn	Checked	Approved	Scale	Date
SP	CW	RL	1:2,500 @ A3	04/10/2022



THE
ENVIRONMENT
PARTNERSHIP

HEAD OFFICE

MARKET
HARBOROUGH

GATESHEAD

LONDON

CORNWALL



**LAND EAST OF WINDERMERE AVENUE
COLNE, LANCASHIRE**

[illegible]

Background

Site description

Relevant Policy and Legislation

Aims of this report

BNG Assessment

Important Ecological Features

On-Site Baseline

On-Site Proposed Design

Summary of Biodiversity Impact

Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	-0.48
	<i>Hedgerow units</i>	1.48
	<i>River units</i>	0.24
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	-0.99%
	<i>Hedgerow units</i>	21.62%
	<i>River units</i>	30.56%
Trading rules Satisfied?	No - Check Trading Summary ▲	





APPENDIX A: Biodiversity Metric 3.1 (provided as a separate document)

APPENDIX B: Condition Assessment Summary

Condition Sheet: WOODLAND Habitat Type							
UKHab Habitat Type(s)							
Woodland and forest - Lowland beech and yew woodland Woodland and forest - Lowland mixed deciduous woodland Woodland and forest - Native pine woodlands Woodland and forest - Other coniferous woodland Woodland and forest - Other Scot's pine woodland Woodland and forest - Other woodland; broadleaved Woodland and forest - Other woodland; mixed Woodland and forest - Upland birchwoods Woodland and forest - Upland mixed ashwoods Woodland and forest - Upland oakwood Woodland and forest - Wet woodland							
Habitat Description							
See UKHab This condition sheet is based on the England Woodland Biodiversity Group (EWBG) Woodland Condition Survey Method, available here: https://woodlandwildlifetoolkit.sylva.org.uk/assess							
Condition Assessment Criteria					W1	W2	
Indicator		Good (3 points)	Moderate (2 points)	Poor (1 point)	Score per indicator		
1	Age distribution of trees ¹	Three age classes present	Two age classes present	One age class present		2	1
2	Wild, domestic and feral herbivore damage	No significant browsing damage evident in woodland ²	Evidence of significant browsing pressure is present in 40% or less of whole woodland	Evidence of significant browsing pressure is present in 40% or more of whole woodland		3	3
3	Invasive plant species ³	No invasive species present in woodland	Rhododendron or laurel not present, other invasive species < 10% cover	Rhododendron or laurel present, or other invasive species > 10% cover		2	3
4	Number of native tree species	Five or more native tree or shrub species found across woodland parcel	Three to four native tree or shrub species found across woodland parcel	None to two native tree or shrub species across woodland parcel		3	2

5	Cover of native tree and shrub species	> 80% of canopy trees and >80% of understory shrubs are native	50-80% of canopy trees and 50-80% of understory shrubs are native	< 50% of canopy trees and <50% of understory shrubs are native		2	3
6	Open space within woodland ⁴	10 – 20% of woodland has areas of temporary open space, unless woodland is <10ha in which case lower threshold of 10% does not apply	21- 40% of woodland has areas of temporary open space	More than 40% of woodland has areas of temporary open space		3	3
7	Woodland regeneration ⁵	All three classes present in woodland; trees 4-7cm dbh, saplings and seedlings or advanced coppice regrowth	One or two classes only present in woodland	No classes or coppice regrowth present in woodland		3	1
8	Tree health	Tree mortality less than 10%, no pests or diseases and no crown dieback	11% to 25% mortality and/or crown dieback or low risk pest or disease present	Greater than 25% tree mortality and or any high risk pest or disease present		3	3
9	Vegetation and ground flora	Ancient woodland flora indicators present	Recognisable NVC plant community present	No recognisable NVC community		1	1
10	Woodland vertical structure ⁶	Three or more storeys across all survey plots or a complex woodland	Two storeys across all survey plots	One or less storey across all survey plots		3	1
11	Veteran trees ⁷	Two or more veteran trees per hectare	One veteran tree per hectare	No veteran trees present in woodland		1	1

12	Amount of deadwood	50% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	Between 25% and 50% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	Less than 25% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps		2	1
13	Woodland disturbance ⁸	No nutrient enrichment or damaged ground evident	Less than 1 hectare in total of nutrient enrichment across woodland area and/or less than 20% of woodland area has damaged ground	More than 1 hectare of nutrient enrichment and/or more than 20% of woodland area has damaged ground		3	1
Total score (out of a possible 39)						31	24
Condition Assessment Result				Condition Assessment Score			
Total score >32 (33 to 39)				Good (3)	Moderate	Poor	
Total score 26 to 32				Moderate (2)			
Total score <26 (13 to 25)				Poor (1)			
Notes							

6	There are greater than 9 species per metre squared. NB - This criterion is essential for achieving good condition (non-acid grassland types only).		9 species on average, yes - pass	8 species recorded - fail	7.3 species on average - Fail	10.6 species on average, yes - pass	fail - limited diversity dominated by soft rush
Criterion 1 Achieved (Essential for good condition for non-acid grassland) (Y/N)			N	Y	Y	Y	Y
Number of criteria passed			3	5	4	6	4
Condition Assessment Result		Condition Assessment Score	Score Achieved ×/✓				
Acid Grassland Types							
Passes 5 of 5 criteria		Good (3)					
Passes 3 or 4 of 5 criteria		Moderate (2)					
Passes 0, 1 or 2 of 5 criteria		Poor (1)					
Non-acid grassland Types							
Passes 5 of 6 criteria, including essential criterion 1 and 6.		Good (3)				Good	
Passes 3 or 4 of 6 criteria, including essential criterion 1.		Moderate (2)		Moderate - 5 criteria passed including criterion 1 but excluding criterion 6	Moderate		Moderate
Passes 0, 1, 2 criteria of 6 criteria; OR Passes 3 or 4 criteria excluding criterion 1 and 6		Poor (1)	Poor - fails criterion 1				
Notes							
Footnote 1 - Species indicative of sub-optimal condition for this habitat type include: Creeping thistle <i>Cirsium arvense</i> , spear thistle <i>Cirsium vulgare</i> , curled dock <i>Rumex crispus</i> , broad-leaved dock <i>Rumex obtusifolius</i> , common nettle <i>Urtica dioica</i> , creeping buttercup <i>Ranunculus repens</i> , greater plantain <i>Plantago major</i> , white clover <i>Trifolium repens</i> , cow parsley <i>Anthriscus sylvestris</i> .							

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)		
UKHab Habitat Type(s)		
Grassland - Modified grassland		
Habitat Description		
See UKHab		
Condition Assessment Criteria		G3
1	There must be 6-8 species per m2. Note - if the grassland has 9 or more species per m2 it should be classified as a moderate distinctiveness grassland habitat type. NB - this criterion is non-negotiable for achieving a good condition.	pass - average of 7 species
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	fail - area is grazed by sheep with a fairly consistant sward height
3	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note- patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	pass
4	Physical damage evident in less than 5% of total grassland area, such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any damaging management activities.	pass
5	Cover of bare ground between 1% and 10% including localised area, for example, rabbit warrens.	pass
6	Cover of bracken less than 20%.	pass
7	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).	pass
Condition Assessment Result	Condition Assessment Score	6
Passes 6 or 7 of 7 criteria including non-negotiable criterion 1	Good (3)	Good
Passes 4 or 5 of 7 criteria; OR Passes 6 of 7 criteria excluding non-negotiable criterion 1.	Moderate (2)	
Passes 0, 1, 2 or 3 of 7 criteria; OR 4, 5 or 6 of criteria but failing criterion 1	Poor (1)	
Notes		

Condition Sheet: SCRUB Habitat Type			
UKHab Habitat Type			
Heathland and shrub - Blackthorn scrub Heathland and shrub - Bramble scrub Heathland and shrub - Gorse scrub Heathland and shrub - Hawthorn scrub Heathland and shrub - Hazel scrub Heathland and shrub - Mixed scrub Heathland and shrub - Sea buckthorn scrub (Annex 1)			
Habitat Description			
See UKHab For sea buckthorn scrub use Habitats Directive Annex 1 definition			
Condition Assessment Criteria		S1 -Bramble scrub	S2 - hawthorn scrub
1	Habitat is representative of UKHab description (where in its natural range). There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be up to 100% cover).	N/A	fail
2	There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs.	N/A	fail
3	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species ¹ make up less than 5% of ground cover.	N/A	pass
4	The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s).	N/A	fail
5	There are clearings, glades or rides present within the scrub, providing sheltered edges.	N/A	fail
Condition Assessment Result	Condition Assessment Score		
Passes 5 of 5 criteria	Good (3)	Fixed at Poor	Poor
Passes 3 or 4 of 5 criteria	Moderate (2)		
Passes 0, 1 or 2 of 5 criteria	Poor (1)		
Notes			
Footnote 1 - Species indicative of sub-optimal condition for this habitat type include: tree-of-heaven <i>Alianthus altissima</i> , holm oak <i>Quercus ilex</i> , turkey oak <i>Quercus cerris</i> , creeping thistle <i>Cirsium arvense</i> , common nettle <i>Urtica dioica</i> , cherry laurel <i>Prunus laurocerasus</i> , snowberry <i>Symphoricarpos</i> spp., buddleia <i>Buddleja</i> spp., cotoneaster <i>Cotoneaster</i> spp., Spanish bluebell <i>Hyacinthoides hispanica</i> (or hybrids).			

Condition Sheet: URBAN - NON PRIORITY Habitat Type		
UKHab Habitat Type		
Sparsely vegetated land - Ruderal/ephemeral Urban - Allotments Urban - Bioswale Urban - Brown roof Urban - Cemeteries and churchyards [Use Urban condition sheet as default. Where there are areas of grassland, woodland or scrub above the minimum mappable area, record and assess these as the relevant habitat type] Urban - Extensive green roof Urban - Façade-bound green wall Urban - Ground based green wall Urban - Intensive green roof Urban - Open mosaic habitats on previously developed land Urban - Rain garden Urban - Sustainable urban drainage feature [in the context of the Biodiversity Metric, this habitat type refers to open SUDS with vegetation and/or open water] Urban - Vacant / derelict land / bare ground		
Habitat Description		
See UKHab		
Condition Assessment Criteria		U1 - Developed land; sealed surface
CORE CRITERIA - applicable to all urban habitat types :		
1	Vegetation structure is varied, providing opportunities for insects, birds and bats to live and breed. A single ecotone (i.e. scrub, grassland, herbs) should not account for more than 80% of the total habitat area.	N/A
2	There is a diverse range of flowering plant species, providing nectar sources for insects. These species may be either native, or non-native but beneficial to wildlife. NB - To achieve GOOD condition, criterion 2 must be satisfied by native species only (rather than non-natives beneficial to wildlife). Note that Biodiverse green roofs are exempt from this requirement, and can include non-native sedums, as set out in footnote 1.	N/A
3	Invasive non-native species (Schedule 9 of WCA) cover less than 5% of total vegetated area. NB - To achieve GOOD condition, criterion 3 must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).	N/A
ADDITIONAL CRITERION - only applicable to Open mosaic on previously developed land habitat type:		
4a	The site shows spatial variation, forming a mosaic of at least four early successional communities (a) to (h) PLUS bare substrate AND pools. (a) annuals; (b) mosses/liverworts; (c) lichens; (d) ruderals; (e) inundation species; (f) open grassland; (g) flower-rich grassland; (h) heathland.	N/A
ADDITIONAL CRITERION - only applicable to Bioswale and SUDS habitat types:		
4b	The water table is at or near the surface throughout the year. This could be open water or saturation of soil at the surface.	N/A
ADDITIONAL CRITERION - only applicable to green roof habitat types (select as necessary):		
4c1	Intensive green roofs – have a minimum of 50% native and non-native wildflowers - 70% of the roof area is soil and vegetation (including water features)	N/A
4c2	Biodiverse green roofs - have a varied depth of 80 - 150mm at least 50% is at 150mm and is planted and seeded with wildflowers and sedums or is pre-prepared with sedums and wildflowers. To achieve Good condition some additional habitat, such as sand piles, logs etc should be present.	N/A

Essential criterion 2&3 achieved? (must be achieved to score a good condition for non biodiverse green roofs) (Y/N)		
		N/A
Number of criteria passed		N/A
Condition Assessment Result	Condition Assessment Score	Score Achieved x/✓
If 3 criteria assessed:		
• Passes 3 of 3 core criteria; AND • Meets the requirements for good condition within criteria 2 and 3	Good (3)	
• Passes 2 of 3 core criteria; OR • Passes 3 of 3 core criteria but does not meet the requirements for good condition within criteria 2 and 3	Moderate (2)	
• Passes 0 or 1 of 3 core criteria	Poor (1)	Fixed at very poor
If 4 criteria assessed:		
• Passes 3 of 3 core criteria; AND • Meets the requirements for good condition within criteria 2 and 3; AND • Passes additional criterion 4a or 4b	Good (3)	
• Passes 2 of 3 of 4 criteria; OR • Passes 4 of 4 criteria but does not meet the requirements for good condition within criteria 2 and 3	Moderate (2)	
• Passes 0 or 1 of 4 criteria	Poor (1)	
Suggested enhancement interventions to improve condition score		
Notes		
Footnote 1: For Biodiverse green roofs only - experience has shown that a range of sedums species (native, naturalised, and non-native) support wildflowers during hot periods. Therefore, for Criteria 2 a Biodiverse green roof can have non-native sedums and still achieve Good condition. Footnote 2: For Criteria 3 – For green roof habitat types only - <i>Buddleja davidii</i> should be assessed alongside Schedule 9 species. This species impairs the health of the local ecosystem and reduces the biodiversity potential of the roof. It is also a sign that a roof has not be planted and seeded correctly in sub-sequent years.		

Condition Sheet: DITCH Habitat Type			
UKHab Habitat Type(s)			
Rivers and streams - Ditches			
Habitat Description			
Artificially created, linear water-conveyancing features that are less than 5 m wide and likely to retain water for more than 4 months of the year. Their hydraulic function is primarily for land drainage, and although partially or fully connected to a river system, they would not have been present without human intervention' [Note: some heavily engineered ditches may actually be part of the river system (usually part of the headwater system). If there is uncertainty, consult historic maps, LIDAR data and riverine specialists]			
Condition Assessment Criteria		D1	D2
1	The ditch is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.	pass	pass
2	A range of emergent, submerged and floating leaved plants are present. As a guide >10 species of emergent, floating or submerged plants in a 20 m ditch length.	fail	fail
3	There is less than 10% cover of filamentous algae and/or duckweed (these are signs of eutrophication).	pass	pass
4	A fringe of marginal vegetation is present along more than 75% of the ditch.	fail	fail
5	Physical damage evident along less than 5% of the ditch, such as excessive poaching, damage from machinery use or storage, or any other damaging management activities.	pass	pass
6	Sufficient water levels are maintained; as a guide a minimum summer depth of approximately 50 cm in minor ditches and 1 m in main drains.	fail	fail
7	Less than 10% of the ditch is heavily shaded.	pass	pass
8	There is an absence of non-native plant and animal species ¹ .	pass	pass
Condition Assessment Result	Condition Assessment Score	5	5
Passes 8 of 8 criteria	Good (3)	poor	poor
Passes 6 or 7 of 8 criteria	Moderate (2)		
Passes 0, 1, 2, 3, 4 or 5 of 8 criteria	Poor (1)		
Notes			
Footnote 1 - Any species included on the Water Framework Directive UKTAG GB High Impact Species List should be absent.			
- Frequently occurring non-native plant species include water fern <i>Azolla spp.</i>, Australian swamp stonecrop <i>Crassula helmsii</i>, parrot's feather <i>Myriophyllum aquaticum</i>, floating pennywort <i>Hydrocotyle ranunculoides</i>, Japanese knotweed <i>Fallopia japonica</i> and giant hogweed <i>Heracleum mantegazzianum</i> (on the bank). - Frequently occurring non-native animals include signal crayfish <i>Pacifastacus leniusculus</i>, zebra mussels <i>Dreissena polymorpha</i>, killer shrimp <i>Dikerogammarus villosus</i>, demon shrimp <i>Dikerogammarus haemobaphes</i>, carp <i>Cyprinus carpio</i>.			

Part 1b - Condition assessment of hedgerows								
UKHab Habitat Type								
Native hedgerow Native hedgerow - associated with bank or ditch Native hedgerow with trees Native hedgerow with trees - associated with bank or ditch Native species rich hedgerow Native species rich hedgerow - associated with bank or ditch Native species rich hedgerow with trees Native species rich hedgerow with trees - associated with bank or ditch								
Habitat Description								
See Chapter 8 of User Guide								
Condition Assessment Criteria								
A series of ten attributes, representing key physical characteristics, are used for this assessment. The attributes, and the minimum criteria for achieving a favourable condition in each, are defined. The attributes use similar favourable condition criteria to the Hedgerow Survey Handbook and the handbook is the recommended source of reference for assessing individual hedgerow attributes.								
Hedgerow favourable condition attributes								
Attributes and functional groupings (A, B, C, D & E)		Criteria (the minimum requirements for ‘favourable condition’		Description				
Core groups - applicable to all hedgerow types					H1	H2	H3	H4
A1.	Height	>1.5 m average along length		The average height of woody growth estimated from base of stem to the top of 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).	pass	pass	pass	pass
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 (e.g. blackthorn suckers) are only included in the width estimate when they >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 undertaken according to good practice ⁴).	pass	pass	pass	pass
B1.	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length (unless ‘line of trees’)		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).	fail	pass	pass	fail
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).	fail	pass	pass	fail

TABLE TS1-3: Hedgerow condition assessment and weighting

Condition categories for hedgerows without trees		
Category	Maximum number of attributes that can fail to meet 'favourable condition' criteria in Table TS1-2	Weighting (score)
Good	No more than 2 failures in total; AND No more than 1 in any functional group.	3
Moderate	No more than 4 failures in total; AND <u>Does not fail both attributes</u> in more than one functional group (e.g. fails attributes A1, A2, B1 & C2 = Moderate condition).	2
Poor	Fails a total of more than 4 attributes; OR <u>Fails both attributes</u> in more than one functional group (e.g. fails attributes A1, A2, B1 & B2 = Poor condition).	1
Condition categories for hedgerows with trees		
Category	Maximum number of attributes that can fail to meet 'favourable condition' criteria in Table TS1-2	Weighting (score)
Good	No more than 2 failures in total; AND No more than 1 failure in any functional group.	3
Moderate	No more than 5 failures in total; AND <u>Does not fail both attributes</u> in more than one functional group (e.g. fails attributes A1, A2, B1, C2 & E1 = Moderate condition).	2
Poor	Fails a total of more than 5 attributes; OR <u>Fails both attributes</u> in more than one functional group (e.g. fails attributes A1, A2, B1 & B2 = Poor condition).	1

Condition Sheet: POND Habitat Type		
UKHab Habitat Type(s)		
Lakes - Ponds (priority habitat) Lakes - Ponds (non-priority habitat) Lakes - Temporary lakes, ponds and pools [Use this condition sheet for Temporary ponds and pools, use Lake condition sheet for Temporary lakes] Lakes - Ornamental lake or pond [Use this condition sheet for Ornamental ponds, use Lake condition sheet for Ornamental lakes]		
Habitat Description		
See UKHab		
Other than for non-priority ponds, which are those which do not meet either the definition of (i) priority habitat ponds or (ii) ornamental ponds		P1
1	The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.	pass
2	There is semi-natural habitat (i.e. moderate distinctiveness or above) for at least 10 m from the pond edge.	fail
3	Less than 10% of the pond is covered with duckweed or filamentous algae.	pass
4	The pond is not artificially connected to other waterbodies, either via streams, ditches or artificial pipework.	pass
5	Pond water levels should be able to fluctuate naturally throughout the year. No obvious dams, pumps or pipework.	pass
6	There is an absence of non-native plant and animal species ² .	pass
7	The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.	pass
ADDITIONAL CRITERIA - only applicable to non-woodland ponds:		
8	In non-woodland ponds, plants, be they emergent, submerged or floating (excluding duckweeds) ³ , should cover at least 50% of the pond area that is less than 3 m deep.	pass
9	The surface of non-woodland ponds is no more than 50% shaded by woody bankside species.	pass
Number of criteria passed		8
Condition Assessment Result		Condition Assessment Score
If 8 criteria assessed (woodland ponds):		
Passes 7 of 7 criteria		Good (3)
Passes 5 or 6 of 7 criteria		Moderate (2)
Passes 0, 1, 2, 3 or 4 of 7 criteria		Poor (1)
If 10 criteria assessed (non-woodland ponds):		
Passes 9 of 9 criteria		Good (3)
Passes 6, 7 or 8 of 9		Moderate (2)
Passes 0, 1, 2, 3, 4 or 5 of 9 criteria		Poor (1)
		Moderate

APPENDIX C: Associated Plans

Landscape Strategy (EDP ref: edp7440_d008d)

Phase 1 Habitat Survey (TEP Ref: G9282.016)

Baseline UK Habitats (TEP Ref: G9282.024)

Baseline Condition and Strategic Significance (TEP Ref: G9282.025)

Proposed Development UK Habitats (TEP Ref: G9282.026)

Proposed Development Condition and Strategic Significance (TEP Ref: G9282.027)

Habitat Impact (TEP Ref: G9282.028)



- Site Boundary
- Existing Vegetation to be Retained
- Existing Seasonally Wet Ditch
- Existing Semi-improved Neutral Grassland to be enhanced with an appropriate Wildflower Mix
- Existing Marshy Grassland to be enhanced with appropriate Tussock and Wildflower Mix
- Existing Gaps within Hedgerows to be filled with native species of localprovidence to increase species diversity and provide ecological benefits
- Proposed Trees
- Proposed Native Structural Planting
- Proposed Swale/Detention Areas
- Proposed Pond
- Proposed Wetland and Marginal Planting
- Proposed Mown Path
- Proposed Footpath
- Pedestrian Access
- Vehicular Access
- Proposed Local Equipped Area for Play (LEAP)
- Proposed Dwellings
- Proposed Amenity Grass to Residential Areas, Shrub and Front Garden hedges where appropriate
- Former Pumping Station to be converted into a Community Cafe
- Proposed Road Layout
For surfacing refer to Architectural and Drainage Information
- Recent Development
- Conservation Area Boundary

client

Accrue Capital

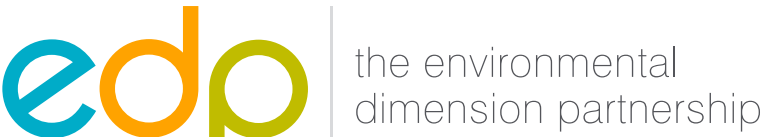
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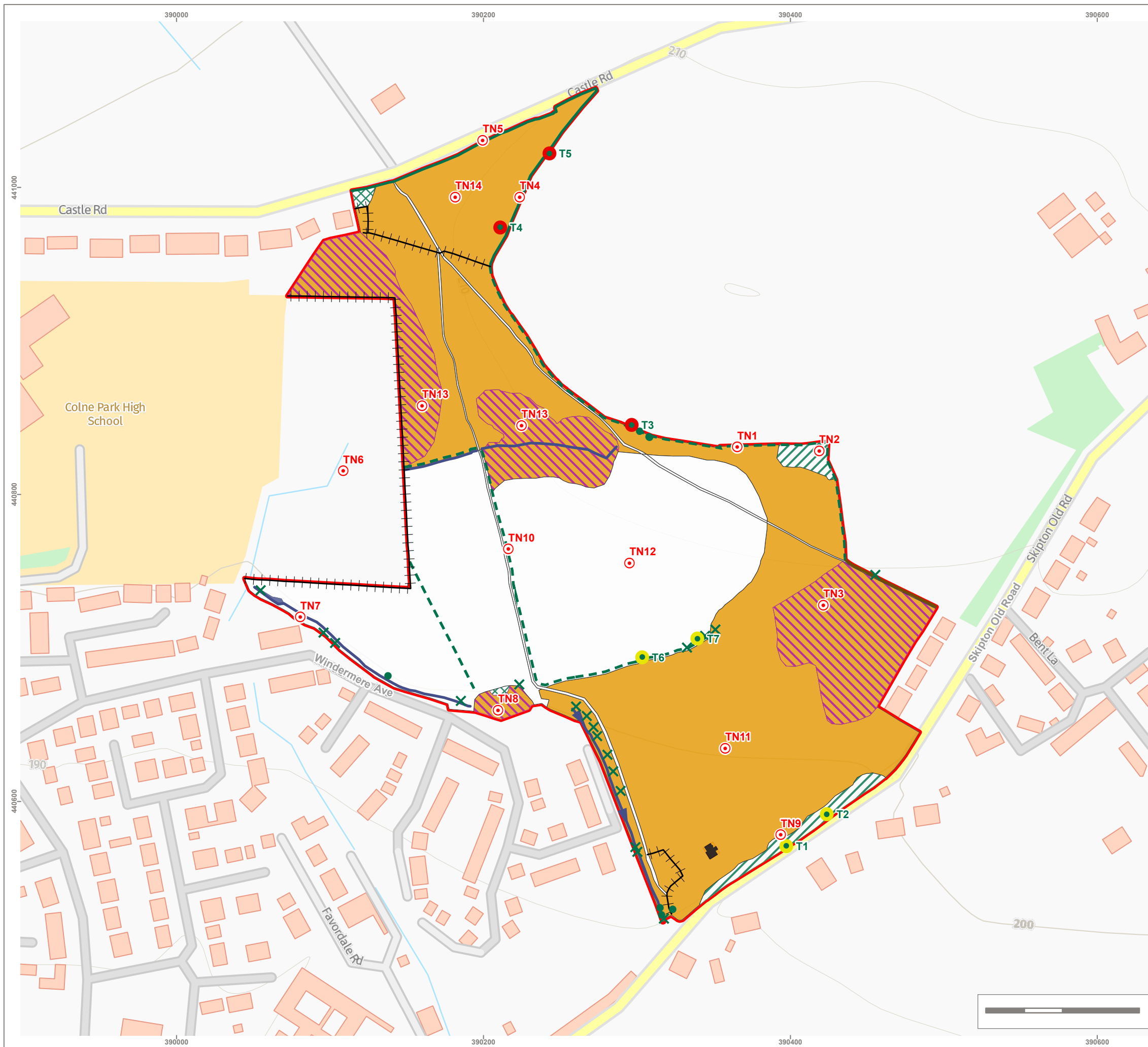
drawing title

Landscape Strategy

date	21 SEPTEMBER 2022	drawn by	GYo
drawing number	edp7440_d008d	checked	DRo
scale	1:1,500 @ A2	QA	JFr



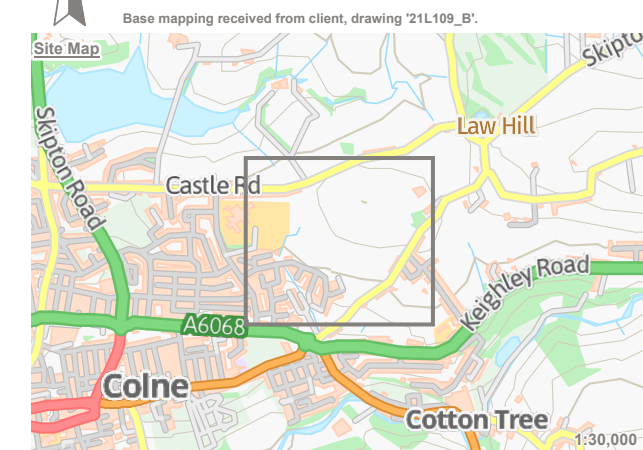
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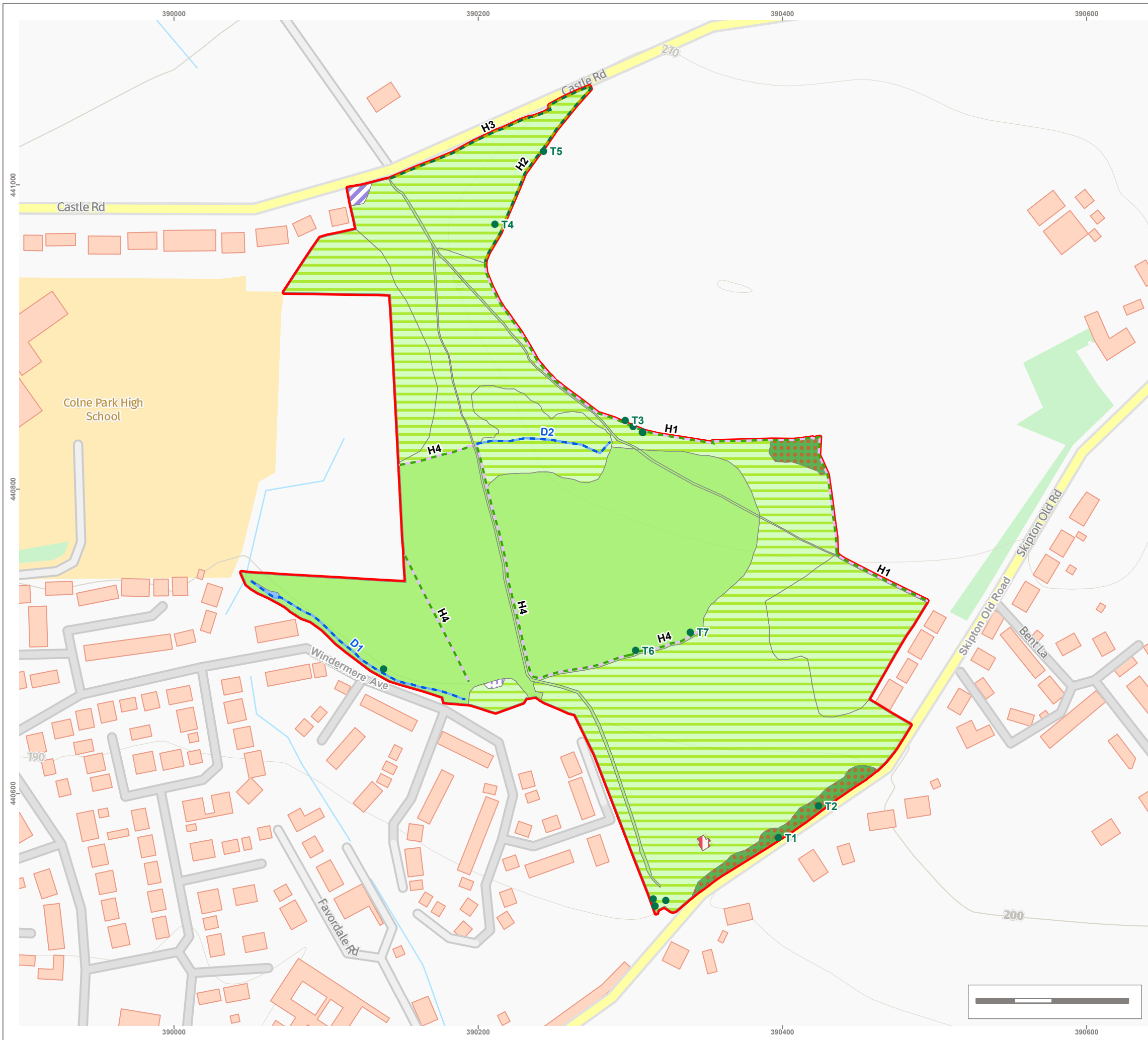
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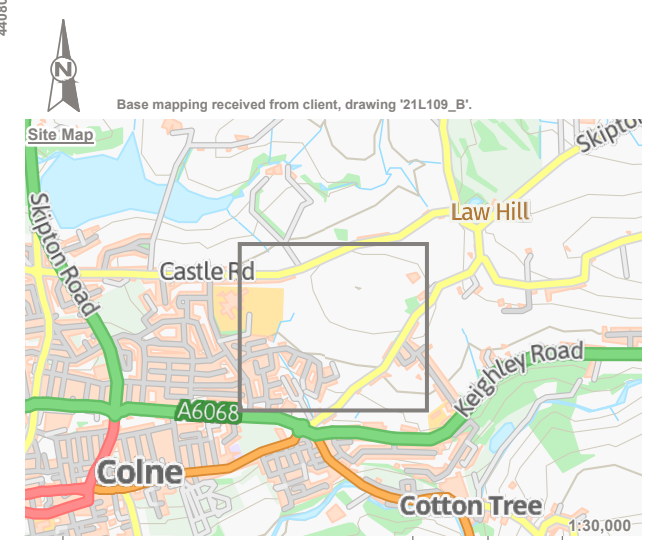
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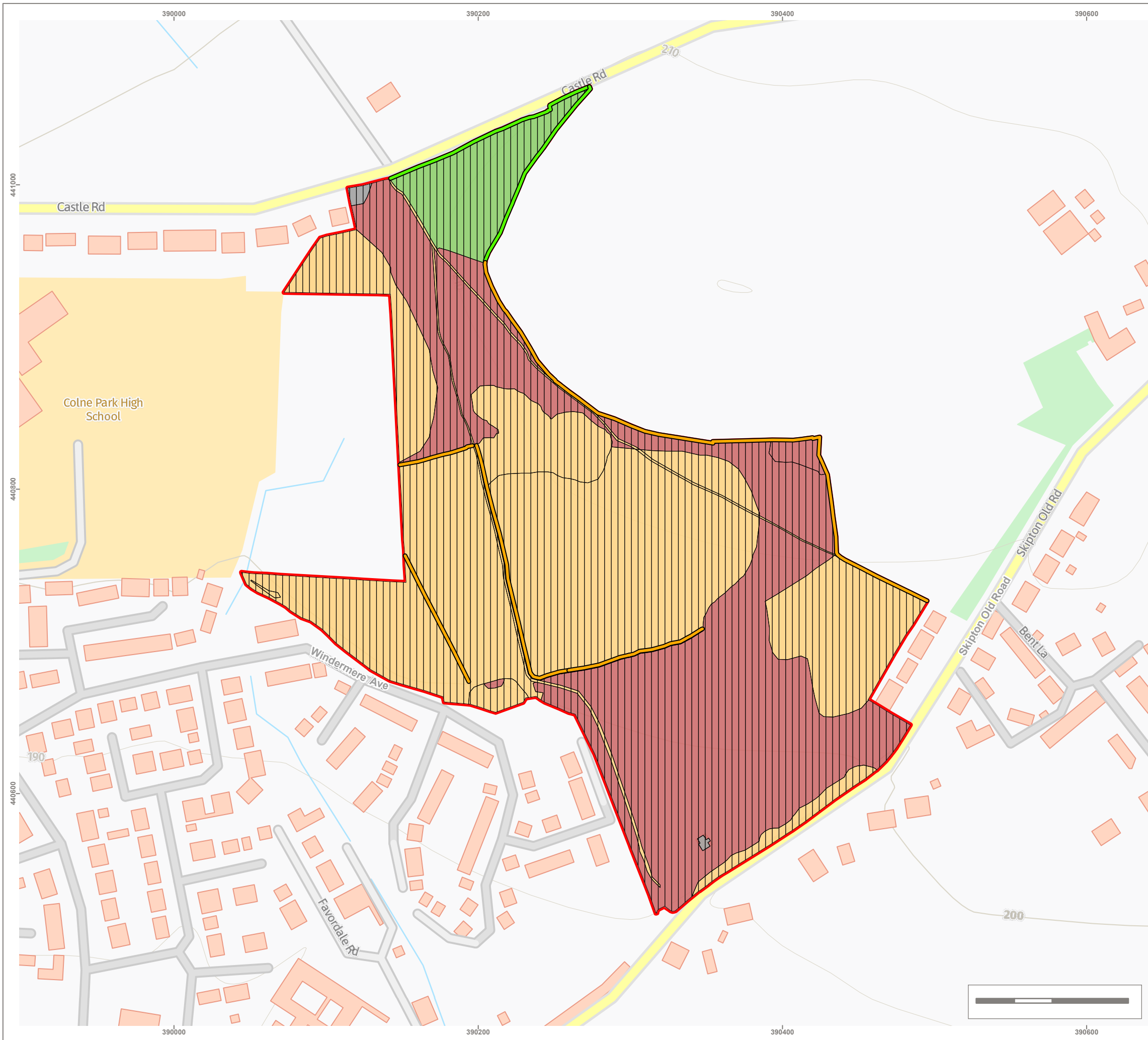
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- Hedgerows
-
- Watercourses
- Grassland
- Heathland and Shrub
- Lakes
- Woodland and Forest
- Urban

Note:



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UK Habitats



KEY

 **Hedgerow Condition**

 **Habitat Condition**

Strategic Significance



Note:

Base mapping received from client, drawing '21L109_B'.





Site Map

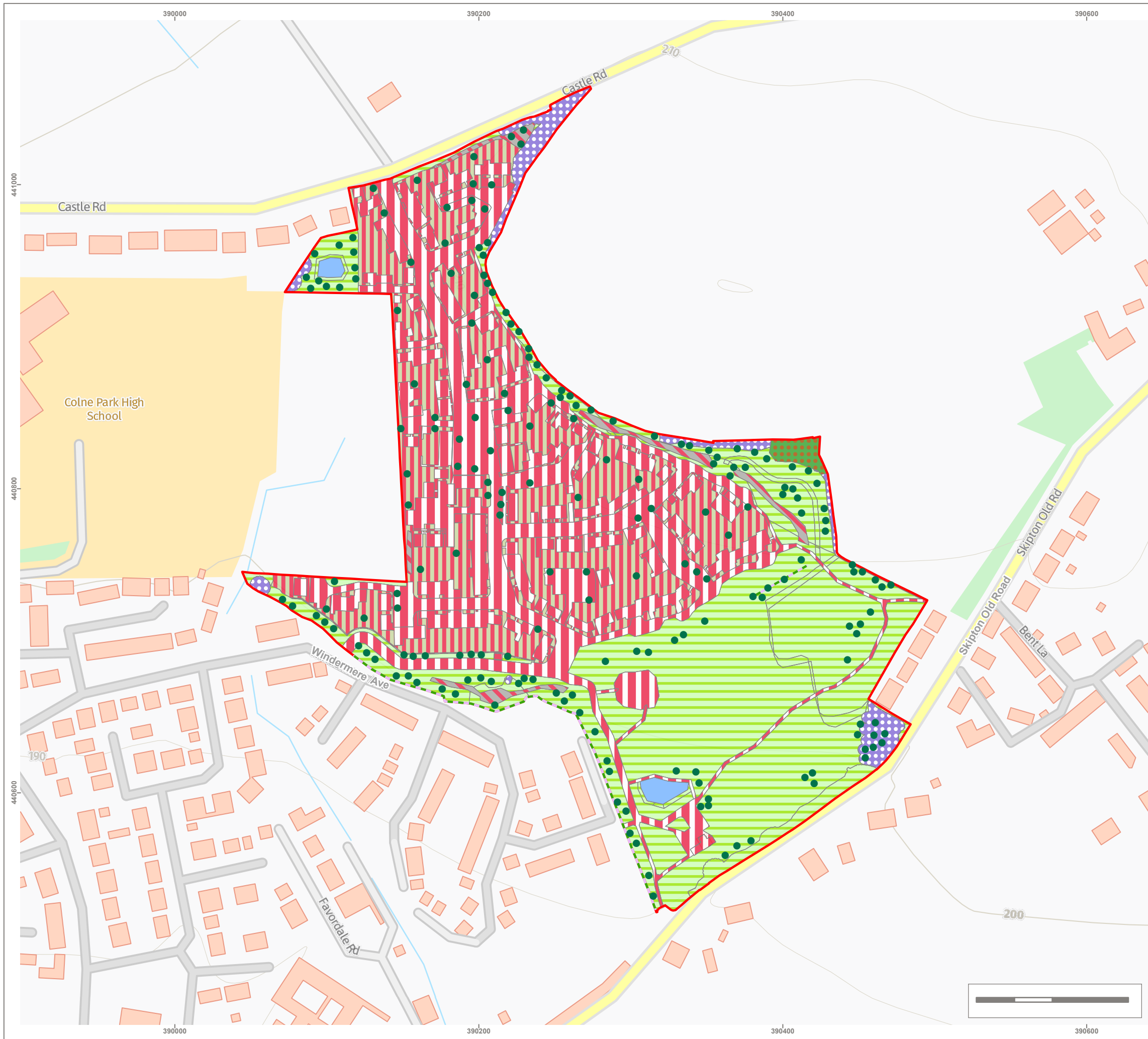
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Cotton Tree

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 **THE ENVIRONMENT PARTNERSHIP**

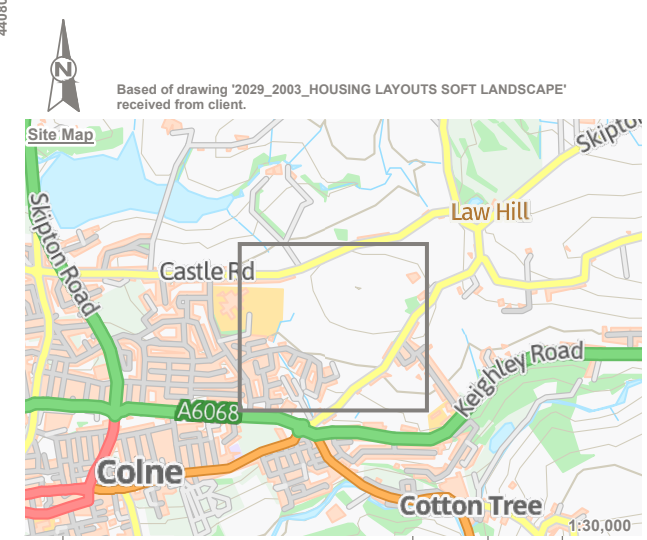
Habitat Condition and Strategic Significance



KEY

-
- Hedgerows
- Heathland and Shrub
- Grassland
- Lakes
- Woodland and Forest
- Urban
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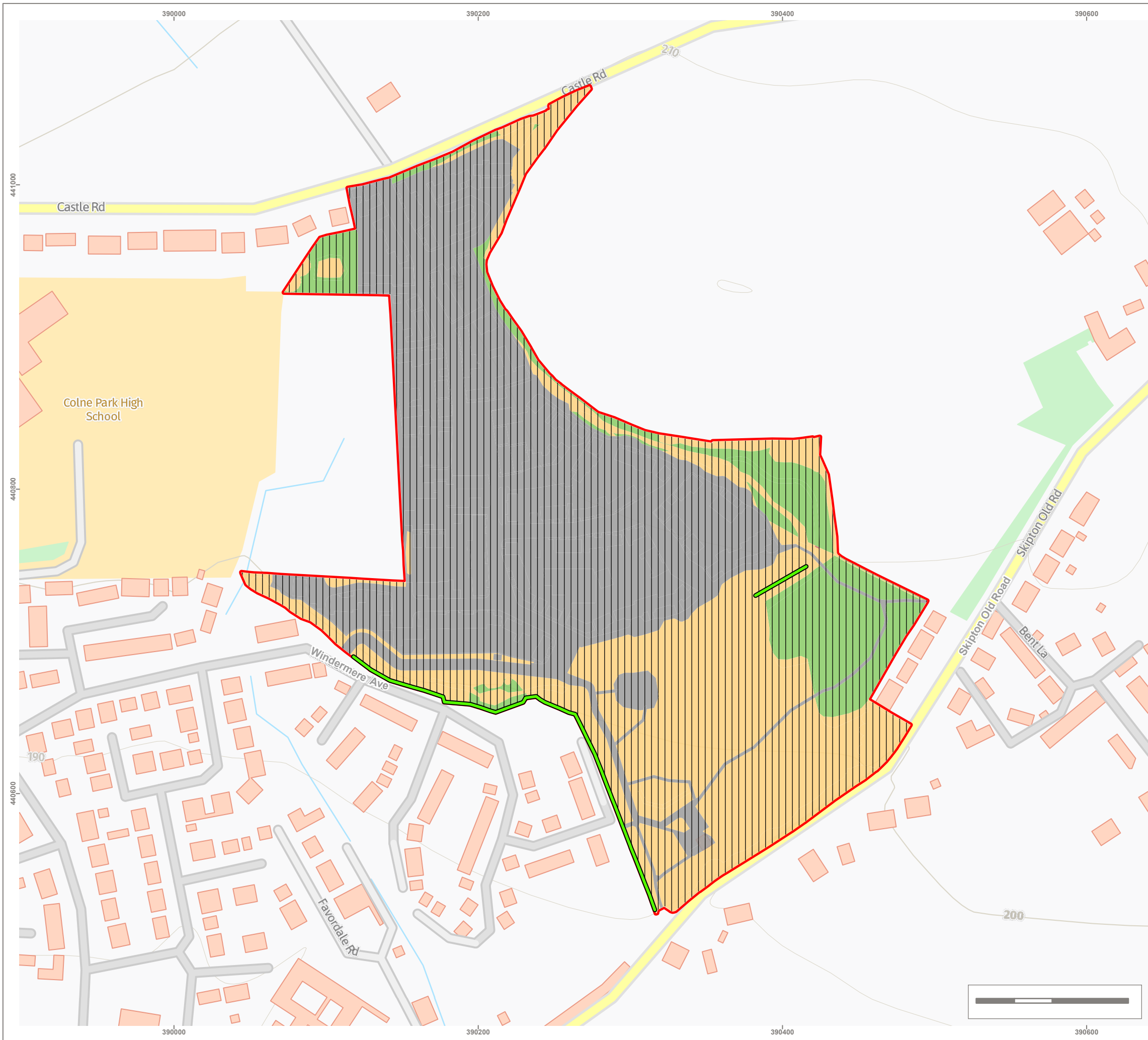
Note:



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UK Habitats





KEY

Hedgerow Condition

Proposed Habitat Condition

Proposed Habitat Condition

Proposed Habitat Condition

Proposed Habitat Condition

Strategic Significance

Note:

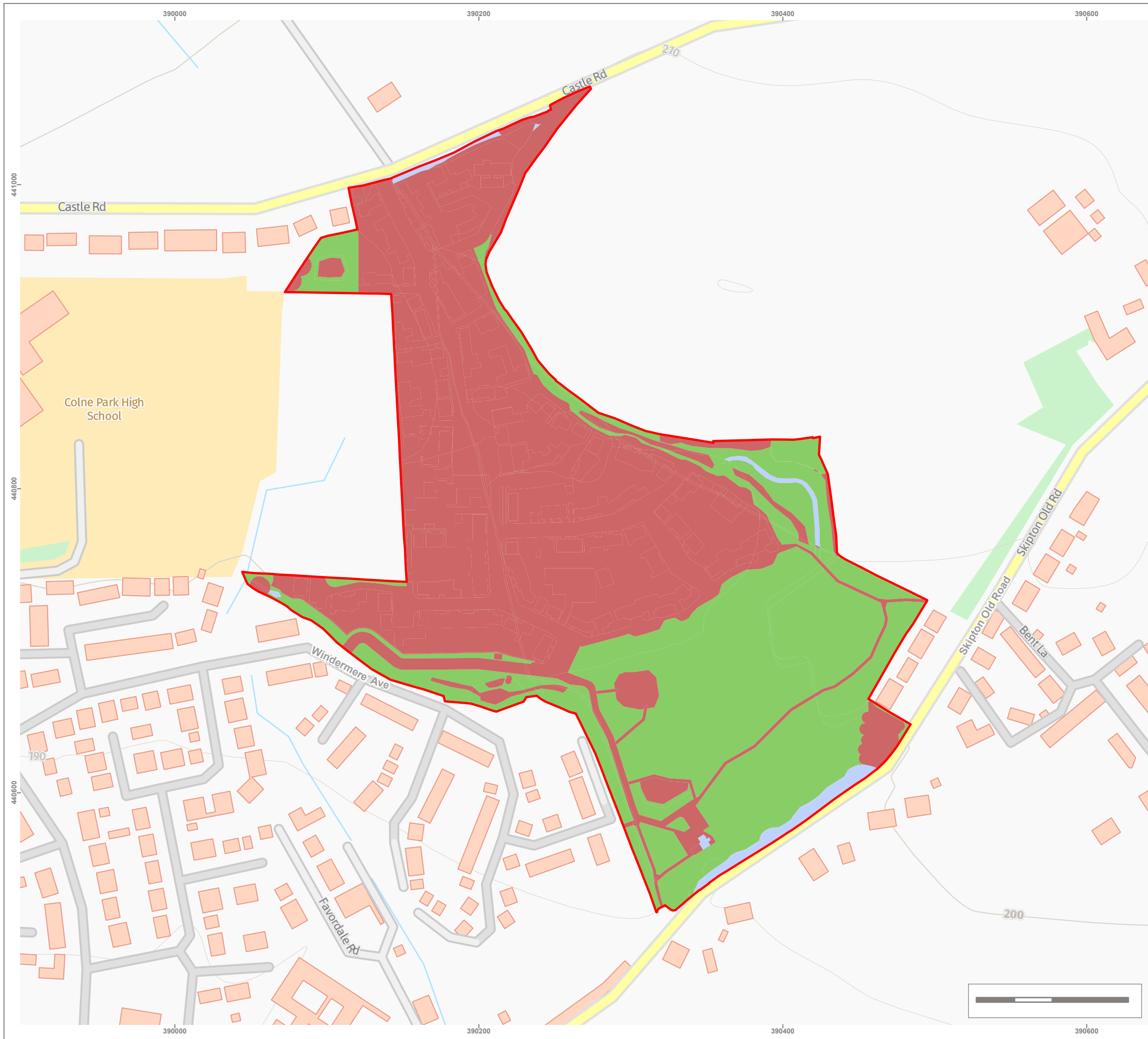
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Site Map

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THE ENVIRONMENT PARTNERSHIP

Habitat Condition and Strategic Significance

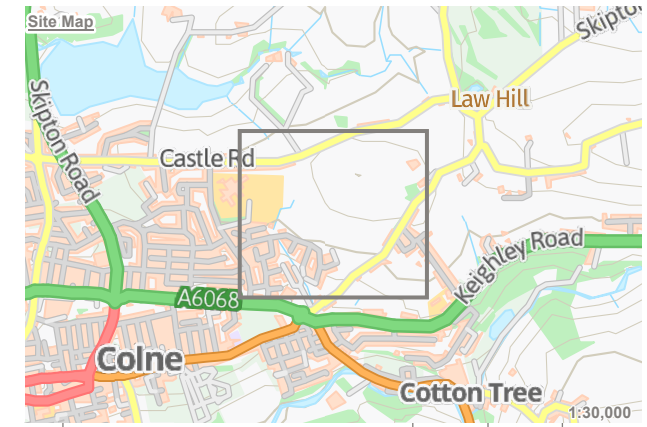


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Note:

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