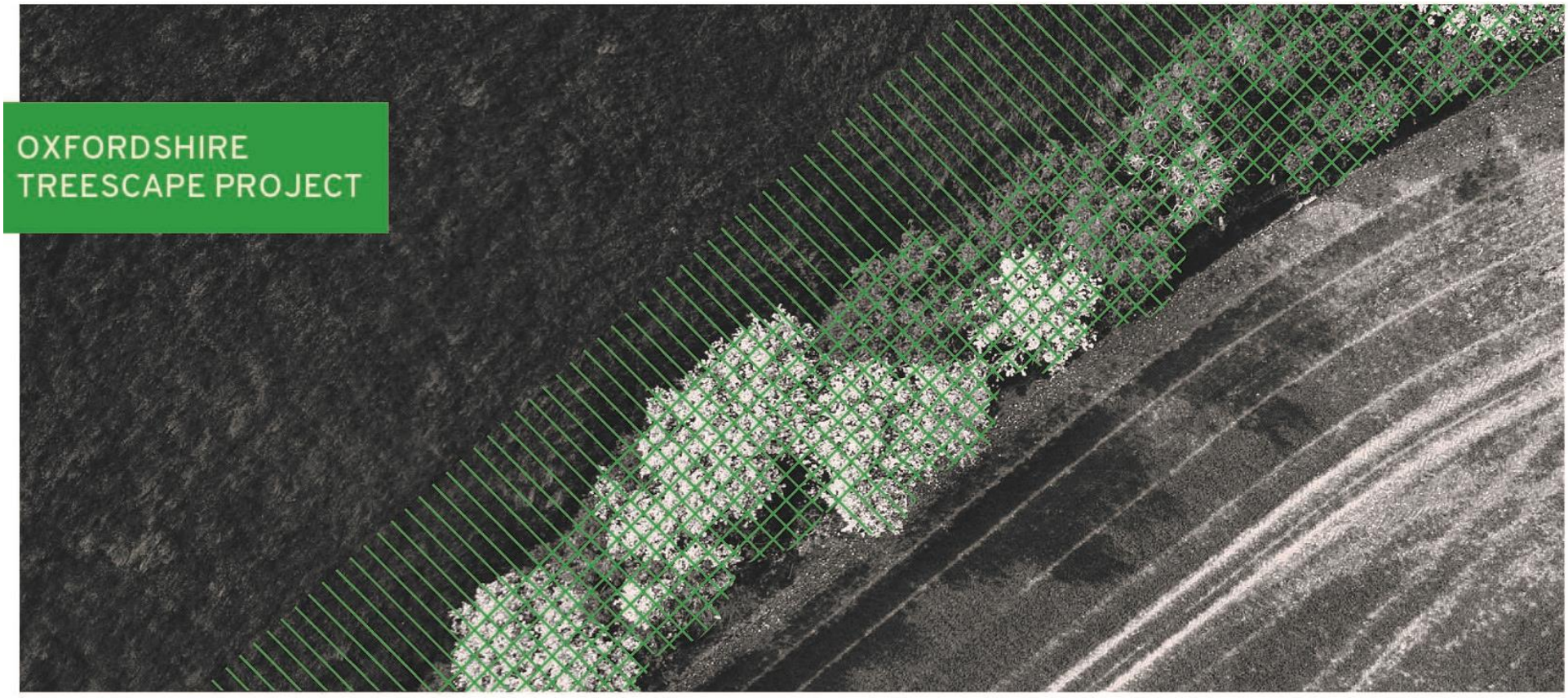


Opportunity Report

For Cholsey parish

22 December 2021

Introduction

This report is intended to give a broad indication of the natural capital benefits that treescapes can bring to Cholsey parish and of the opportunities to increase them. The report can be used as the basis for creating a land or neighbourhood management plan that can help you develop policy and access funding opportunities. CAG Oxfordshire can support you in creating that plan and applying for funding.

'Treescapes' is the term we use for trees in all their forms, be that woodland, grassland, hedgerow, street trees, community orchards or agroforestry. We strongly recommend that you read the report in conjunction with the Treescape Guide, which gives more detail on each treescape and its benefits. Also worth a look are our project website and the Our Land Our Future Report which give an overview of how many treescapes we might introduce across Oxfordshire by 2050. The maps for the whole of Oxfordshire can also be viewed here.

Clearly it will not be possible to establish treescapes on a piece of land without the support of the landowner or manager. It is crucial that they are engaged in the process. Once you have developed a land or neighbourhood plan the Oxfordshire Treescape project can advise and support you on making contact with farmers and landowners. The report may also help you identify smaller scale treescape opportunities on public land. Please note that we have not yet found a good way to map street tree opportunities.

This report has been produced as part of a new not for profit service for farmers, land managers, land agents, parish councils and community groups across Oxfordshire. The project is led the charity GrowGreenCarbon working with CAG Oxfordshire and with the support of Oxford University.

For more information see www.oxtrees.uk.

Contents

The report presents a series of maps together with an explanatory text. The Appendix provides tables with the data behind the maps. You can easily move between the maps and the appendices and back again by clicking the link at the bottom of each slide.

The report breaks down into the following sections:

- Why Treescapes? An overview of the reasons to establish treescapes and the funding available.
- Your site. An overview of Cholsey parish including Agricultural Land Grades and slope; areas unsuitable for treescape interventions and why; the site's relationship to the Nature Recovery Network and Areas of Outstanding Natural Beauty; and existing natural capital benefits in the parish.
- Opportunities to establish treescapes.
- The benefits treescapes could bring and where they could deliver multiple benefits.
- Our recommendations on an overall strategy the parish might follow, including possible treescape targets between now and 2050 in line with national targets put forward by the Climate Change Committee.

How our treescape maps relate to government policy

Treescapes are now at the centre of agricultural funding and policy. Under the new Environmental Land Management Scheme(ELMS), the government defines these as:

- Clean and plentiful water
- Clean air
- Protection from and mitigation of environmental hazards
- Mitigation and adaptation to climate change
- Thriving plants and wildlife
- Beauty, heritage, and engagement

We have chosen to map 5 natural capital benefits of treescapes. We also offer ways to measure each one:

- Biodiversity
- Carbon capture
- Natural flood management and soil erosion
- Air pollution and noise reduction
- Recreation and wellbeing

As yet, it is not clear how these natural capital benefits will be measured by ELMS. We will be updating our maps to ensure they best align with ELMS as further information comes available.

For more detail on how we define each benefit please see the Treescape Guide. Information on funding is also available on our website.

Funding for treescapes

Central government has set ambitious targets for tree planting.

In addition to the English Woodland Creation Offer, Countryside Stewardship and ELMS, there are new sources of funding coming on stream, such as the Sustainable Farming Initiative, biodiversity offset payments by housing developers and corporations wanting to mitigate their environmental impact while they de-carbonise their business activities. The Woodland Carbon Code can also provide regular annual income over a sustained period. Organisations such as the Woodland Trust, the Tree Council, The Trust for Oxfordshire's Environment and the International Tree Foundation will support community initiatives. Parish councils may also have access to funding. Our website gives an overview of sources of funding currently available. Or ask CAG Oxfordshire for further information.

By working on larger scale projects which extend across several farms or estates, farmers and landowners may be able to attract additional funding from Tiers 2 and 3 of ELMS. You may then like to support the development of a 'Farmer Cluster' in your area which encourages co-operation between neighbouring farms and shares the cost of advisors. You can check this link to see if there is already a farmer cluster in your area.

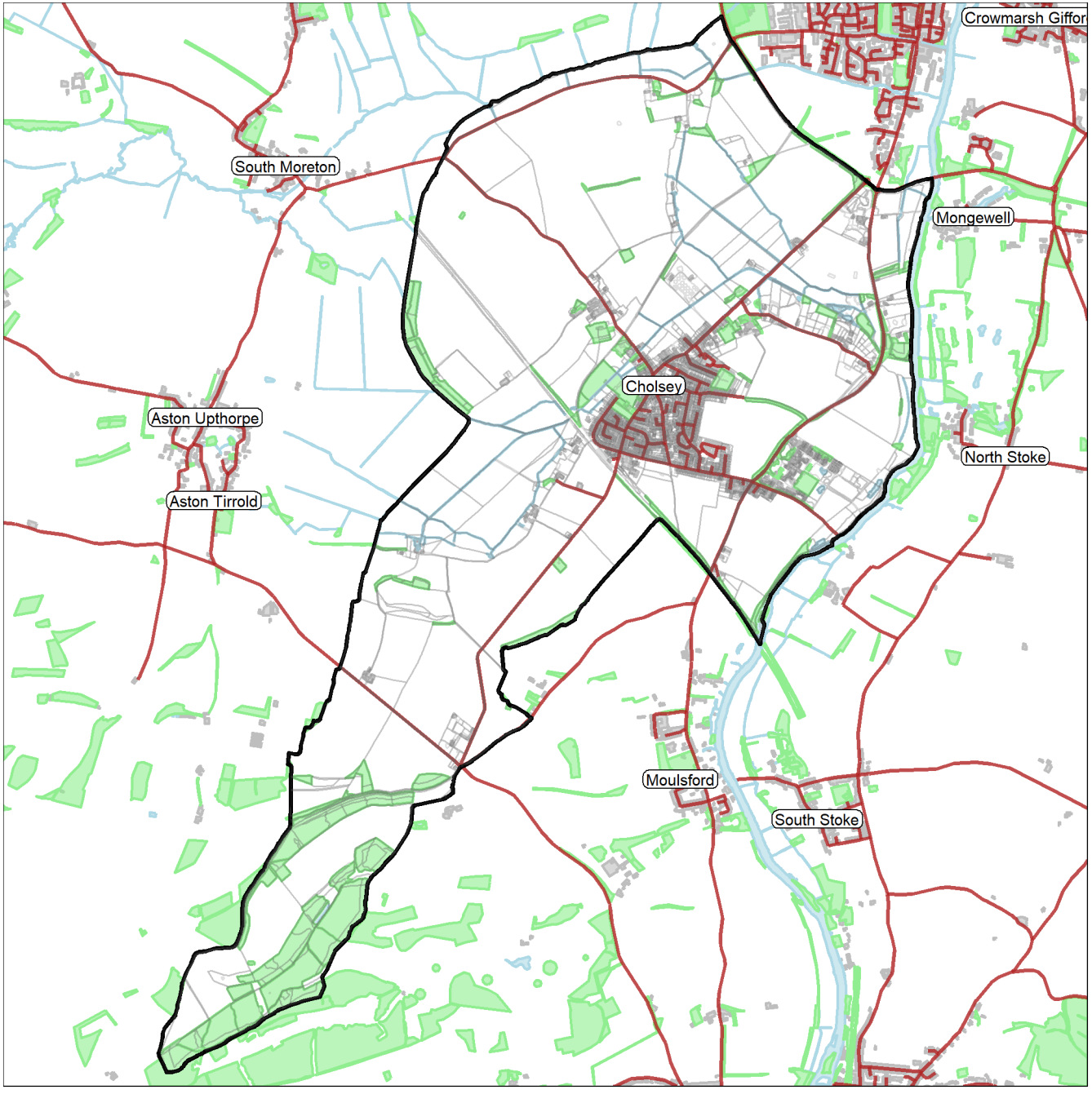
Your site

YOUR SITE

Cholsey PARISH

This is the area of Cholsey parish we have identified from the parish boundary.

The total site area is 1592.4 hectares.



AGRICULTURAL LAND GRADES

The parish can be classified into the various agricultural land grades.

Please note that we have used agricultural land grade as a way to map levels of productivity from different land areas. This is only an approximation and the land manager will know better which land has the most potential for food production. However, land grade is the best yield mapping method available to us at the current time.

See here for more info on land grades.

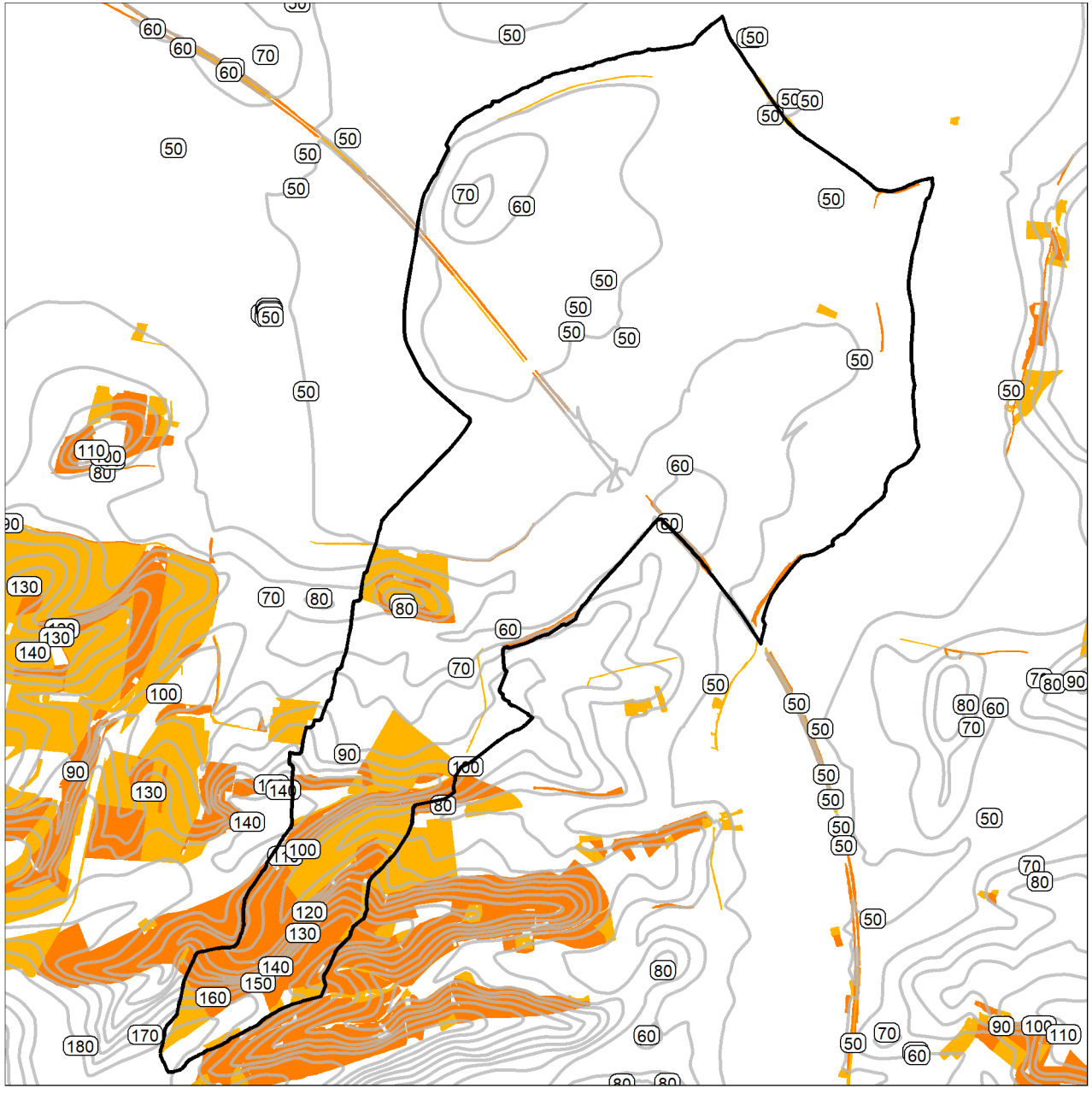
Click here for Table

SLOPE

The map shows fields with slopes either between 5 and 7 degrees or above 7 degrees. The slope is calculated as an average for each field as a whole.

As sloping land is less easy to farm and more prone to soil erosion, it may provide better opportunities for some treescapes. If there is sloping land in or around your parish, this could be a reason to coordinate treescape interventions with neighbouring land managers in your area as management of sloping land on one site can impact on a nearby site.

Click here for Table



YOUR SITE

AREAS NOT SUITED TO TREESCAPES

The map shows all areas not suitable for treescapes, both within and near to Cholsey.

These include heritage sites, legally protected or locally registered wildlife sites, existing woodland and grassland sites and other sites of wildlife value.

Please note that careful consideration of opportunities that may affect any of these areas will be required when introducing treescapes.

The unsuitable areas total 205 hectares or 13% of the parish.

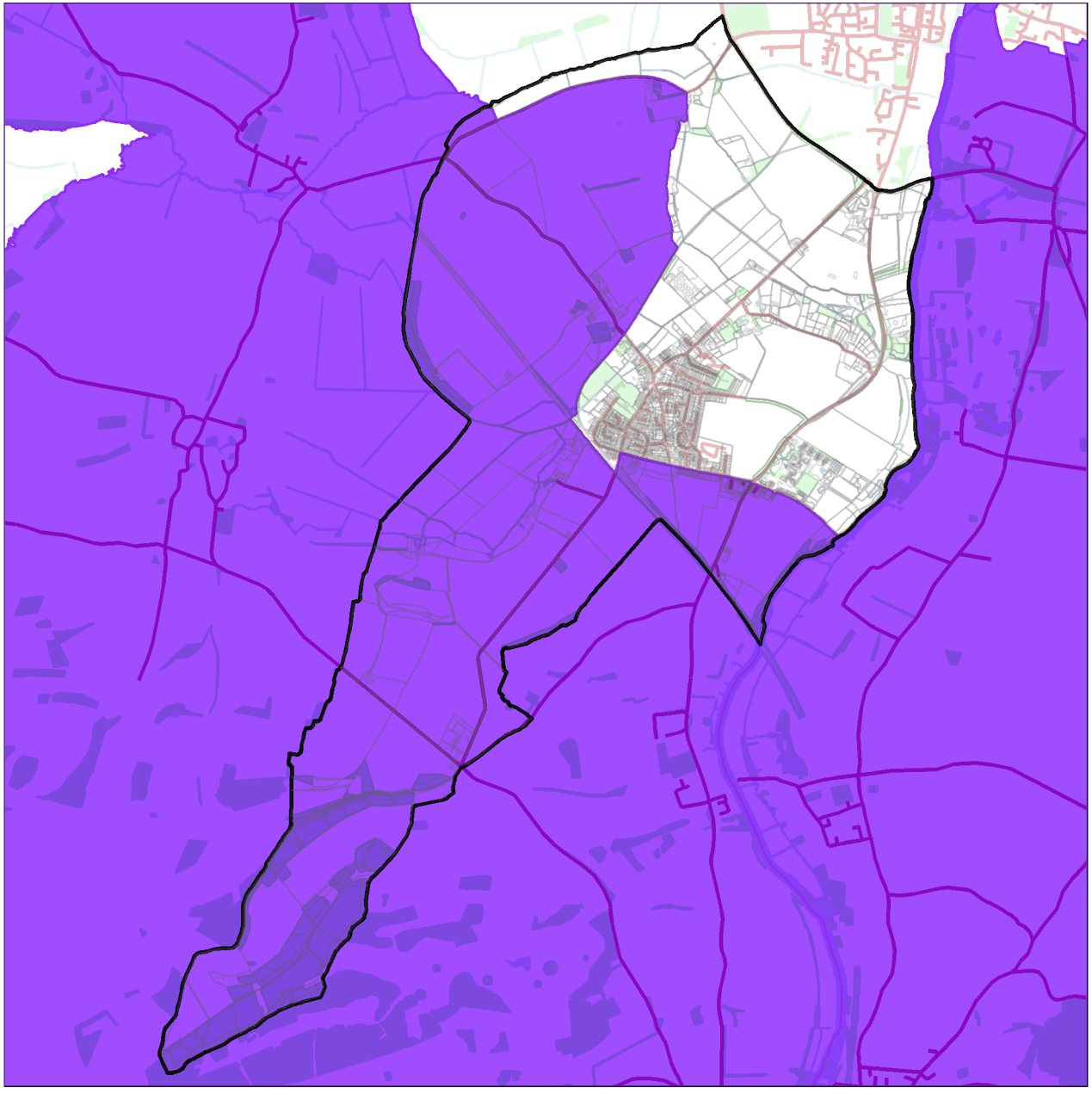
Click here for Table

AREAS OF OUTSTANDING NATURAL BEAUTY

An Area of Outstanding Natural Beauty (AONB) is a designated exceptional landscape whose distinctive character and natural beauty are precious enough to be safeguarded in the national interest.

If your parish is sited within an AONB this will mean that the local AONB governing body will need to be consulted on any plans to establish treescapes. It will be important to them to maintain the traditional landscape character of the AONB area. Further information can be found on our website.

1006 hectares or 63% of this site is within an AONB.



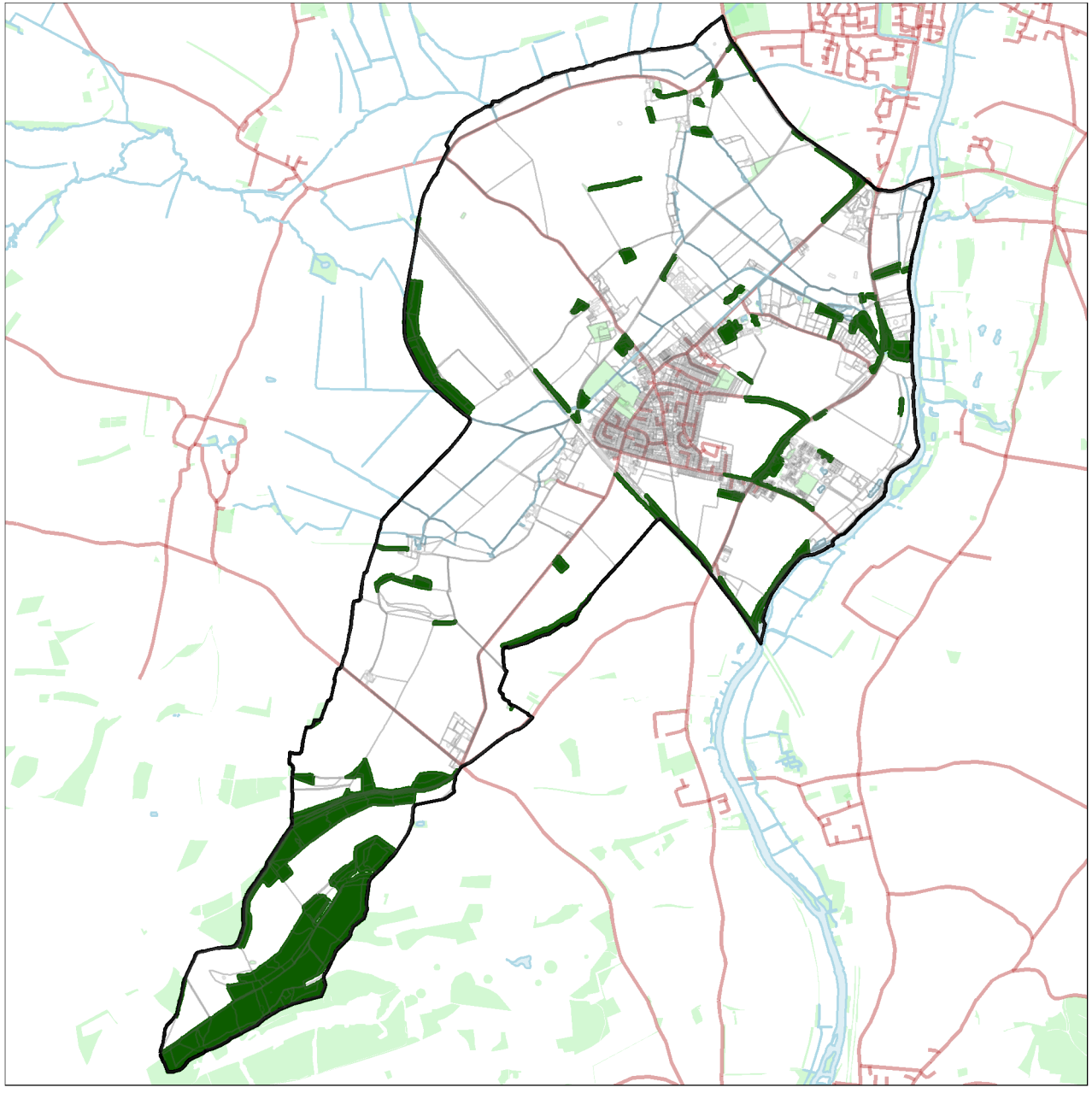
YOUR SITE

EXISTING WOODLAND

The map shows woodland areas in the parish. Some very small woodland areas may not be shown.

These total 123.2 ha which is 8% of the parish.

Click here for Table



YOUR SITE

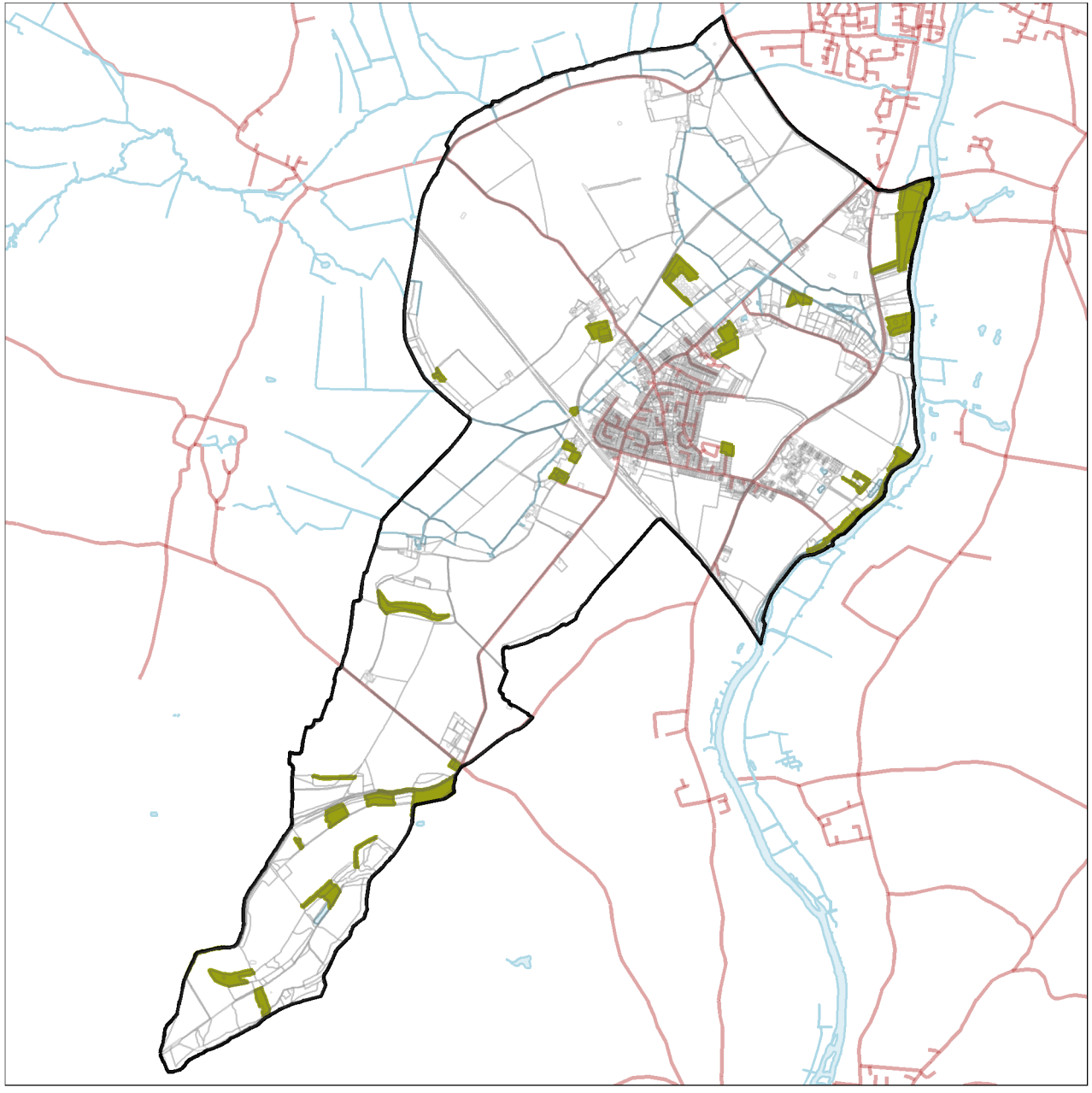
EXISTING SPECIES RICH GRASSLAND

The map shows species-rich grassland areas in the parish. Pasture and other forms of intensively managed grassland are not included in this map.

Species-rich grassland may still be used for the grazing of livestock but at a lower intensity than normal pasture. It should not be cut more than once a year.

Species-rich grassland totals 36.3 hectares and 2% of the parish.

Click here for Table



KEY Existing Species Rich Grassland

YOUR SITE

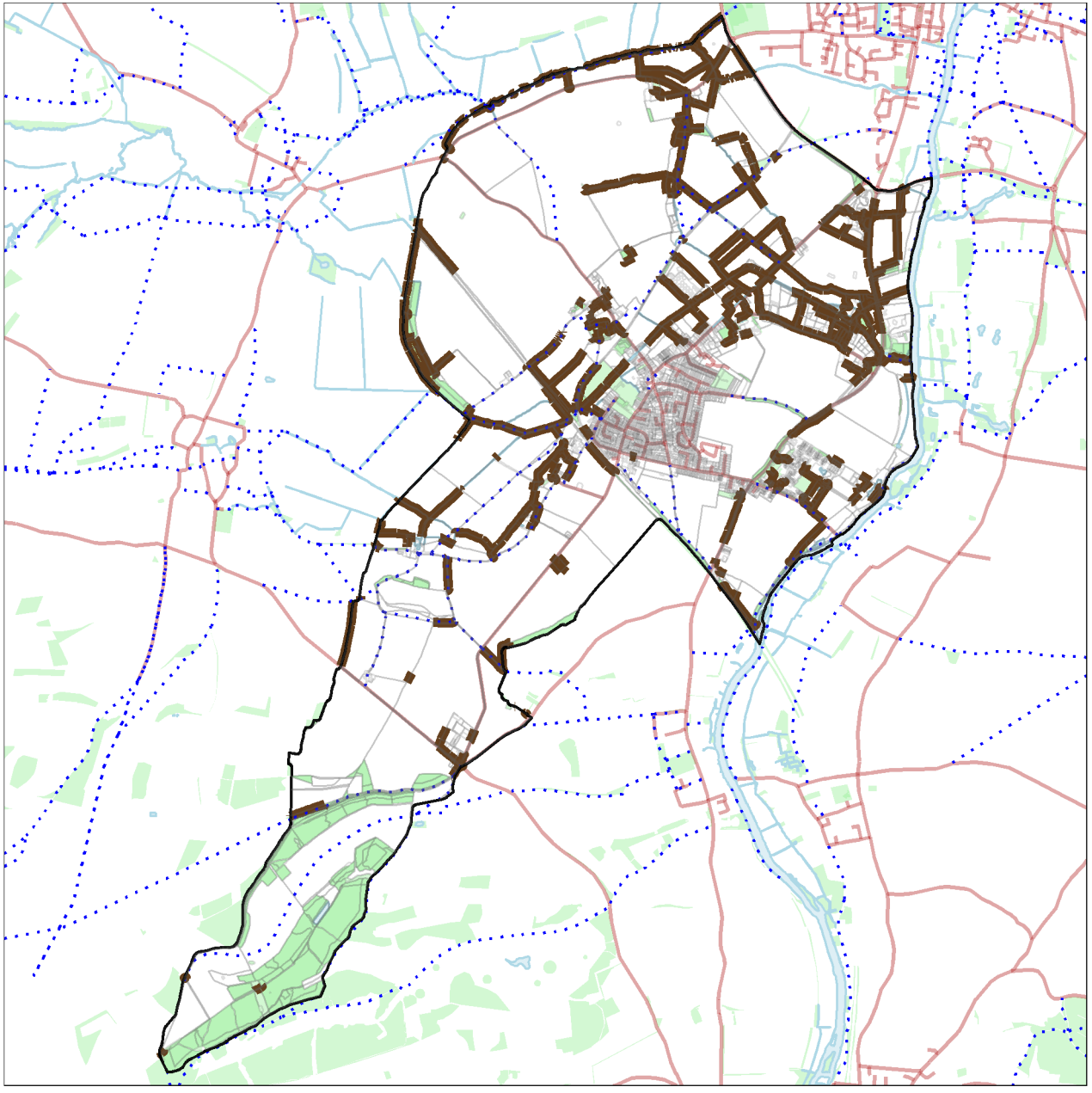
EXISTING HEDGEROWS

The map shows hedgerows in the parish. These total 47.9 kilometres and 32% of all field boundaries.

Hedges are of particular biodiversity value as they provide ecological corridors for wildlife.

Please note that this hedgerow data may not be as accurate as we would like and is likely to understate the number of existing hedges. If you are interested to build a more accurate picture of hedgerows in your parish, please contact us.

Click here for Table



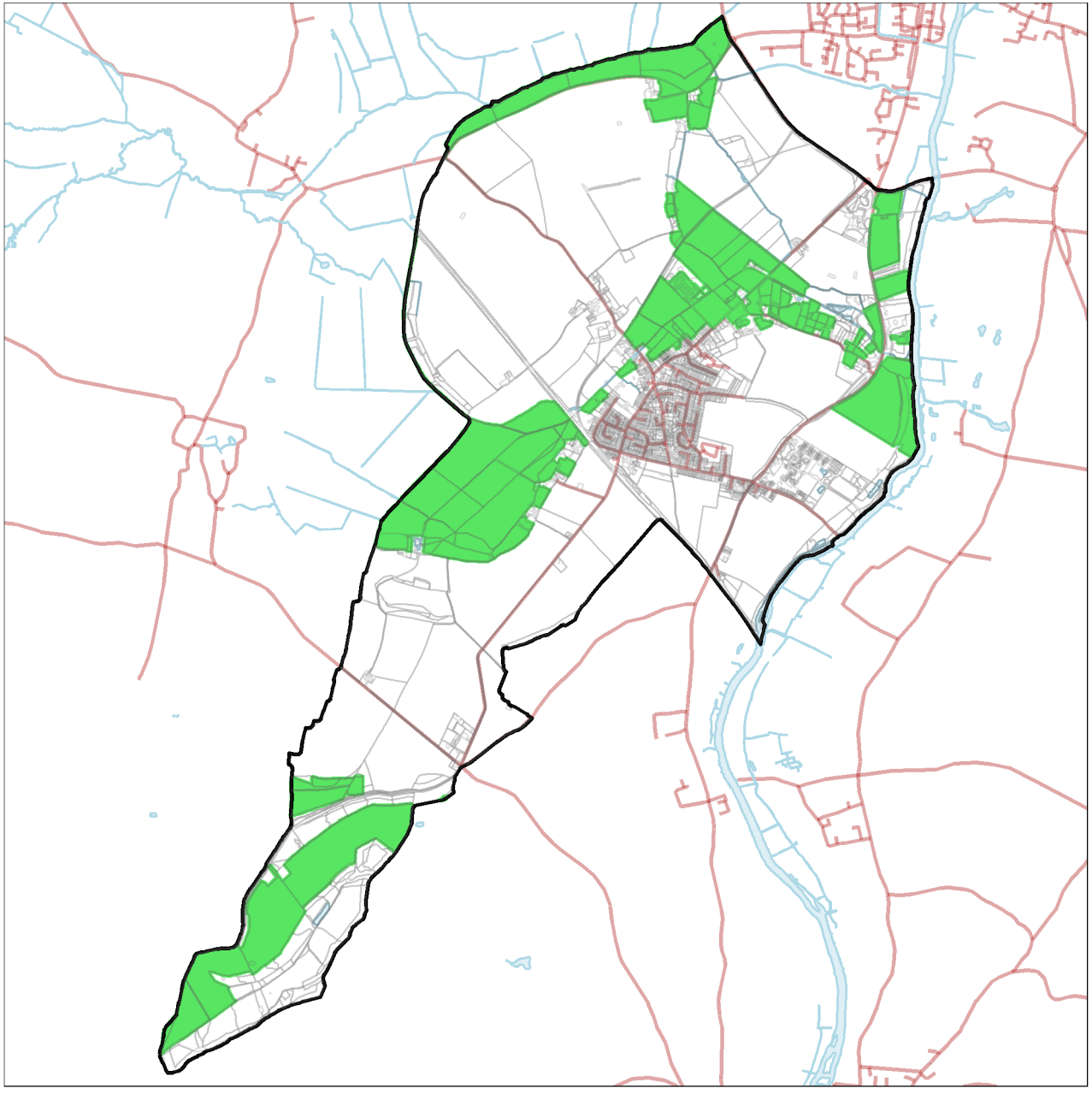
Treescape Opportunities

WOODLAND & SPECIES RICH GRASSLAND OPPORTUNITIES

The map shows areas of the parish that are suitable for either new woodland or species-rich grassland. These total 325.8 hectares and 20% of the parish. Both grade 1 and 2 land and unsuitable sites are excluded.

You might consider selecting smaller areas from within the mapped area that are less productive, such as wet or awkward corners for grassland, woodland copses or shelter belts.

Pasture that has had few inputs could be restored to species-rich grassland, but if it has been intensively used for a long time it may be better as woodland. Click here for Table



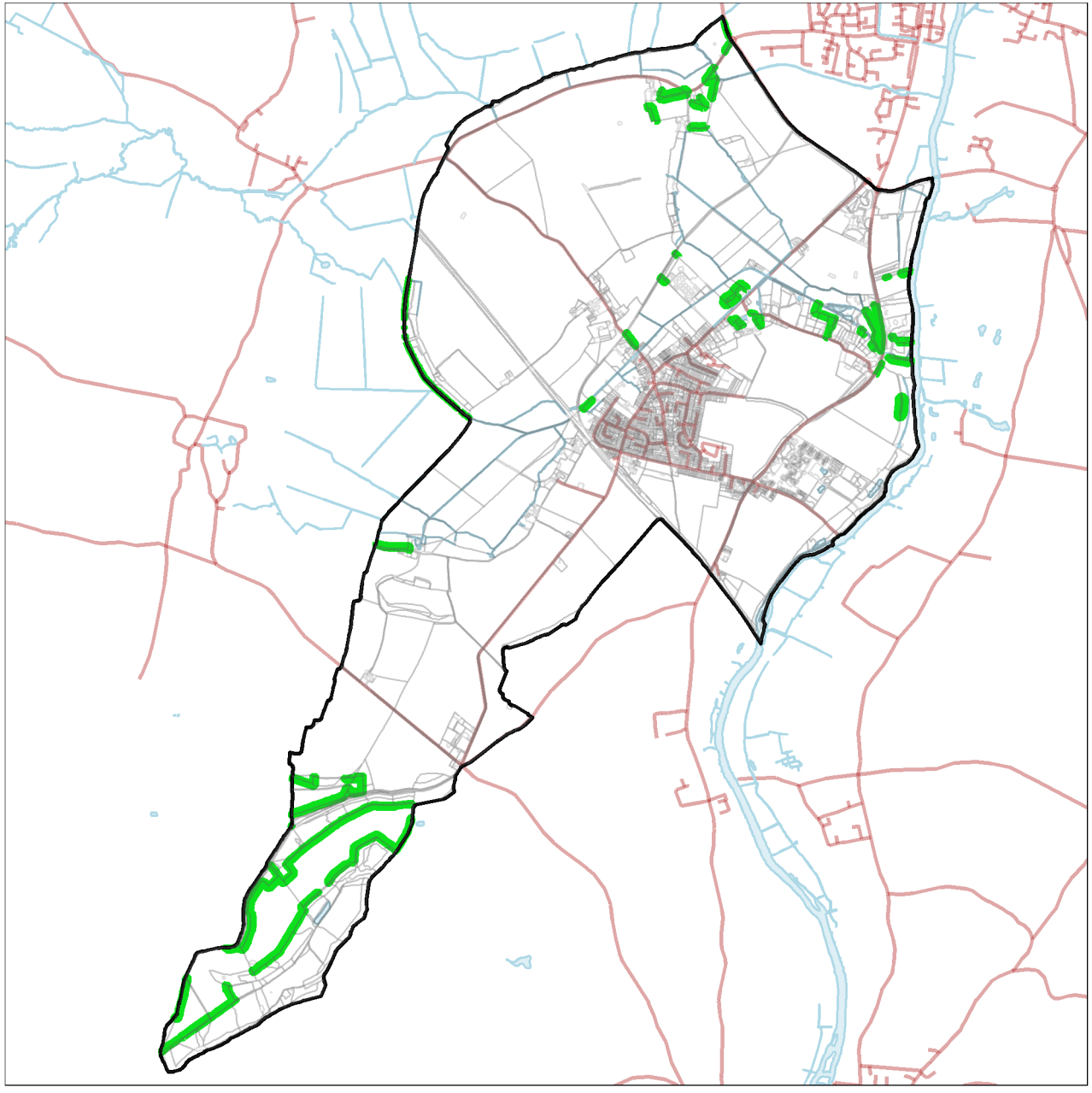
KEY Woodland or Grassland Opportunities

WOODLAND BUFFER OPPORTUNITIES

A relatively easy way to introduce trees onto the site may be to plant woodland strips around the edge of existing woodland. As the new trees are adjacent to existing woodland, the new woodland will be colonised by nature more rapidly, supporting biodiversity gains.

The map shows woodland buffer opportunities planted to 20 meters around all existing woodland areas. These total 18.1 hectares or 1% of the parish.

Click here for Table



KEY Woodland Buffer Opportunities

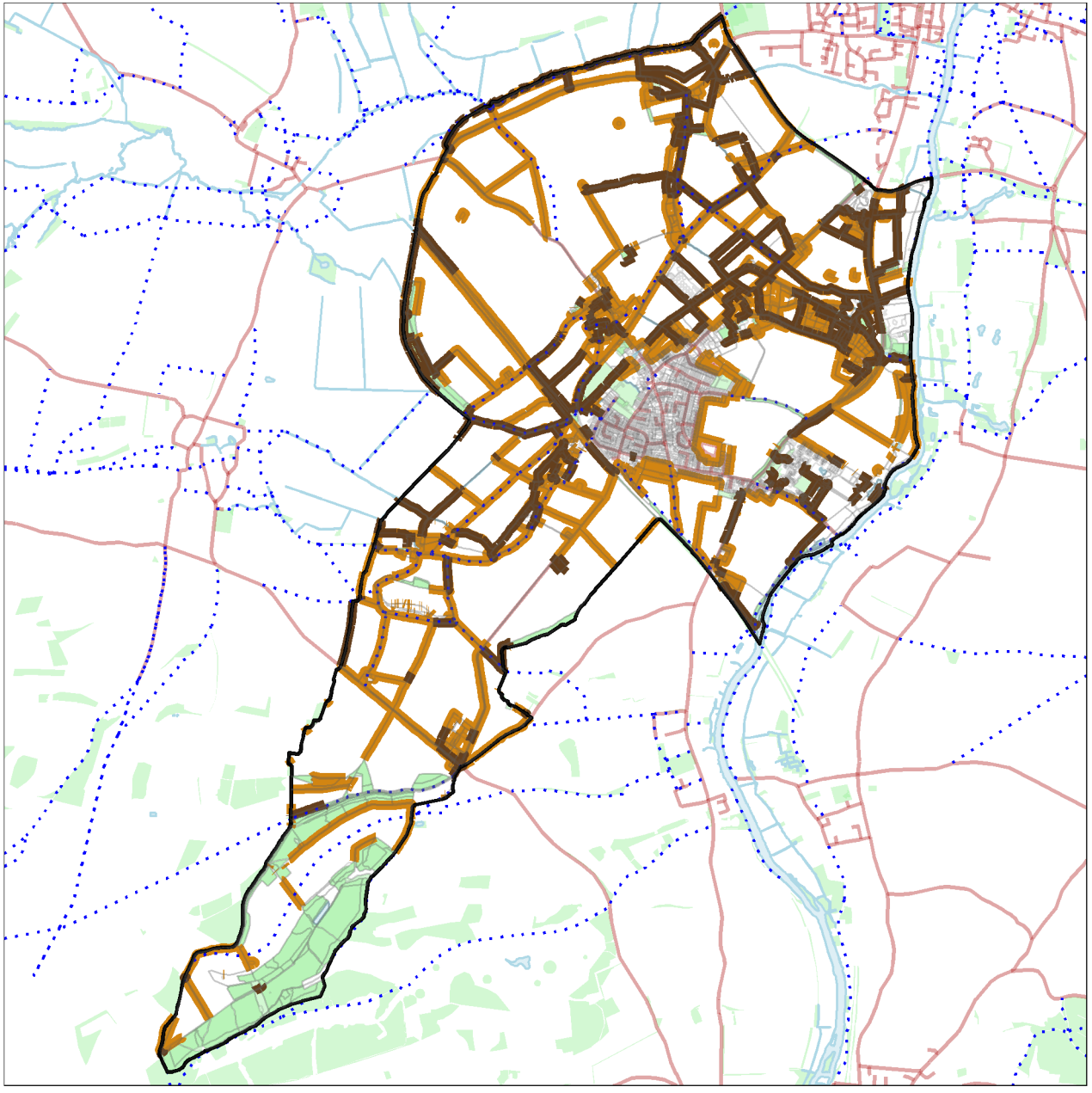
HEDGEROW OPPORTUNITIES

The map shows both the hedgerows currently in the parish and the opportunities for new hedges. (Please note that this data may not be as accurate as we would like and the hedge opportunities may be overstated).

We have assumed that all field boundaries can become hedges, however some may not be suitable. For instance, stone walls are a typical feature in the Cotswolds and especially so within the AONB.

These hedge opportunities total 100.9 kilometres and 68% of all field boundaries.

Click here for Table



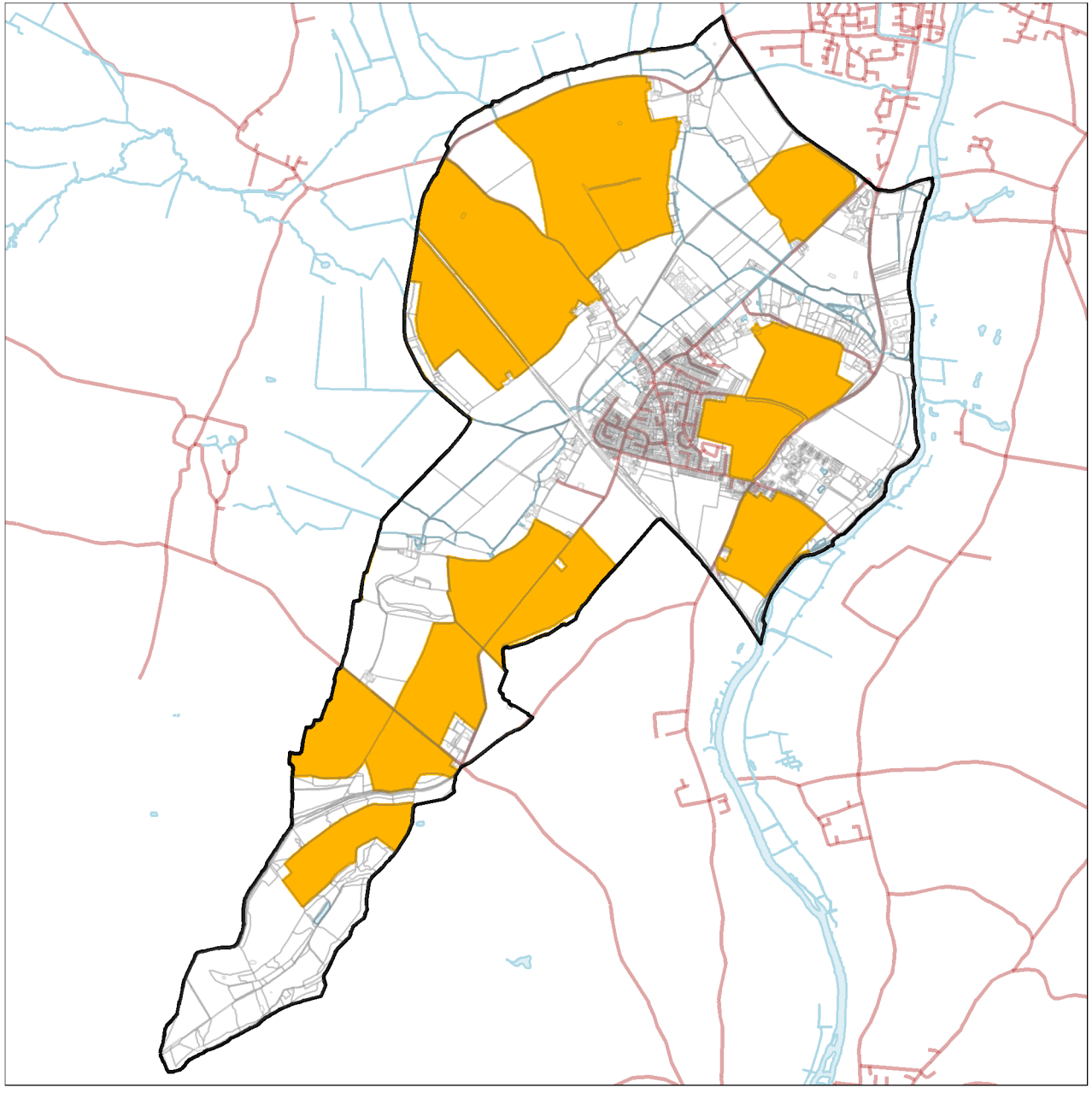
HEDGES ACROSS LARGE FIELDS

The map gives an impression of where it might be possible to introduce new hedges, by dividing larger fields. This is based on fields over 20 hectares, as we judge that these fields could be divided without overly interfering with farming operations.

These total 21 fields.

For pasture fields, dividing fields of less than 20ha with hedges can have animal welfare benefits in addition to the other benefits we highlight in this report.

Click here for Table



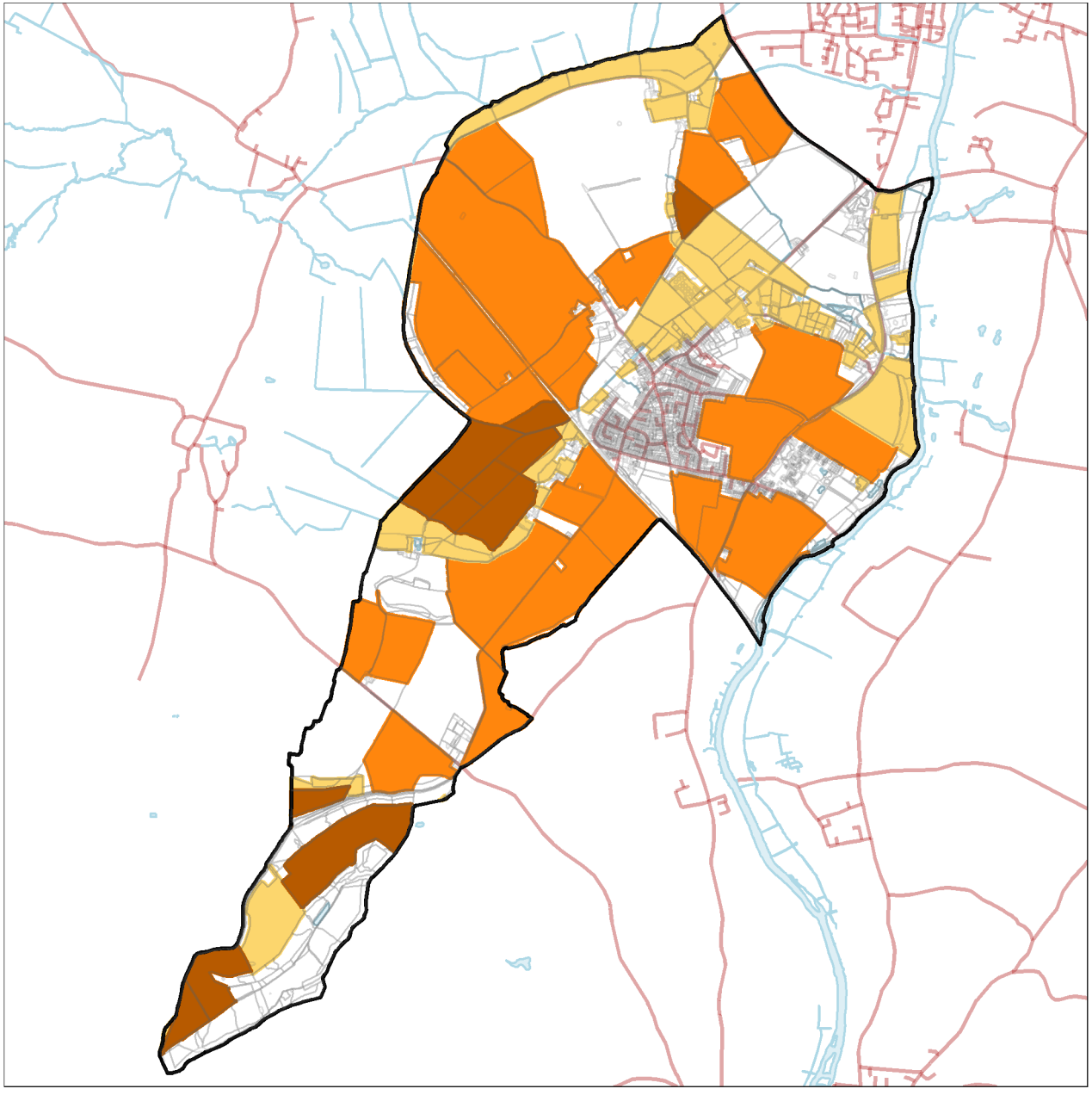
AGROFORESTY

Agroforestry is the practice of introducing trees into farmed land that continues to be food producing. It is not as yet widely used as a farming system, but can help to make farmed land more resilient to weather extremes.

The map shows areas suitable for silvoarable and/or silvopasture production, based on the grade of the land. These total 872.2 hectares or 55% of the site.

Examples of agroforestry practice are given in the Treescapes Guide. This video Agroforestry: Farming for the Future provides a useful brief introduction.

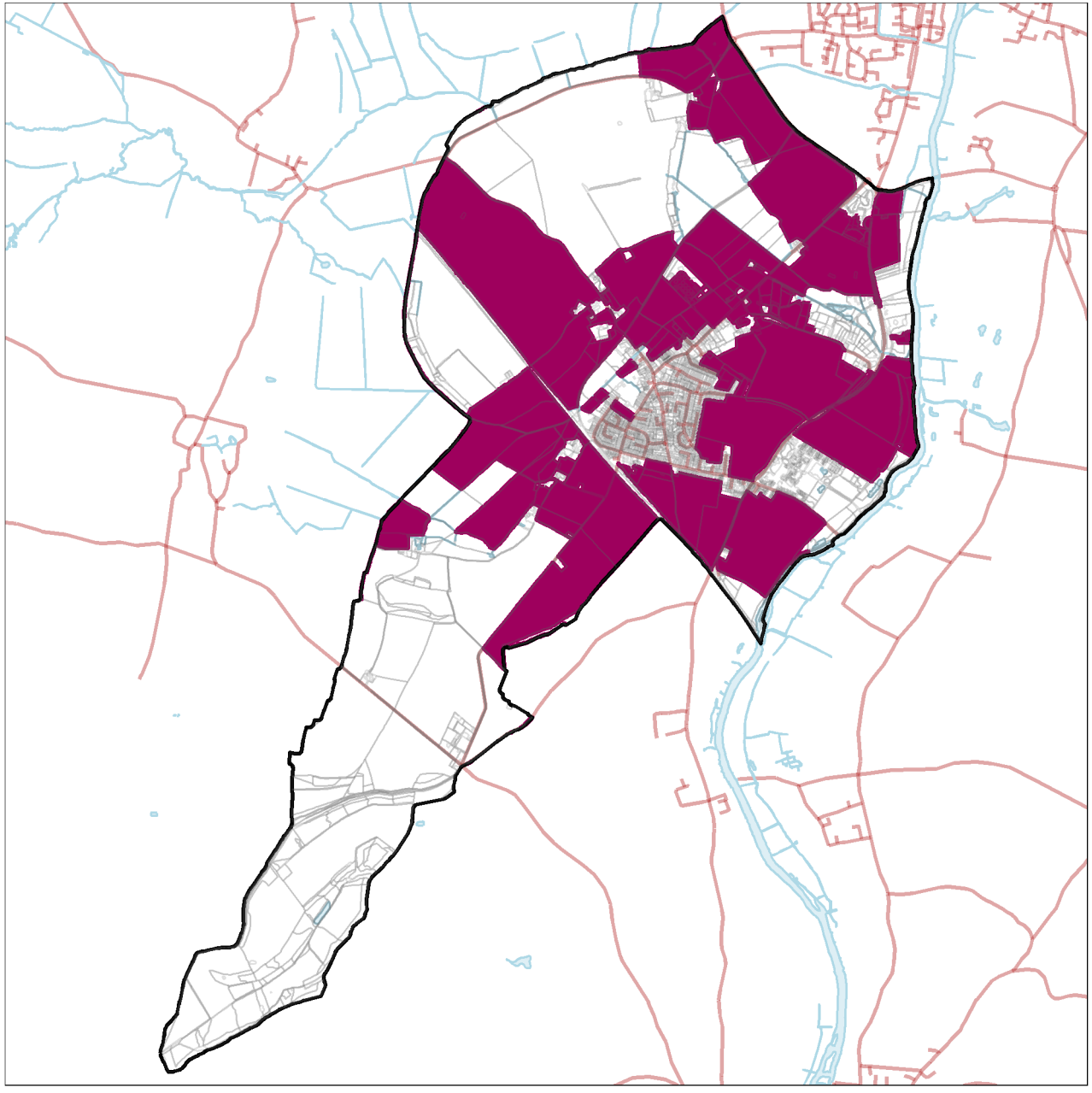
Click here for Table



COMMUNITY ORCHARDS

Community orchards are small areas of from 0.25 to 0.5 hectares usually planted to apple or pear trees. They are run by local community enthusiasts and are dependent on their energy and interest. If you are interested to establish one, CAG Oxfordshire can put you in touch with community groups with experience of running community orchards in Oxfordshire.

The map shows suitable areas within Cholsey that are within easy reach of nearby towns and villages. An awkward corner might be a good place to consider for an orchard.



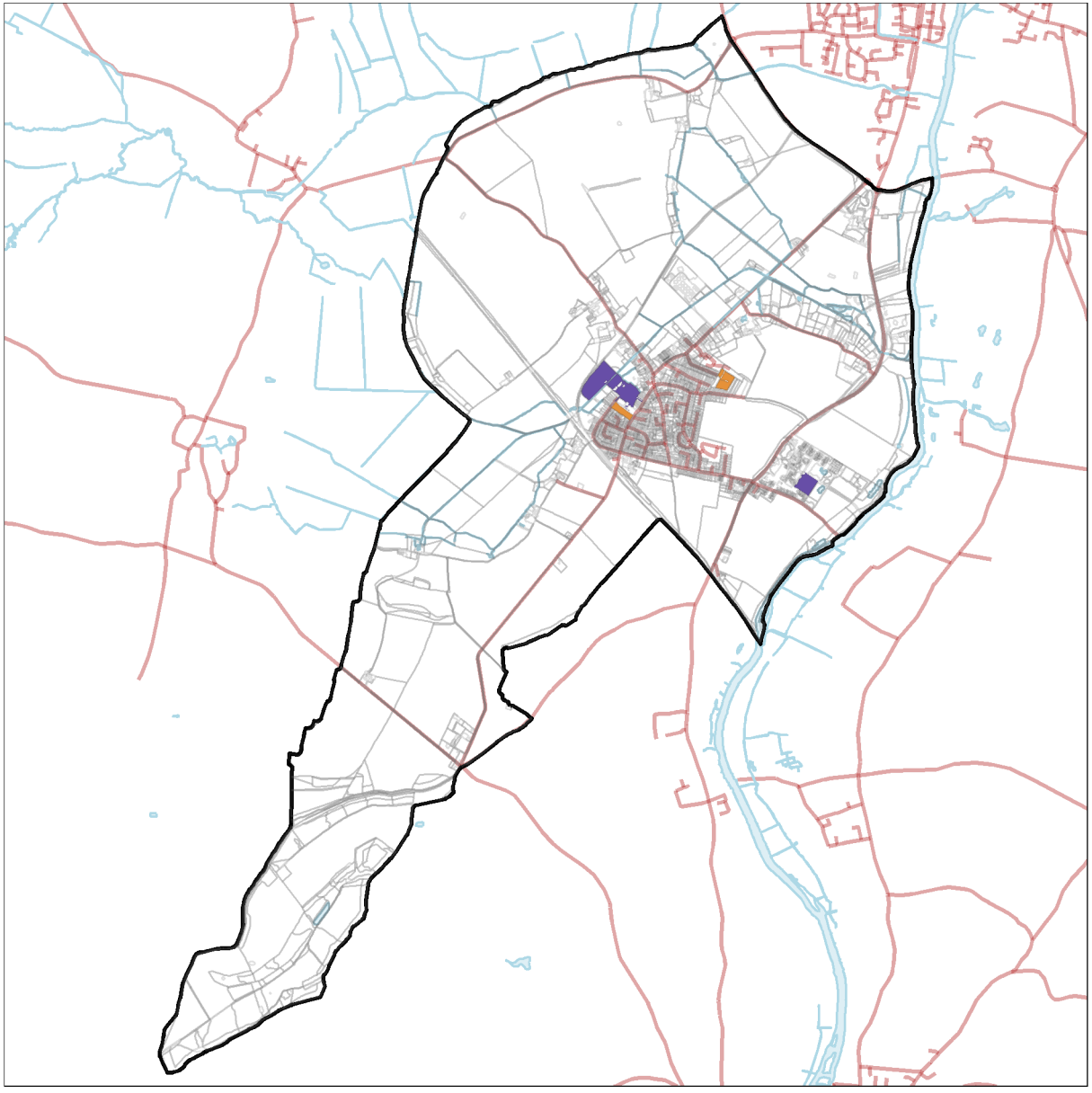
KEY Community Orchard Opportunities

TREES IN OPEN SPACES

Within your parish there are likely to be a number of public and community spaces that may be suitable for trees.These total 9.7 hectares.

Our maps do not show existing tree cover in these spaces. If you are interested to know this please contact us as we may be able to supply you with this information. This may also help you identify street and garden tree opportunities. However, there would be a charge for this data.

If you are interested in establishing trees in any of these sites you should contact the county or district council's tree officer. See here for contact details.



Benefits of Treescapes

Measuring the benefits of natural capital

The benefits we have chosen to map are those that both best align with ELMS and are easiest to measure, alongside **food production** and **timber production**:

- **Biodiversity** supports farming activities, through pollination, building soil health and encouraging wildlife. We measure biodiversity in units, using an adapted version of DEFRA's Biodiversity Metric 2.0. This will be used to calculate uplift in biodiversity units for planning gain purposes if and when the Environment Bill becomes law.
- **Carbon capture** can offset emissions from other activities. We measure CO2 capture using a rate per hectare for each treescape.
- **Natural flood management, soil erosion, and water quality.** Trees can help manage storm water on your land by stabilising the soil and trapping sediment, improving water quality by breaking down pollutants and encouraging water to filter through the soil. We measure natural flood management by the hectarage sited within the areas that deliver this benefit, using maps provided by the Environment Agency.
- **Air pollution and noise reduction.** Woodland and hedges can trap the two major air pollutants in the UK, Particulate Matter (PM2.5) and Nitrogen Dioxide (NO2), as well as reducing noise. We measure air pollution reduction by the hectarage sited within high pollution areas, using maps provided by DEFRA.
- **Recreation and wellbeing.** Research shows that time spent in woodland or grassland areas can play a valuable role in improving mental health and accelerating convalescence. We measure wellbeing by the hectarage of woodland or species-rich grassland sited in an area that already has a public path.

The benefits of treescapes

	WOODLAND	SPECIES-RICH GRASSLAND	HEDGEROWS	SILVOPASTURE	SILVOARABLE	COMMUNITY ORCHARDS
Food production						
Biodiversity uplift						
Carbon capture and storage						
Flood management and soil erosion control						
Recreation and wellbeing						
Air quality and noise reduction						
Timber production						
TOTAL BENEFITS (OUT OF 7)	6	5	4	4	4	5

The draft Oxfordshire Nature Recovery Network (NRN)

The UK Government's 25-Year Environment Plan proposes a national Nature Recovery Network which is intended to improve, expand, and connect habitats, address wildlife's decline and provide wider environmental benefits for people and to enhance biodiversity. The draft Oxfordshire NRN impacts on treescape placement.

Oxfordshire's NRN is expected to divide the county into three areas:

1.**Core areas** made up of existing protected sites. These are the most valuable areas for wildlife and biodiversity in the county. They are not suitable for treescapes.

2.**Recovery areas** that both extend and link the core areas, providing a network that allows plant and animal species to travel more freely across the county. These should be a priority for the introduction of treescapes and other nature-based initiatives.

3.**The wider landscape** covering the rest of the county, which can also play an important nature recovery role.

Around 60% of Oxfordshire's draft NRN is used for farming. Government is likely to put Incentives in place to encourage land managers in the NRN to work with nature in their farming systems.

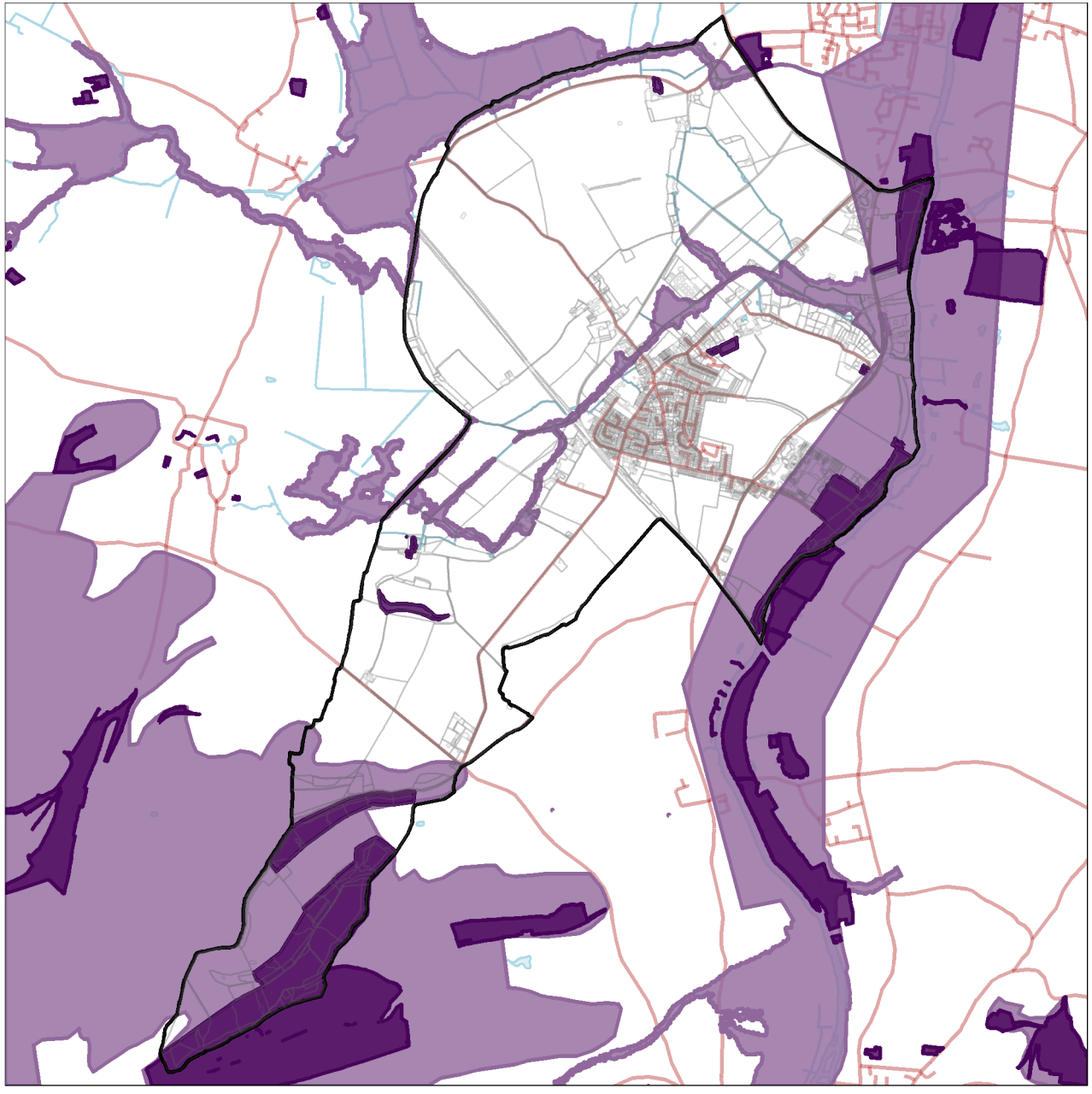
THE NATURE RECOVERY NETWORK

The map and table show the extent to which fields on the site fall into or partly overlap with the Oxfordshire NRN Core and Recovery zones.

In our maps, biodiversity uplift is higher in the Recovery zone and highest in areas bordering Core zones.

775.6 hectares or 49% of this parish is within the NRN.

Click here for Table



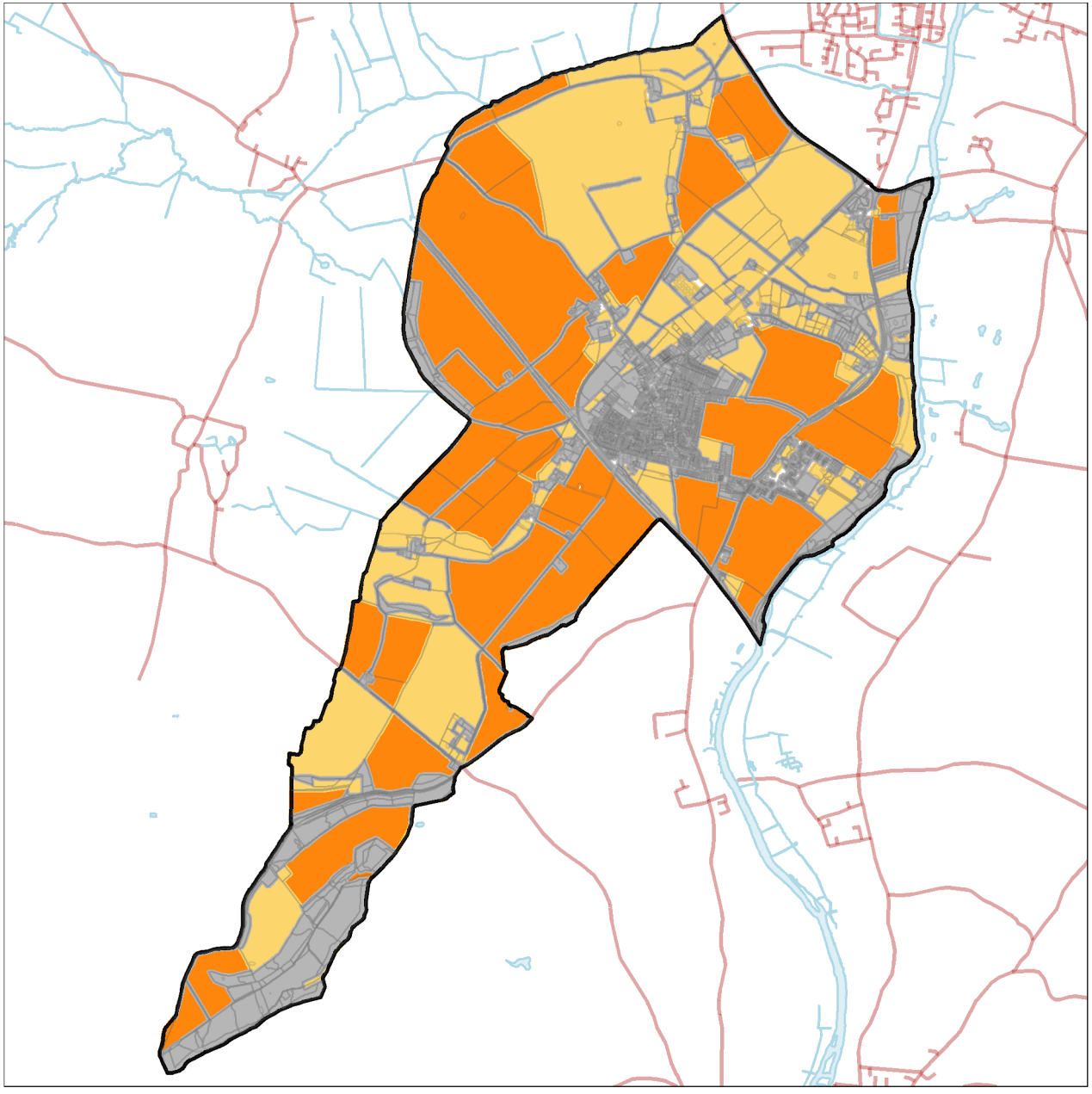
MEASURING BIODIVERSITY

In the slides that follow, we have applied a version of DEFRA's Biodiversity Metric 2.0 to show the biodiversity net gain that every treescape placement offers.

These scores are higher when treescapes are placed on pasture rather than on arable land.

We have assumed the existing arable or pasture use of the parish to be as per this map. This data is hard to gather, so if this is incorrect, please let us know.

Click here for Table



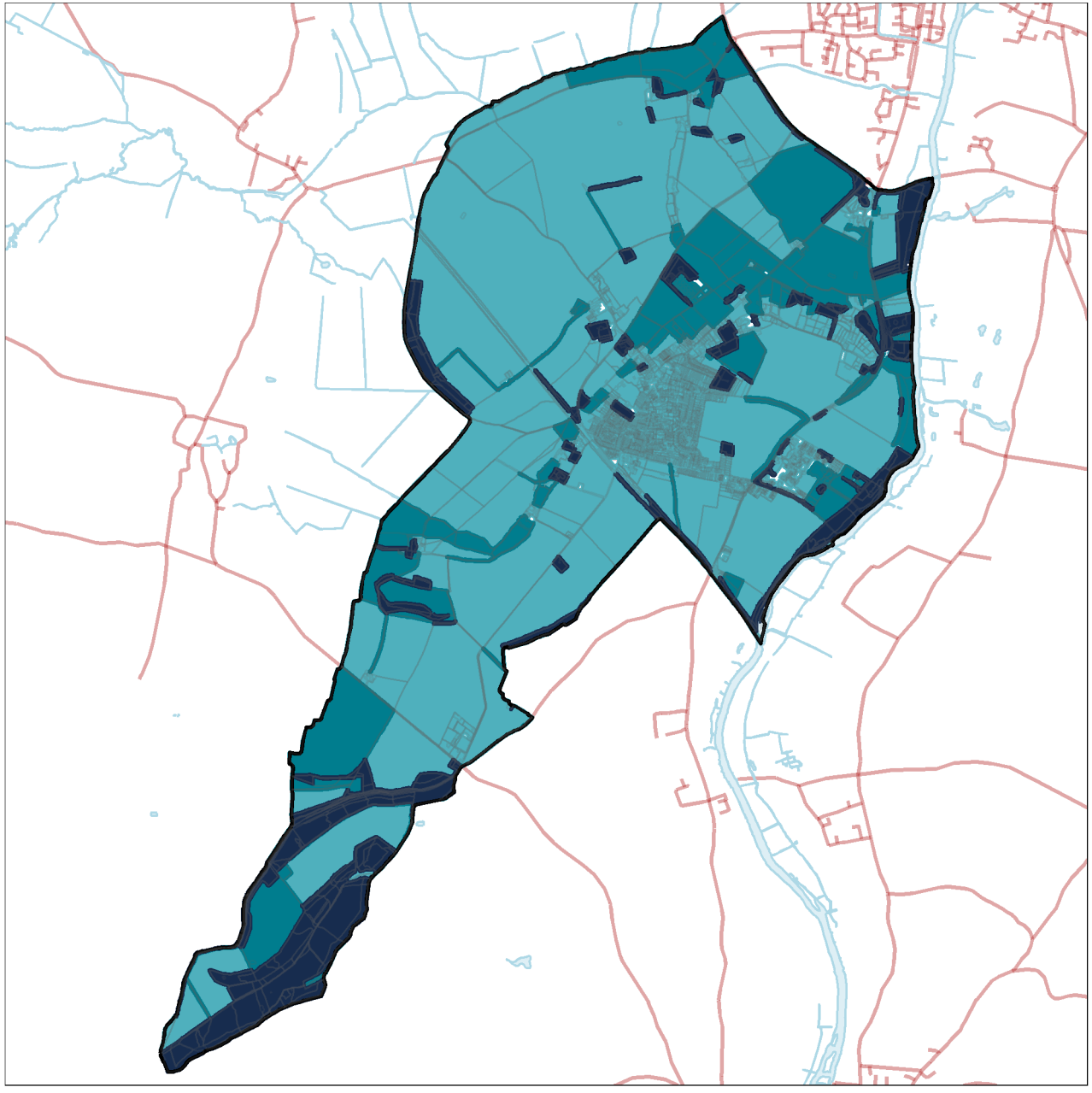
CURRENT BIODIVERSITY

The map shows the biodiversity units per hectare of the parish under its current use.

Areas within the Nature Recovery Network score higher and those neighbouring a Nature Recovery Core area score higher still.

Also, pastureland scores higher than arable land.

Click here for Table



BIODIVERSITY OPPORTUNITIES - WOODLAND

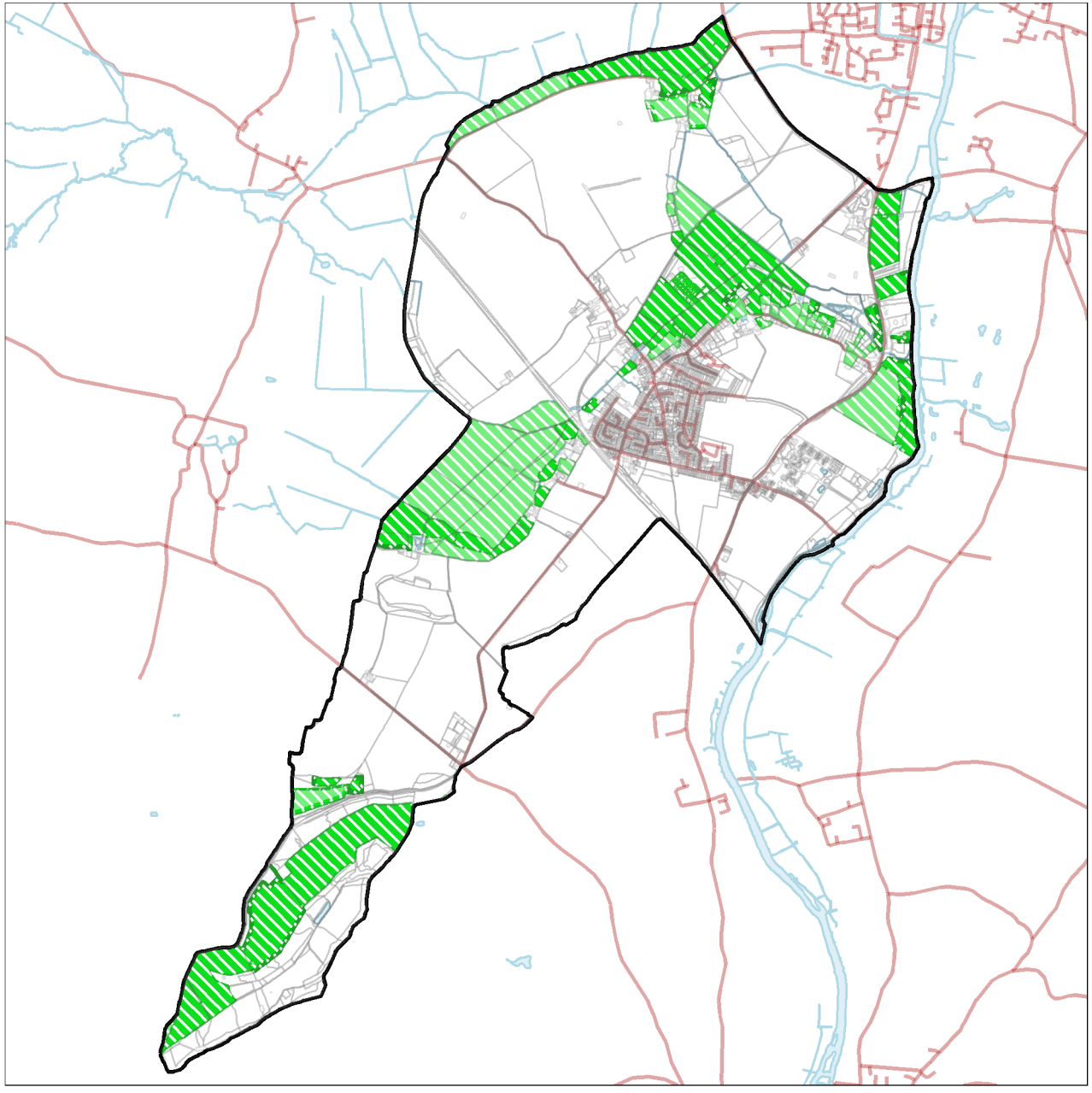
The map shows where the placement of woodland will deliver different levels of biodiversity uplift.

This is measured in the uplift in biodiversity units per hectare over the current use.

Conversion of pastureland to woodland scores higher than conversion of arable.

Woodland buffers have a higher biodiversity score than other woodland opportunities as wildlife from adjacent woodland can colonise them more rapidly.

Click here for Table



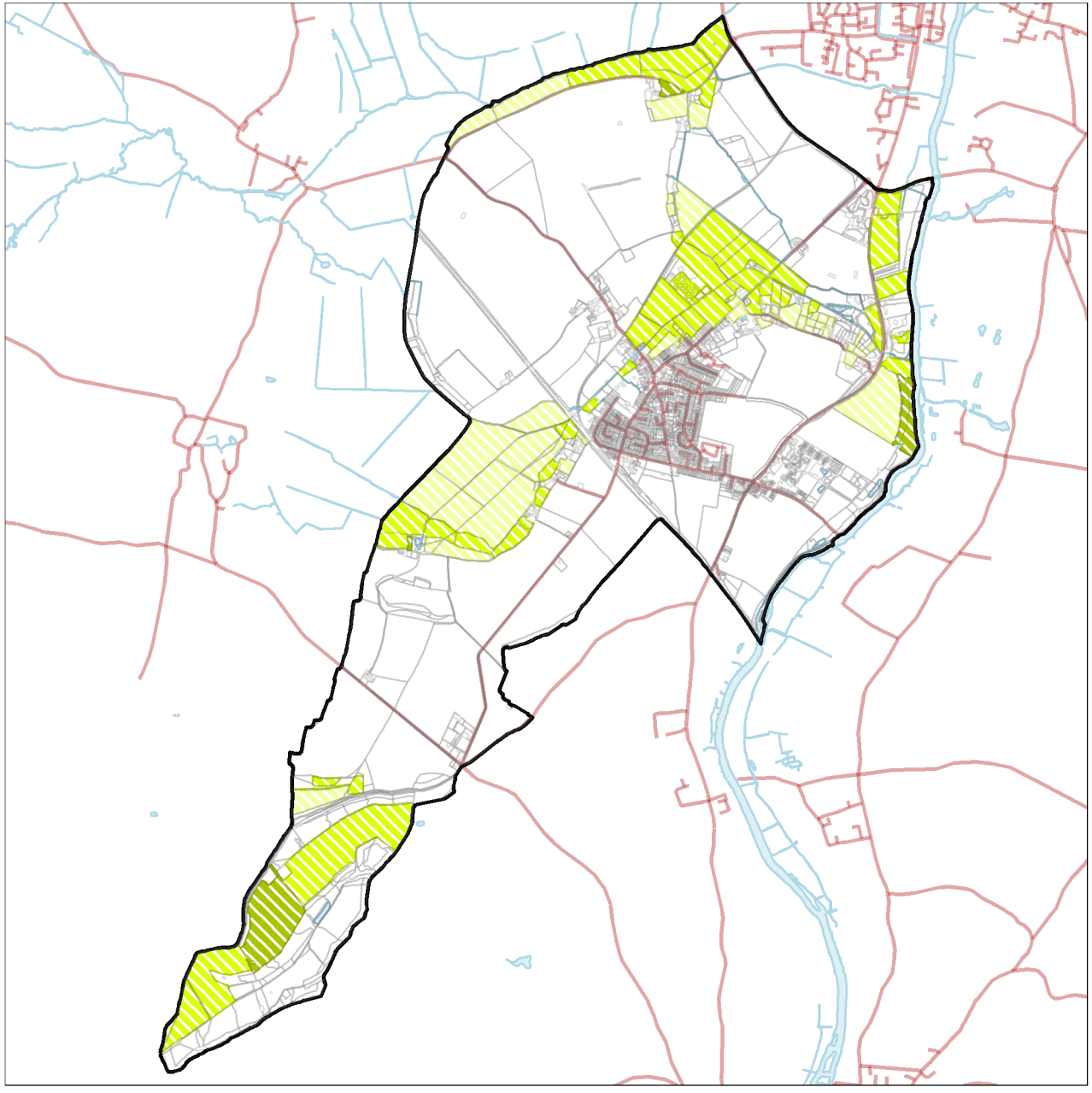
BIODIVERSITY OPPORTUNITIES - SPECIES RICH GRASSLAND

The map shows where the placement of species-rich grassland will deliver different levels of biodiversity uplift.

This is measured in the uplift in biodiversity units per hectare over the current use.

Conversion of pastureland to species-rich grassland scores higher than the conversion of arable land.

Click here for Table

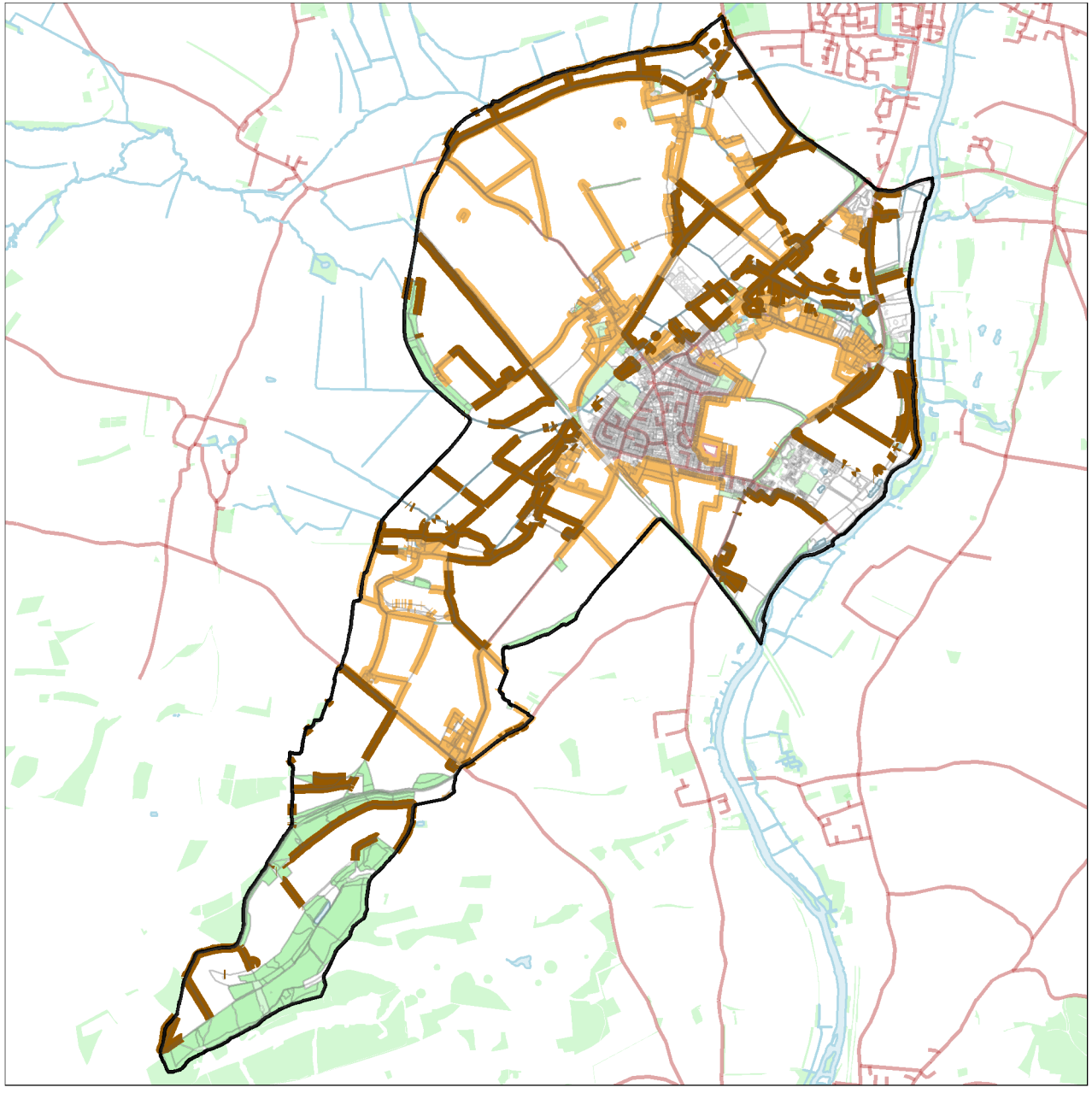


BIODIVERSITY OPPORTUNITIES - HEDGEROWS

The map shows where the placement of hedgerows will deliver different levels of biodiversity uplift.

New hedges can join to existing hedges and woodlands or grasslands to form an unbroken network. This speeds up natural colonisation and allows wild and plant life to move across the landscape more easily. This strengthens biodiversity.

Click here for Table

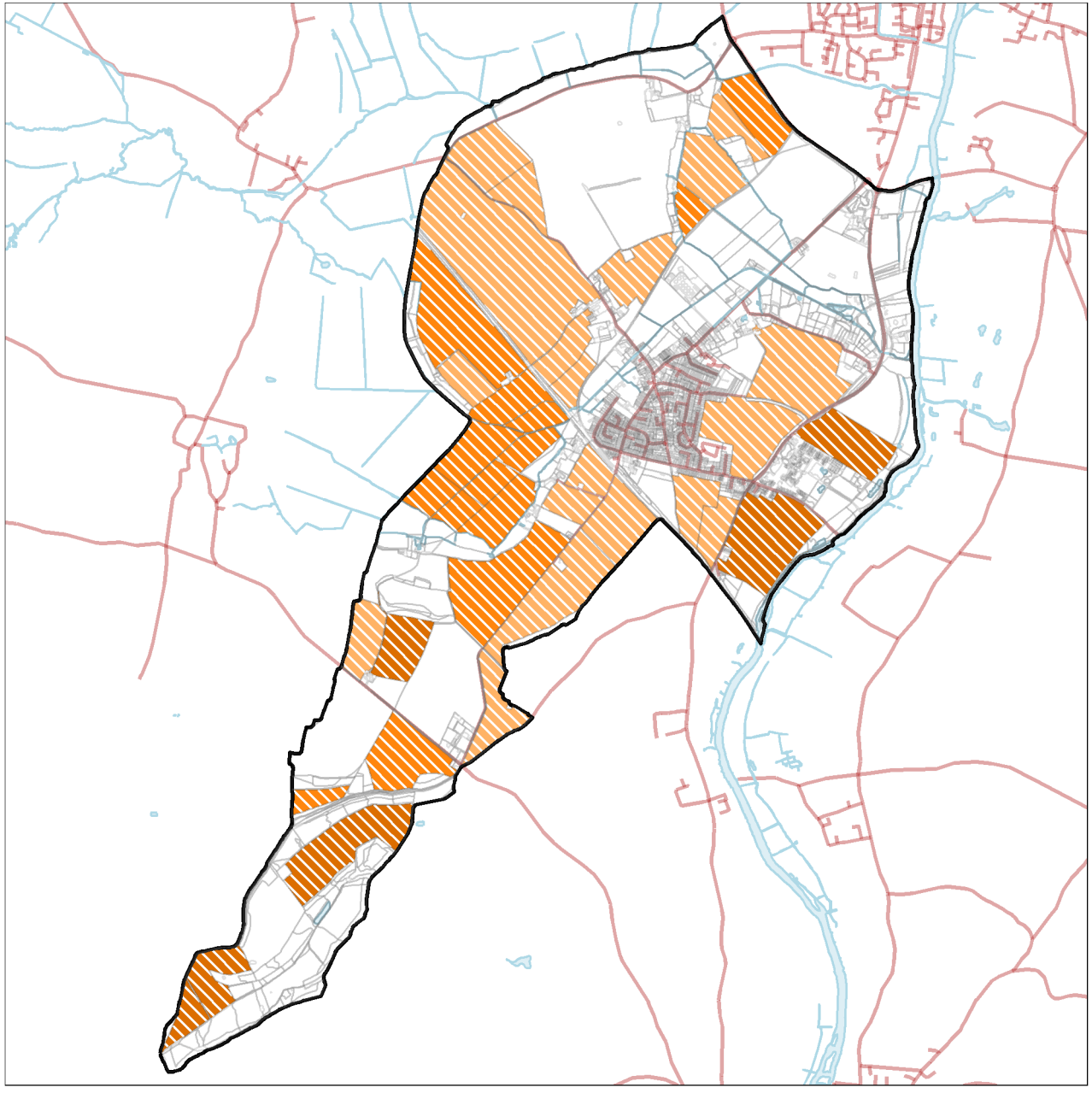


BIODIVERSITY OPPORTUNITIES - SILVOARABLE

The map shows where the placement of silvoarable farming systems will deliver different levels of biodiversity uplift.

This would increase biodiversity while still maintaining food production.

Click here for Table

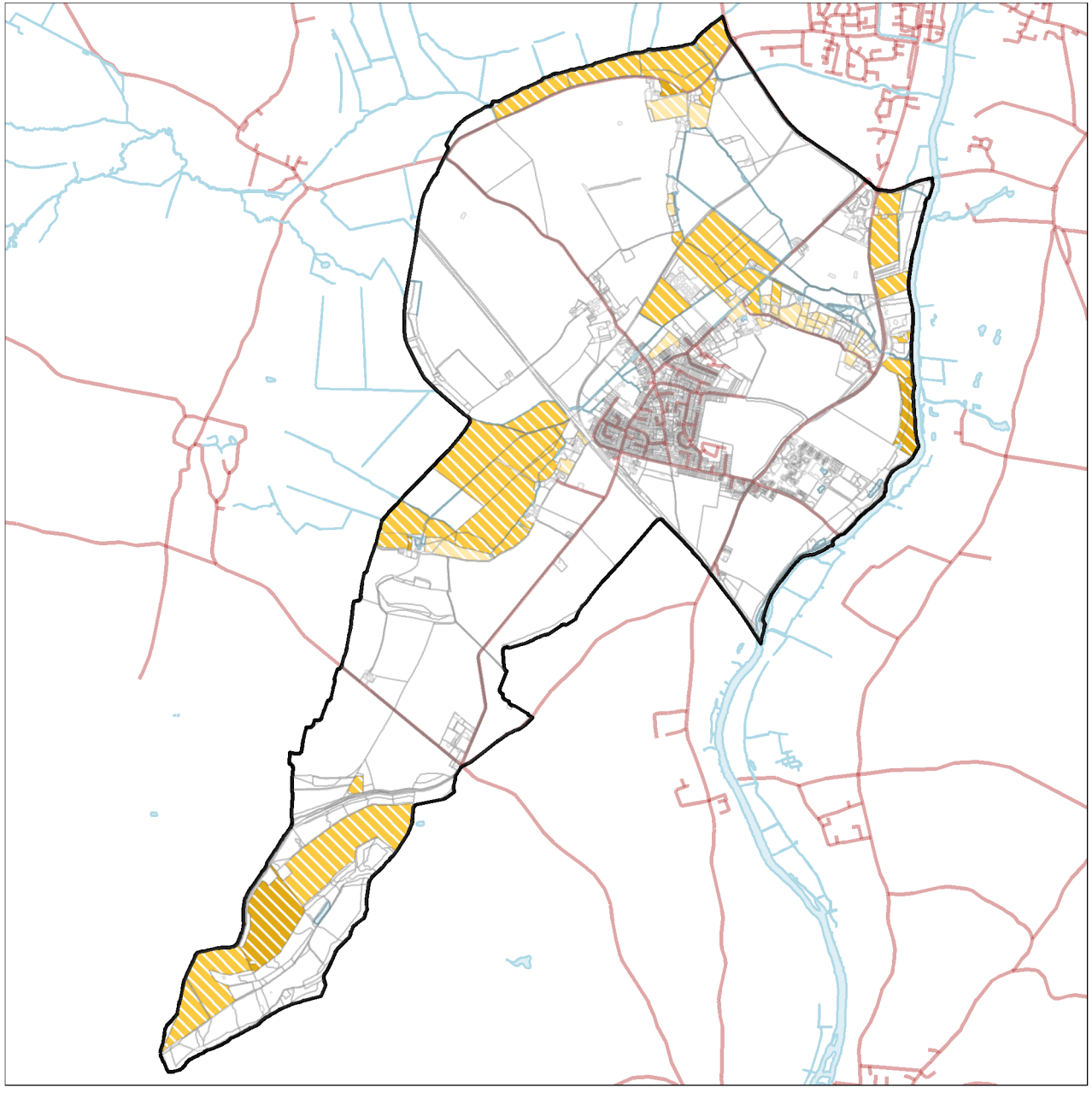


BIODIVERSITY OPPORTUNITIES - SILVOPASTURE

The map shows where the placement of silvopasture farming systems will deliver different levels of biodiversity uplift.

This would increase biodiversity while still maintaining food production.

Click for Table

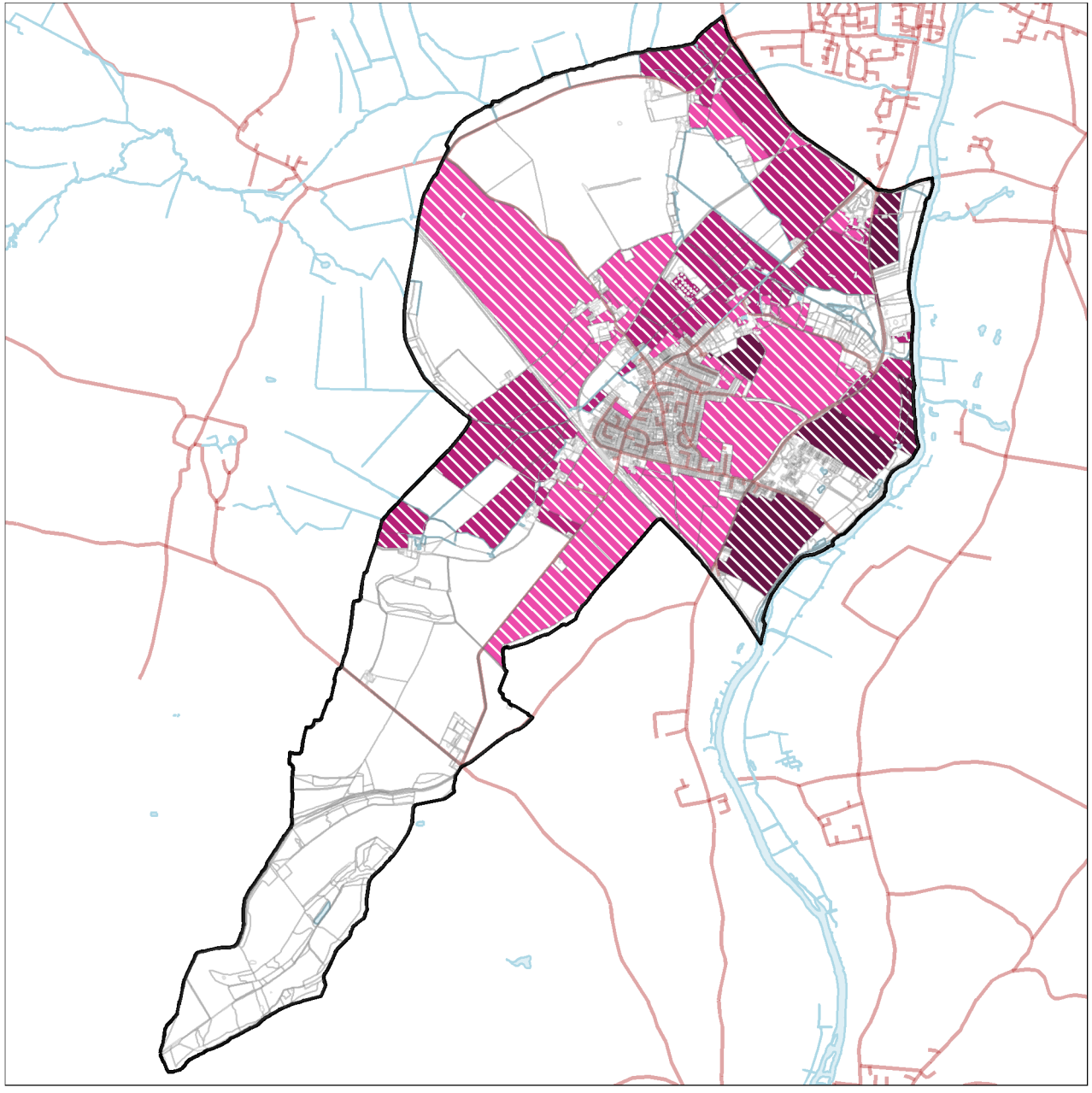


BIODIVERSITY OPPORTUNITIES – COMMUNITY ORCHARDS

The map shows where the placement of community orchards will deliver different levels of biodiversity uplift.

This would increase biodiversity while still maintaining food production while also bringing recreation, wellbeing and other benefits.

Click for Table



Planning for biodiversity on Cholsey parish

The assessment for this site shows:

- Current land use in the parish gives a score of 7067 biodiversity units. If all of the interventions we suggest were applied, the maximum biodiversity uplift which could be achieved for the parish would be 3840 units, an increase of 54%.

- Woodland gives the largest biodiversity uplift but will take land out of cultivation. However, there may be parts of cultivated fields which are unreliable for crop production, in which case establishing copses in field corners or shelter belts might be attractive options.

- Agroforestry can increase biodiversity while allowing food production to continue. It will also increase the resilience of your land.

- Managing existing hedgerows in a more wildlife friendly way and adding new hedges would add further biodiversity and may cause only limited disruption to farming activities.

- Adding trees to existing public open spaces can add to biodiversity too.

Carbon capture and storage

The National Farmers Union is aiming for agriculture to be carbon neutral by 2040. Our maps allow you to calculate the proportion of these emissions that would be offset by the establishment of treescapes, showing you the role that your parish can play in taking Oxfordshire's agriculture carbon neutral.

We estimate average UK carbon emissions from intensive farming operations as being 5 tonnes of CO2 equivalent (tCO2e) per hectare of farmland. Actual emissions may be higher or lower depending on farm practice. Farmers can make a more accurate calculation for their farm by using either the Cool Farm Tool, the Farm Carbon Calculator or Agrecalc. All are free to use. For a comparison of these methods see here.

Based on this average, the Net Zero target for carbon emissions from the 1233.1 ha of farmed land on Cholsey parish before any carbon capture or storage from treescapes is 6166 tCO2e per year. This farmed land makes up 77 % of the parish.

If Cholsey parish were to maximise all existing woodland and hedgerow and all opportunities this would capture 9013 tCO2e per year or 146% of the parish's estimated emissions.

Click here for Table

Natural Flood Management (NFM)

The Environment Agency has produced maps showing where interventions in the Thames catchment can be made to best control flooding. We have used these maps to show where our treescapes could be placed. NFM can be delivered by wooded areas, hedges, community orchards or agroforestry in any of 2 ways:

- **River catchment** planting slows surface water runoff and improves water infiltration into the ground.

- **Riparian planting** close to watercourses slows the flow into the channel by increasing surface roughness.

More detail on each form of flood management and how it can help to control flooding can be provided on request.

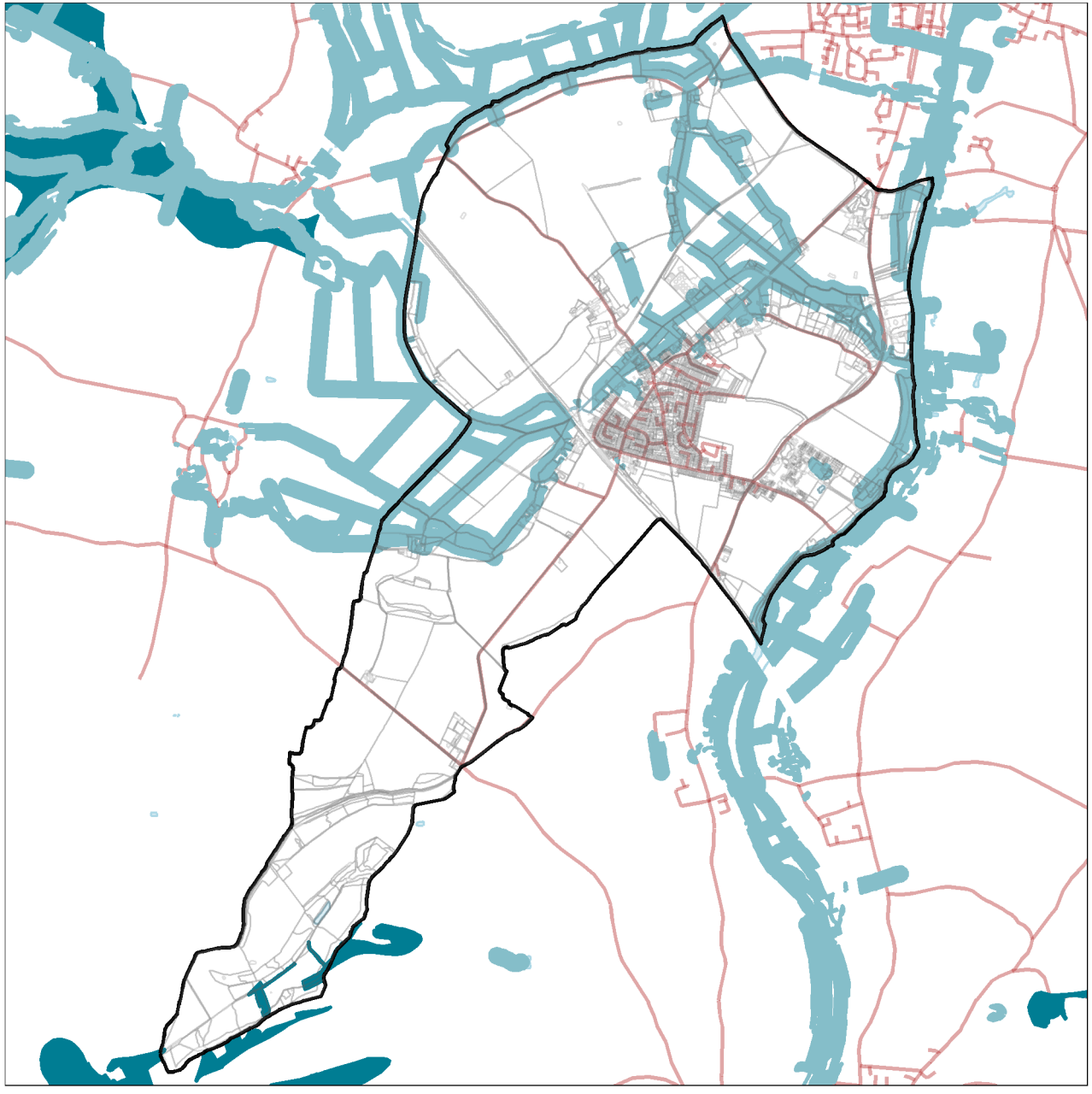
NATURAL FLOOD MANAGEMENT AREAS

This map shows fields where woodland, species-rich grassland, hedgerows, community orchards or agroforestry could deliver natural flood management benefits (NFM).

These can be either riparian areas along water courses or woodlands or species-rich grasslands in catchment areas.

These total 228.4 hectares or 14% of the site.

Click here for Table



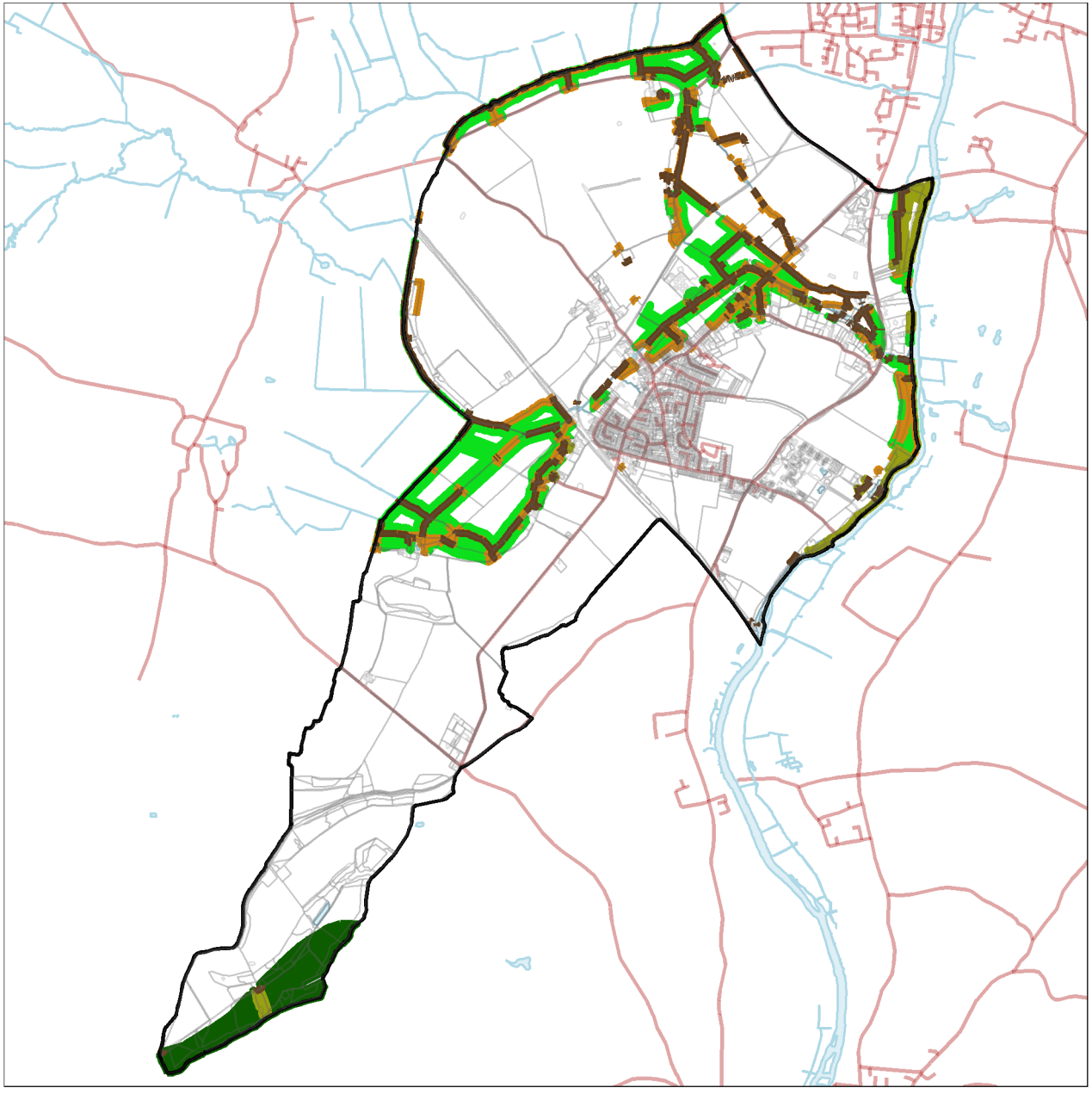
CURRENT NATURAL FLOOD MANAGEMENT

The map shows where woodland, hedgerows and grassland are currently delivering NFM benefits and where there are further opportunities to do so.

Currently, 23% of all woodland, 8% of grassland and 41.2% of all hedgerow NFM opportunities are delivered.

Introducing agroforestry schemes in these areas would also bring NFM benefits. See the table associated with this map for areas in hectares.

Click here for Table



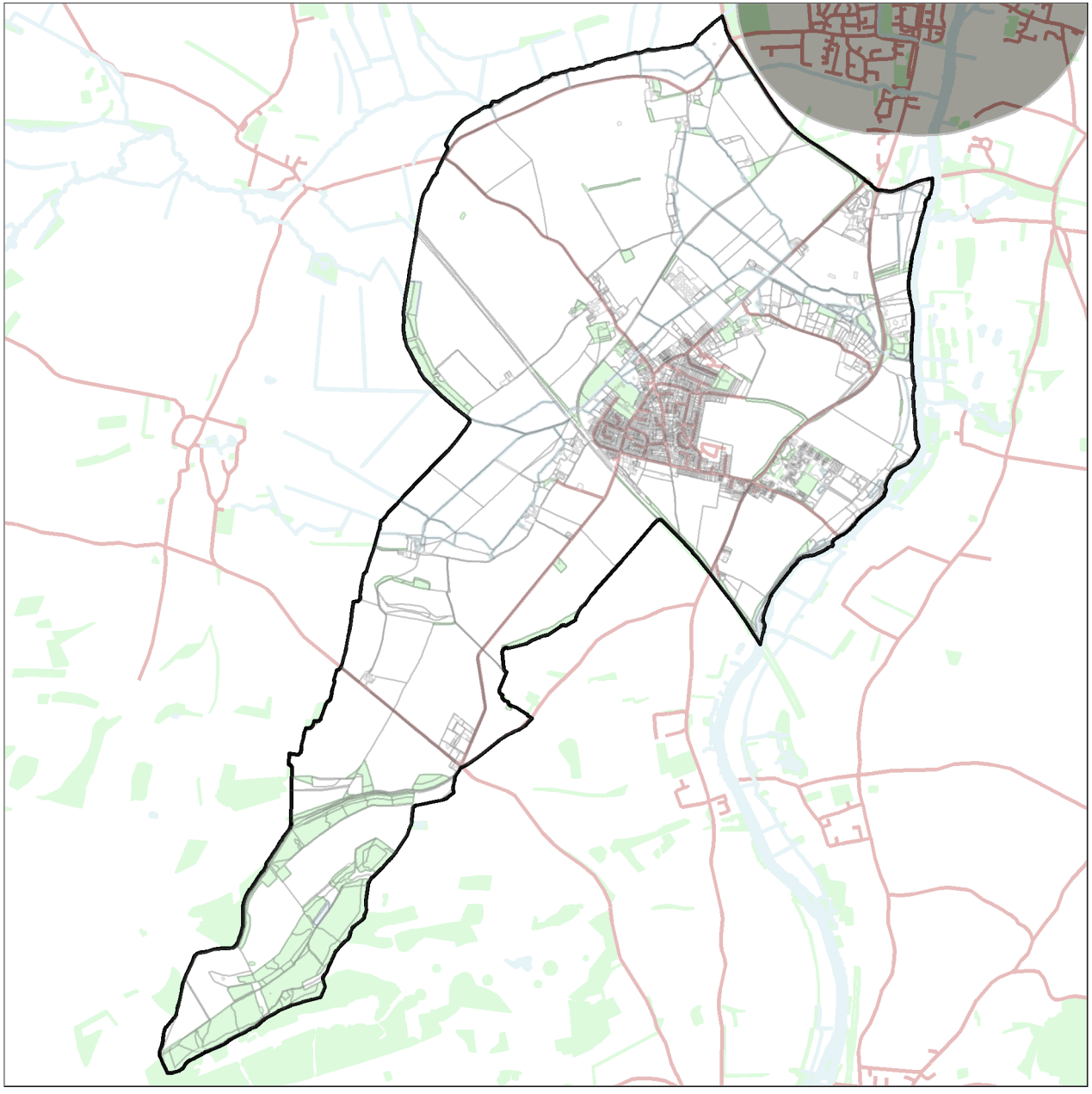
AIR QUALITY IMPROVEMENT AREAS

The map shows where woodland, hedgerows and trees in open spaces would deliver improvements to air quality. These cover 0 ha or 0% of the site.

A hedge or barrier of trees of 15 metres or more can cut noise, prevent pollution travelling and filter some of it out. For example, pollution might drift from a road to a school playground or park.

We have mapped woodland within one kilometre of known high pollution areas that have levels of particulate matter above 10 µg/m3 or that are recognised Air Quality Management Areas (AQMAs).

Click here for Table

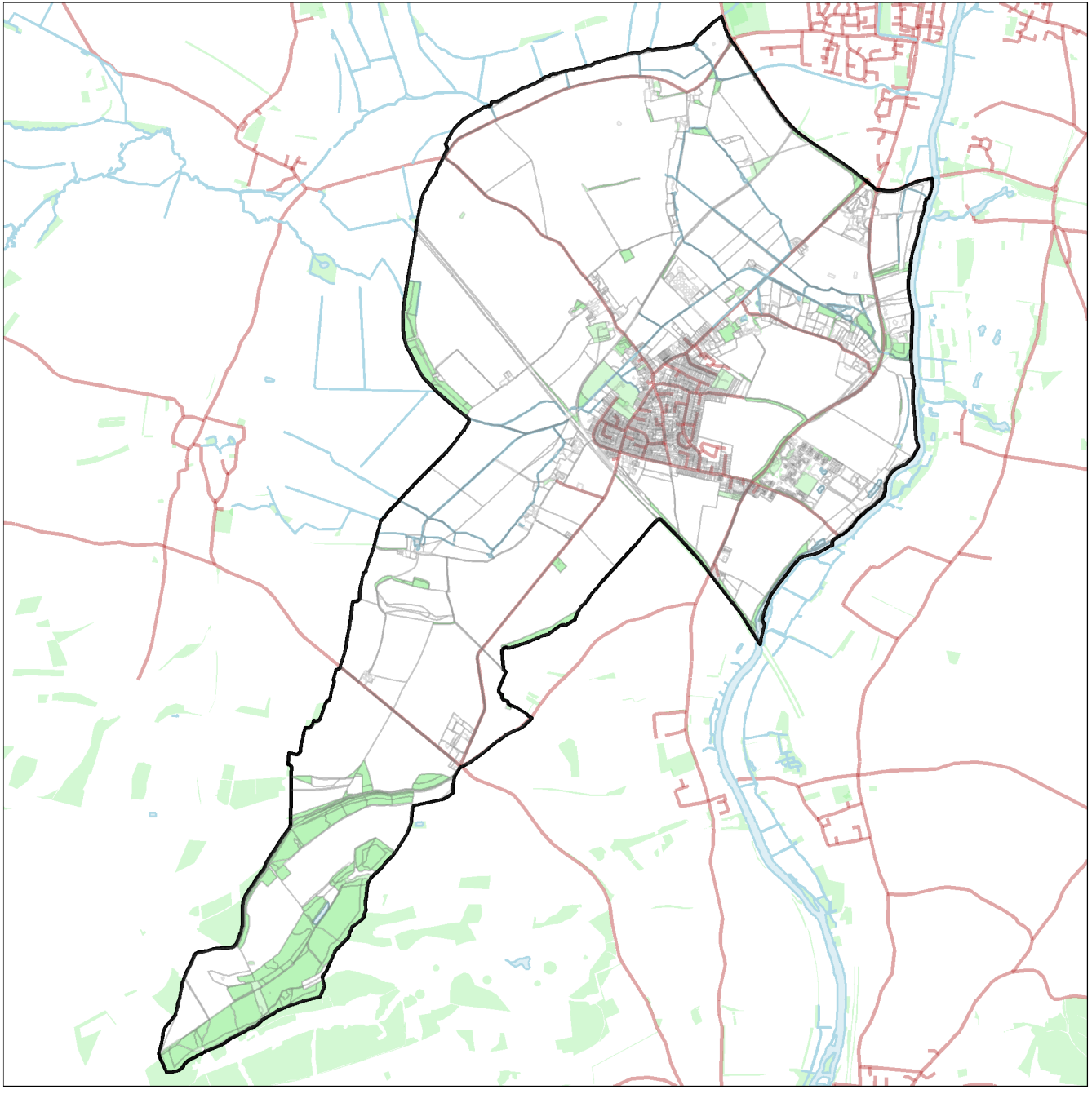


AIR QUALITY BENEFITS

The map shows where woodland and hedgerows are currently delivering air quality benefits and where there are further opportunities to do so.

Currently 0 % of all woodland and 0% of all hedgerow air quality opportunities are delivered.

Click here for Table

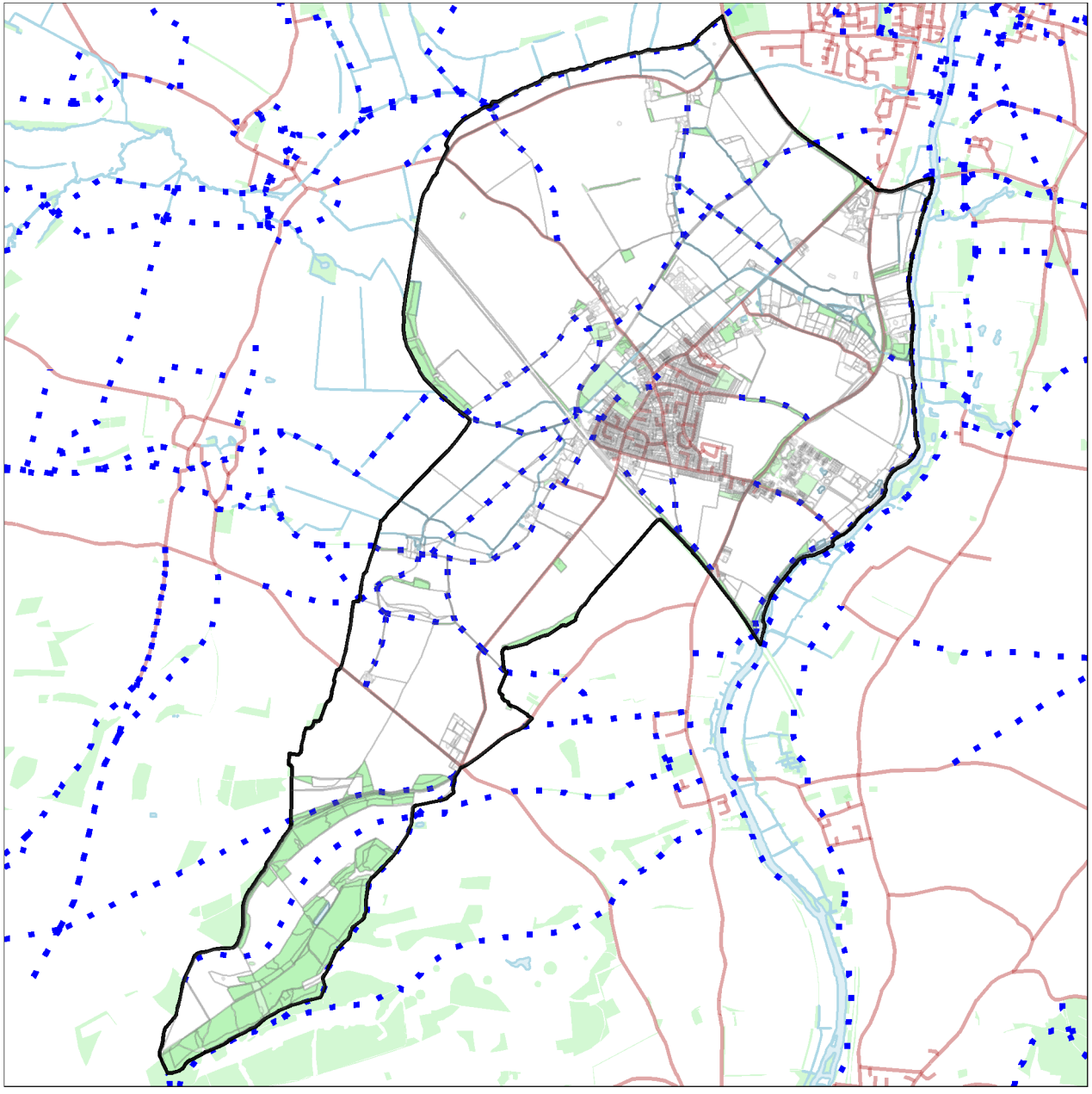


RECREATION AND WELLBEING

We have mapped recreation and wellbeing benefits as delivered by woodland, community orchards and species-rich grassland when sited in areas that already contain a public path, as this means that the area is publicly accessible.

This map shows the public paths through the parish.

There are an increasing number of funding options available to landowners to help them provide manageable access on public and new permissive footpaths.

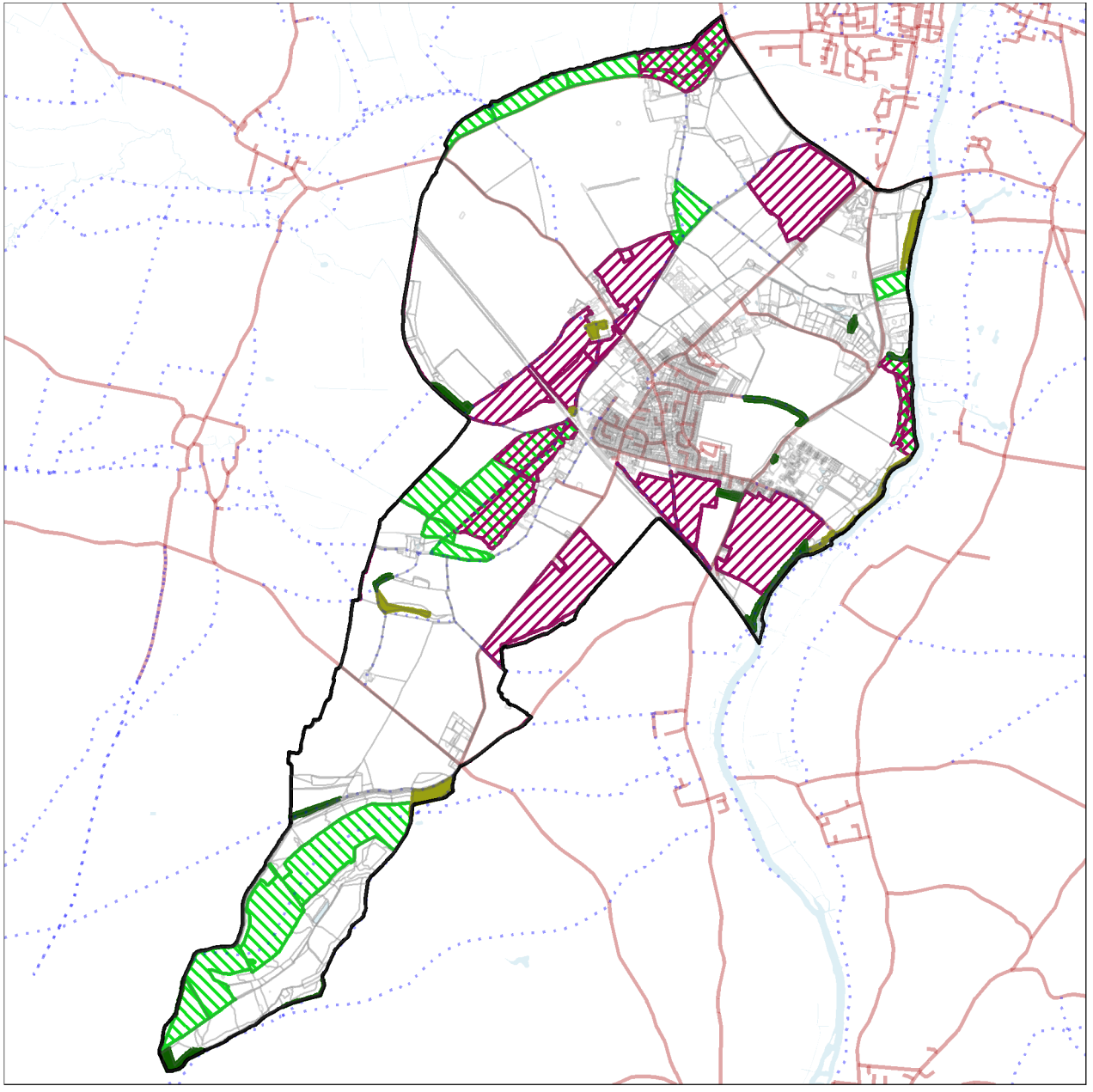


RECREATION AND WELLBEING – WOODLAND, SPECIES RICH GRASSLAND AND COMMUNITY ORCHARDS

This map shows where current woodland and species-rich grassland and the placement of new woodland, grassland or community orchards will deliver this benefit.

There can be some overlap between the opportunities and current benefits.

Click here for Table



Multiple benefit areas

Multiple benefits from land use change

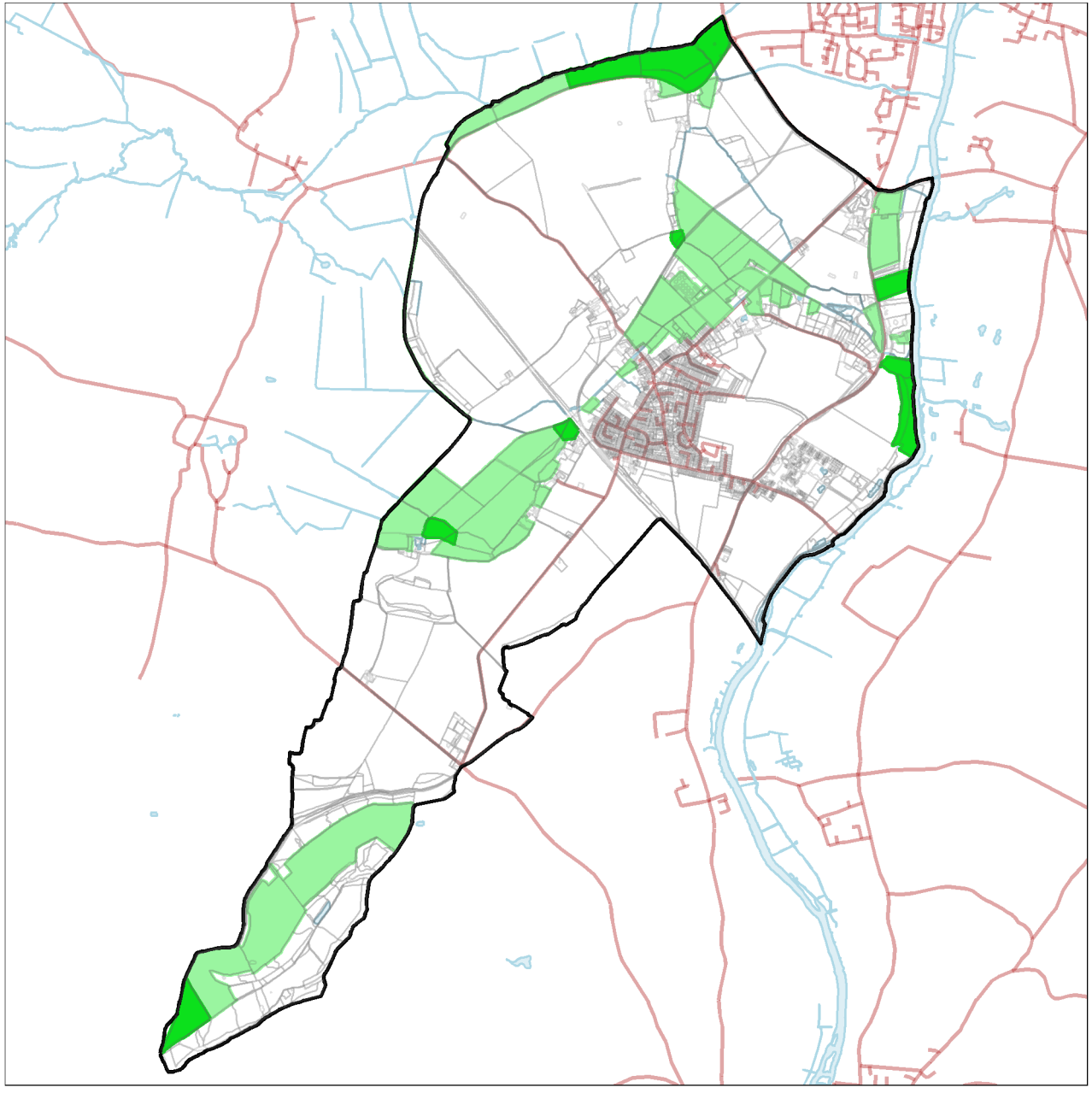
	WOODLAND	SPECIES-RICH GRASSLAND	HEDGEROWS	SILVOPASTURE	SILVOARABLE	COMMUNITY ORCHARDS
Natural flood management						
Recreation and wellbeing						
Air quality and noise reduction						
Higher levels of biodiversity uplift						
MAXIMUM POSSIBLE NUMBER OF LOCATION SPECIFIC BENEFITS	4	3	3	2	2	3

THE MULTIPLE BENEFITS OF WOODLAND

This map shows where introducing woodland would bring 2, 3 or 4 location-specific benefits. For biodiversity, only those areas giving an uplift above 3.6 units per ha are included.

By choosing areas that deliver more than one benefit, land managers can maximise returns from natural capital whilst keeping other parts of their farm focused on food production.

Click here for Table



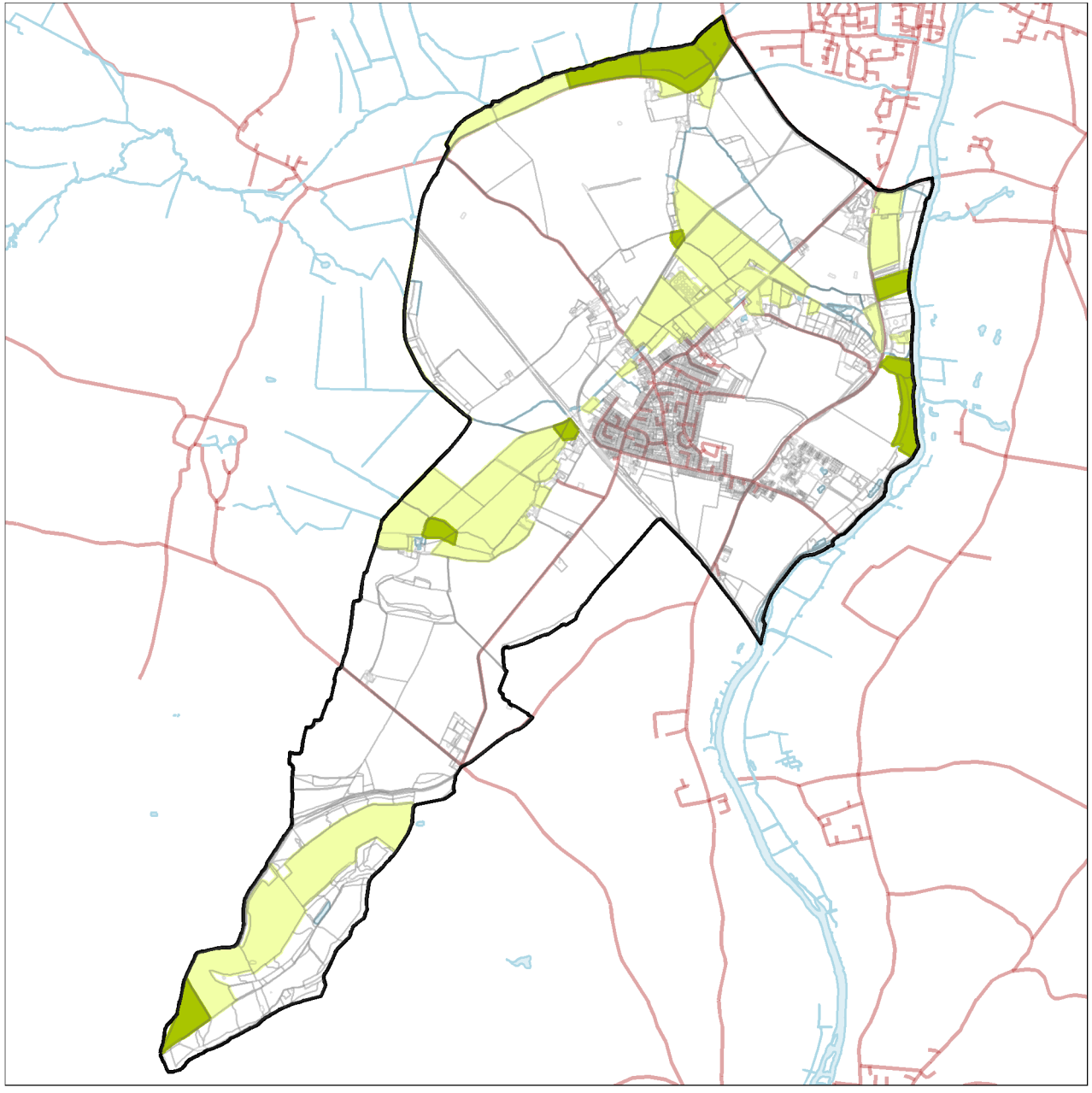
THE MULTIPLE BENEFITS OF SPECIES RICH GRASSLAND

This map shows where introducing species rich grassland would bring either 2 or 3 location-specific benefits. For biodiversity, only those areas giving an uplift above 3.6 units per ha are included.

By choosing areas that deliver more than one benefit, land managers can maximise returns from natural capital whilst keeping other parts of their farm focused on food production.

Species-rich grassland can also offer food production benefits, through the production of forage or low intensity grazing.

Click here for Table

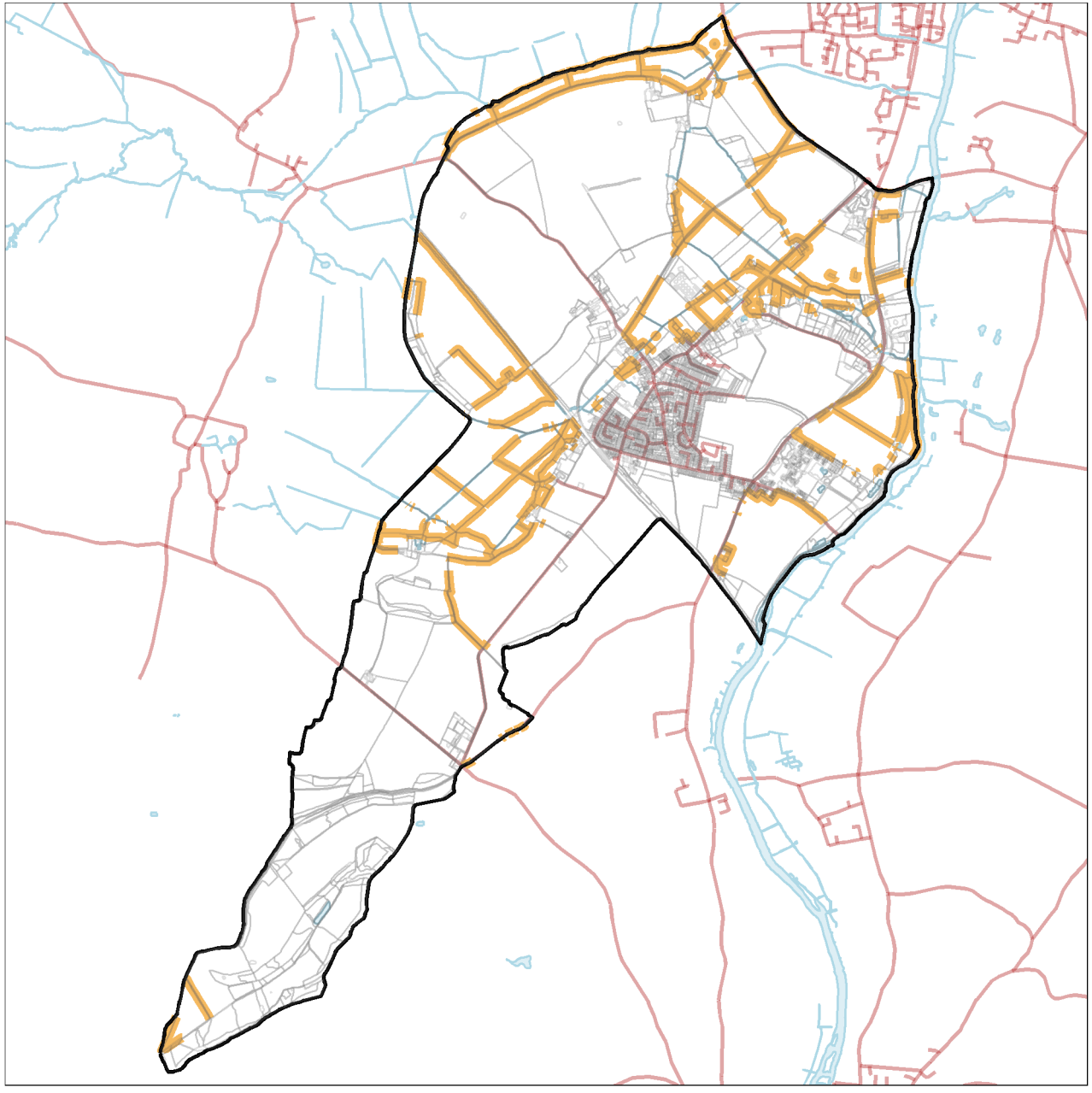


THE MULTIPLE BENEFITS OF HEDGEROWS

This map shows where introducing hedgerow would bring 2 or 3 location-specific benefits. For biodiversity, only those areas giving an uplift above 6.5 units per km are included.

By choosing areas that deliver more than one benefit, land managers can maximise returns from natural capital whilst keeping other parts of their farm focused on food production.

Click here for Table



Our recommendations

Our recommendations

We recommend working with CAG Oxfordshire to create a long-term land management plan for your parish identifying the interventions that are easiest to deliver, that bring the greatest benefits and that are in line with your preferred long-term use for the land. Our maps can be used as a basis for that plan.

As part of that plan, it may prove valuable to set targets for establishing treescapes between now and 2050. This table summarises the elements that would need to be added to the site to reach the targets outlined in our *Scenarios Report*. We have set separate targets for woodland and grassland but you may want to consider one single target for these as a whole.

Scenario 1 is drawn from the targets that the Climate Change Committee says we must reach by 2050. Scenario 2 sets a more ambitious target in which Oxfordshire sets a standard for other counties to follow.

Treescape	Scenario 1 target	Scenario 2 target
Woodland	14% of site area	17% of site area
Species-rich grassland	0% of site area	9% of site area
Total woodland or grassland	14% of site area	26% of site area
Hedgerows	66% of all field boundaries	80% of all field boundaries
Agroforestry	10% of site area	20% of site area
Community Orchards	1 in the Parish	2 in the Parish

There would also be value in increasing the number of trees in parks, streets and other open spaces in your parish.

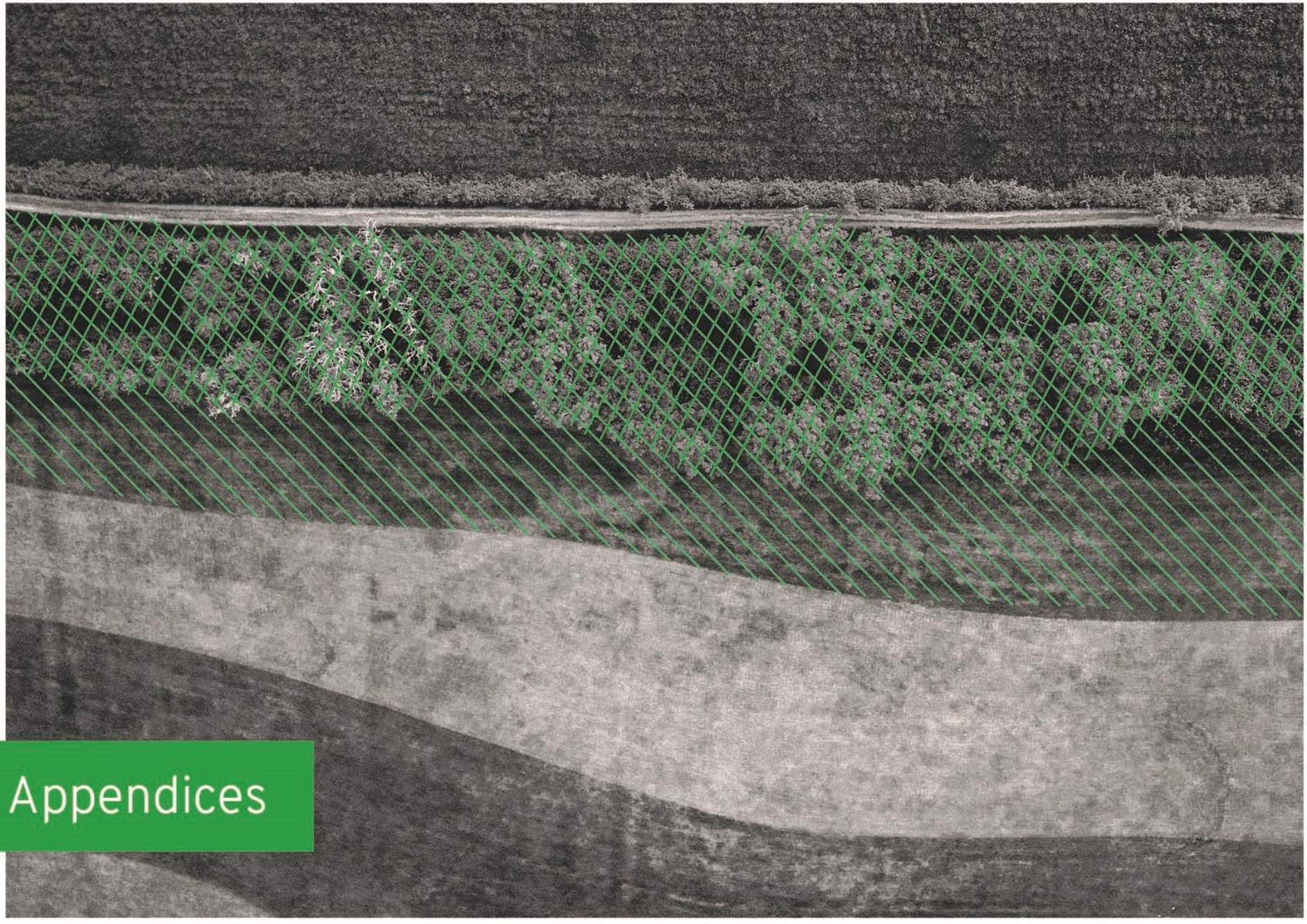
Our recommendations

Achieving the recommendations set out in the previous slide would require establishing the following treescapes between now and 2050:

Treescape Targets	Current (ha/km)	Scenario 1 (ha/km)	Increase 1 (ha/km)	Scenario 2 (ha/km)	Increase 2 (ha/km)
Woodland	123.2	222.9	99.8	270.7	147.5
Species-rich grassland	36.3	0.0	0.0	143.3	107.0
Total Woodland or Grassland	159.5	222.9	63.5	414.0	254.5
Hedgerows	47.9	98.2	50.3	119.0	71.1
Agroforestry	0.0	159.2	159.2	318.5	318.5

The precise natural capital benefits that establishing these treescapes will deliver depends on where they are sited. This can be determined in your land use management or neighbourhood plan, which CAG Oxfordshire can help you devise.

The following tables in this report are designed to give you an overall sense of the degree of benefit each treescape opportunity can bring, and what to consider when creating your land use plan.



Appendices

Slope and land grade data

This table summarises land grade and slope on Cholsey parish.

We have used land grade to identify the more productive land that should be kept for food production. Land which is steeper can be harder to farm and may be a place to consider tree planting.

Please note that grade 3 land is often classified as either 3a or 3b. These classifications are not generally available, however land with slopes below 7 degrees is usually classed as 3a and slopes above 7 degrees as 3b.

Details	Ha	% of site
Grade 1 land	0.0	0.0
Grade 2 land	1,007.2	63.3
Grade 3 land with slope less than 7 degrees	195.2	12.3
Grade 3 land with slope more than 7 degrees	100.7	6.3
Grade 4 land	221.3	13.9
Grade 5 land	0.0	0.0
Non-agricultural such as woodland or urban land	0.1	0.0
Total site area	1,592.4	100.0

Click here for Maps

Unsuitable areas data

This table summarises areas not suited to treescapes and the reasons why:

Details	Ha	% of site
CoreNRN	105.4	6.6
WildlifeValue	133.3	8.4
Archaeology	0.0	0.0
Built	27.5	1.7
Woodland	123.2	7.7
Total unsuitable areas	205.0	12.9

PLEASE NOTE: That the total of all reasons will be greater than the total unsuitable areas as some areas are unsuitable for more than one reason.

Click here for Map

Woodland and species-rich grassland data

This table summarises areas of existing woodland and species-rich grassland and the further opportunities.

Details	Ha	% of site
Existing woodland	123.2	7.7
Existing species-rich grassland	36.3	2.3
Woodland and grassland opportunities:		
New wooded or grassland fields	307.7	19.3
Buffering 20 metres around existing woodland	18.1	1.1
Total woodland or grassland opportunities	325.8	20.5
Total of current woodland and species-rich grassland and opportunities	485.3	30.5
Total site area	1592.4	100

Click here for Existing Maps

Click here for Opportunities Maps

Hedgerow data summary

The total current hedgerows and areas of opportunity for Cholsey parish are estimated as follows:

- **Please note that these figures may not always be accurate**

Hedges (Km)	Km	% of all possible
Current hedges	47.9	32.2
Opportunities for hedges on field boundaries	100.9	67.8
Total with all opportunities	148.7	100.0

This table estimates the number of fields that could be divided with a hedgerow

Hedges	Number of fields
Opportunities for hedges across fields	21

Click here for Existing Maps

Click here for Opportunities Maps

Agroforestry data

This table summarises opportunity areas for silvoarable and silvopasture farming.

Agroforestry opportunities:	Ha	% of site
Silvoarable or silvopasture	122.1	7.7
Silvoarable only	546.0	34.3
Silvopasture only	204.1	12.8
Total agroforestry opportunities	872.2	54.8
Total site area	1,592.4	100.0

Click here for Map

Nature Recovery Network data

This table summarises the areas of Cholsey parish that fall within the NRN core and recovery areas:

Areas that fall within:	Ha	% of site
NRN core areas	105.4	6.6
NRN recovery areas	670.3	42.1
Total site area	1,592.4	100.0

Click here for Map

The biodiversity scores we apply to our treescapes

The scores we use to measure the biodiversity of existing natural capital features and each treescape are as follows:

Units per Hectare or Km	Outside the NRN	Within NRN recovery zone	Adjoining NRN core zone
Units for existing uses:			
Hedgerows (per km)	8	8.8	9.2
Woodland (per ha)	8	8.8	9.2
Grassland (varies by type)	4.0 - 8.0	4.4 -8.8	4.6 - 9.2
Pasture (per ha)	4	4.4	4.6
Arable (per ha)	2	2.2	2.3
Uplift from new Opportunities:			
Hedgerow (per km)	6.2	6.8	7.1
On arable land:			
Woodland buffer (per ha)	3.45	3.79	3.96
Woodland (per ha)	3.24	3.56	3.72
Grassland (per ha)	3.28	3.5	3.66
Community orchards (per ha)	6.69	7.36	7.69
Silvopasture (per ha)	2.82	3.11	3.25
Silvoarable (per ha)	1.98	2.18	2.28
On pastureland:			
Woodland buffer (per ha)	3.69	4.06	4.24
Grassland	3.53	3.89	4.06
Woodland (per ha)	3.44	3.79	3.96
Community orchards	7.58	8.34	8.72
Silvopasture (per ha)	2.95	3.24	3.39
Silvoarable (per ha)	Not recommended	Not recommended	Not recommended

Summary of current biodiversity and opportunities

This table summarises current biodiversity and the opportunities that would give the maximum possible biodiversity uplift for the site. It assumes a mix of woodland and species-rich grassland on all Grade 3 and 4 land and silvoarable on all grades 1 and 2:

Current land uses	**Biodiversity Units**	**% of total units**
Pasture	1,989.7	28.2
Arable	2,482.6	35.1
Woodland	1,689.3	23.9
Species-rich grassland	501.9	7.1
Hedgerows	403.3	5.7
Total	7,066.7	100.0
Max Potential Uplift in units	**Biodiversity Units**	**% of maximum uplift**
From woodland	1,067.9	27.8
From species-rich grassland opportunities	680.4	17.7
From hedgerow opportunities	653.6	17.0
From silvoarable opportunities (grade 1 and 2 land only)	1,438.2	37.5
Maximum potential uplift	3,840.1	100.0
Total end units with max uplift for whole site	10,906.8	154.3

Click for Current Maps

Click for Opportunity Maps

Existing and maximum possible carbon capture

Your estimated net zero target is: 6166 tCO2e (tonnes of carbon dioxide equivalent) per year.
Existing and maximum possible carbon capture amounts are estimated below. Please note that the carbon capture rate for woodland includes 5 tonnes CO2e per hectare per year from the cessation of intensive farming operations in addition to 10 tonnes CO2e per hectare per year in carbon capture.

In tonnes CO2e per year	Capture rate	Km or ha	Total	% of net zero target
Existing land use:				
Hedgerows (per km)	1.2	47.9	57.4	0.9
Woodland (per ha)	15	91	1365.4	22.1
Species-rich grassland (per ha)	4	32.9	131.5	2.1
Total of all existing			1554.3	25.2
Opportunities:				
Hedgerows (per km)	1.2	100.9	121	2
Woodland (per ha)	15	325.8	4887.5	79.3
Silvopasture (per ha)	5.0	326.2	1631	26.5
Silvoarable (per ha)	1.5	546	819	13.3
Maximum possible opportunities			5827.5	94.5
Maximum with all hedge, woodland and agroforestry opportunities			7381.9	119.7

Click here for information

Natural flood management (NFM) data

These tables summarise the areas of existing woodland and hedgerow delivering natural flood management as well as the further opportunities:

Hedges (Km)	**within NFM area**	**All on site**	**% delivering NFM**
Current hedges	19.9	47.9	41.5
Hedge opportunities around fields	28.3	100.9	28.1
Total of all hedge opportunities	48.2	148.7	32.4
Hedge opportunities across fields	12.0	21.0	57.1
Woodland or species-rich grassland (Ha)	**within NFM area**	**All on site**	**% delivering NFM**
Current woodland	34.2	123.2	27.7
Current grassland	10.0	36.3	27.5
Woodland and grassland opportunities	116.3	325.8	35.7
Total of all woodland and grassland opportunities	160.5	485.3	33.1
Agroforestry (Ha)	**within NFM area**	**All on site**	**% delivering NFM**
Current agroforestry	0.0	0.0	0.0
Agroforestry opportunities	137.4	872.2	15.8
Total of all agroforestry opportunities	137.4	872.2	15.8

Click here for Maps

Air quality data

This table summarises the areas of existing woodland and hedgerow delivering air quality benefits as well as the further opportunities.

Woodland offering air pollution benefits (Ha)	Woodland delivering air quality benefits	All woodland on site	% of woodland that delivers air quality benefits
Current woodland	0	123.2	0
Total woodland opportunities	0	325.8	0
Total with all opportunities	0	449.0	0

Hedgerow offering air pollution benefits (Ha)	Hedgerow delivering air quality benefits	All hedgerows on site	% of hedgerows that delivers air quality benefits
Current hedges	0	47.9	0
Hedge opportunities around fields	0	100.9	0
Total with all opportunities	0	148.7	0
Hedge opportunities across fields	0	21.0	0

Click here for Maps

Recreation and wellbeing data

The table summarises the areas of existing woodland or species-rich grassland delivering recreation and wellbeing benefits as well as the further opportunities.

Woodland and grassland offering wellbeing and recreation	Area delivering wellbeing benefits	All in the Parish (Ha)	% delivering wellbeing benefits
Current woodland	14.1	142.8	9.9
Current Grassland	8.9	52.6	17.0
Woodland, grassland and community orchard opportunities	334.6	777.5	43.0
Total with all opportunities	357.7	972.9	36.8

Click here for Maps

Multiple benefits of woodland

The table summarises the areas where introducing woodland would deliver up to five benefits. These are areas for levels of biodiversity uplift greater than 3.6 units per hectare; natural flood management (NFM); Recreation and wellbeing; and air quality. Carbon is delivered in all areas.

Number of benefits	hectares	% of site area
All 4 plus carbon	0	0
Any 3 plus carbon	46.7	2.9
Of which:		
Biodiversity,NFM and air quality	0	0
Biodiversity,NFM and wellbeing	46.7	2.9
Biodiversity,air quality and wellbeing	0	0
NFM,air quality and wellbeing	0	0
Any 2 plus carbon	210.3	13.2

Click here for Map

Multiple benefits of species-rich grassland

The table summarises the areas where introducing species-rich grassland would deliver up to four benefits. These are areas for levels of biodiversity uplift greater than 3.6 units per hectare; natural flood management (NFM); and recreation and wellbeing. Carbon storage is delivered in all areas.

Number of benefits	hectares	% of site area
All 3 plus carbon	46.7	2.9
Any 2 plus carbon	210.3	13.2
Of which:		
Biodiversity and NFM	85.3	5.4
Biodiversity and wellbeing	60.5	3.8
NFM and wellbeing	64.5	4.1
Any 1 plus carbon	57.3	3.6

Click here for Map

Multiple benefits of hedgerows

The table summarises the areas where introducing hedgerows would deliver up to four benefits. These are areas for levels of biodiversity uplift greater than 3.6 units per hectare; natural flood management (NFM); and air quality. Carbon storage is delivered in all areas.

Number of benefits	kilometers	% of site
All 3 plus carbon	0	0
Any 2 plus carbon	38.8	26.1
Of which:		
Biodiversity and NFM	38.8	26.1
Biodiversity and air quality	0	0
NFM and air quality	0	0
Any 1 plus carbon	32.9	22.1

Click here for Map