

An Interim Nature Recovery Network for Huntingdonshire

Final Report

Prepared by

**The Wildlife Trust for Bedfordshire, Cambridgeshire &
Northamptonshire**

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**Wildlife Trust for
Beds, Cambs
& Northants**

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1. INTRODUCTION

1.1 Background

Urgent action is required to reverse biodiversity loss and climate change, which is increasingly being reflected in national, regional and local policies.

In terms of natural habitats, Cambridgeshire has one of the lowest proportions of priority habitats in England (less than 10%), with one of the lowest percentages of land designated for nature and the second lowest woodland cover at 4.8%. Natural assets in Cambridgeshire are coming under increasing pressure with conflicts and / or damage from recreational pressures being recorded at sites including Brampton Wood and Houghton Meadows SSSIs.

The UK Government has set ambitious targets related to climate change and through the Defra sponsored 25 Year Environment Plan has committed to reversing the loss of biodiversity. The Environment Act 2021 introduced a requirement to prepare Local Nature Recovery Strategies and a requirement for mandatory biodiversity net gain through the land use planning system.

Better management, restoration and creation of natural habitats will not just play a part in reversing the loss of biodiversity but will also contribute towards achieving zero-carbon. It can also help provide better access to the countryside for a growing population with the health and social benefits that this brings to the local economy, particularly in a county such as Cambridgeshire that doesn't have large-scale open access downland, commons or coast.

Local Authorities in Cambridgeshire have recognised the climate emergency and biodiversity crisis and are looking to take greater action to address these twin challenges. Many have formally supported the Natural Cambridgeshire vision to double nature:

“Our Vision is that by doubling the area of rich wildlife habitats and natural greenspace, Cambridgeshire and Peterborough will become a world-class environment where nature and people thrive, and businesses prosper.”

The Environment Act 2021 introduces mandatory biodiversity net gain of at least 10% for most developments. It also creates a legal duty for Local Authorities to prepare Local Nature Recovery Strategies, which are anticipated to be produced through cross boundary co-operation at a County or equivalent level.

In Cambridgeshire & Peterborough the Combined Authority is the competent authority and they have agreed that the County Council will lead on the production of this strategy. The first iteration of a Local Nature Recovery Strategy at a county level may of necessity be high level. There will need to be additional work to provide more local detail at a district and parish level. The outputs from this project will be available to inform, influence and feed into the statutory county-level Local Nature Recovery Strategy, but also provide some of the finer grain detail to support action at a district and parish level.

Once biodiversity net gain becomes mandatory in January 2024, there will be a need to identify priority locations for provision of biodiversity offsetting for those developments where it is not possible achieve a net gain on site. Where off-site biodiversity net gain and enhancement measures are required, these would have most benefit where they are targeted to strategic locations, which contribute to the creation of a functioning nature recovery network. Such locations are also rewarded in terms of biodiversity units when using the Defra Biodiversity Metric to measure biodiversity net gain. There is therefore a need to identify strategic locations to deliver biodiversity offsetting in Huntingdonshire.

The proposed Huntingdonshire Nature Network seeks to meet this need by identifying the strategic locations within the district best placed to deliver biodiversity net gain and to inform implementation of biodiversity net gain planning policies.

However, the work will have wider relevance, as it will also help inform and influence wider place shaping agendas such as other green infrastructure and natural capital investments; Parish Neighbourhood Plans and parish nature recovery plans; and farming environmental land management schemes. It can also help to inform organisational nature recovery plans whether that be Huntingdonshire District Council open spaces and estate management or those of private businesses. Huntingdonshire is starting a “Nature for All” programme and there will be strong synergies between the Nature Network and “Nature for All”.

1.2 Strategic Land-use Planning

The ¹Huntingdonshire Local Plan has previously recognised countryside enhancement areas including the Great Fen, Great Ouse Valley and the area around Grafham Water. The Great Fen Masterplan is a separate Supplementary Planning Document (SPD). The current Local Plan includes a policy for new development to deliver no net loss in biodiversity and a net gain where possible. From January 2024, though this will be superseded by the Environment Act mandatory minimum 10% biodiversity net gain requirement.

Where off-site biodiversity net gain and enhancement measures are required, these would have most benefit where they are targeted to strategic locations, which contribute to the creation of a functioning nature recovery network. Such locations are also rewarded in terms of biodiversity units when using the Defra Biodiversity Metric, the official measure of biodiversity net gain.

The Environment Act places a legal duty on Local Authorities to prepare Local Nature Recovery Strategies. These will be produced through cross boundary co-operation at a County or equivalent level, however, they are not likely to be completed before the end of 2024 at the earliest. This document and associated mapping layers will therefore support the existing Huntingdonshire Local Plan (2019) and future revisions of this.

1.3 Study Aims & Objectives

This report has been commissioned by Huntingdonshire District Council. The project aim is to identify a high-level Interim Nature Recovery Network for Huntingdonshire district (to act as a preliminary, but non-statutory Local Nature Recovery Strategy for the area), to inform implementation of biodiversity net gain planning policies. The work will also inform other green infrastructure and natural capital investments, as well as Parish Neighbourhood Plans and organisational nature recovery plans.

The project aims to:

1. Identify Priority Areas for landscape-scale action to support nature’s recovery, from both desktop analysis and targeted fieldwork.
2. Undertake stakeholder engagement with key stakeholders and a sample of major landowners to agree the boundaries of the priority landscape areas.
3. Identify the critical components of a Nature Recovery Network in each of the Priority Areas, based on the ²Lawton principles of More, Bigger, Better, and More Joined Up.

The final products are this report and a series of GIS mapping layers.

The outputs from this project will be available to inform, influence and feed into the statutory county-level Local Nature Recovery Strategy (which commences preparation in October 2023), but also provide a local context for securing biodiversity net gain across Huntingdonshire.

In addition to the above outputs, a separate framework document will be prepared to guide local action for nature to support Huntingdonshire’s “Nature for All” programme.

2. STUDY STAGES

2.1 Identification of Priority Areas

The study was undertaken between September 2023 and January 2024.

The first stage involved putting together the evidence base to identify **Priority Areas** for large-scale, strategic biodiversity and landscape enhancement across Huntingdonshire. There were two separate but related strands to the initial evidence gathering.

The first strand involved collation and analysis of high-level habitat and nature conservation sites data, to identify priority landscape areas as the core components of a potential Nature Recovery Network across Huntingdonshire. Information including data from Natural England's Open Data Portal, Natural Capital Solution's Opportunity Map of Cambridgeshire and data held by the Wildlife Trust on County Wildlife Sites and nature reserves was collated using QGIS to produce a series of mapping layers that can be interrogated and analysed. We assessed this information against maps of underlying and surface geology, soils, topography and drainage to understand the wider landscape context of the habitat information.

The second strand involved site visits to each of the Priority Areas to understand better the local landscape and land-use, and to allow us to refine the area boundaries, which were further tested through engagement with key stakeholders.

2.2 Identifying the Components of a Nature Recovery Network

The second stage involved the identification of the detailed components of a nature recovery network within each of the **Priority Areas**.

The identification of robust ecological networks can be undertaken using a variety of methods, see ³Natural England Research Report NERR081 *Nature Networks Evidence Handbook* (2020).

Many of these methods are modelling approaches that rely on large amounts of habitat and other spatial data and require significant inputs of time and money to produce robust outputs. For the short timescale and level of detail required for this study we therefore decided to use a simpler approach based on use of up-to-date high-quality information on habitats, soils, and discussion with landowners regarding better and poorer quality agricultural land. **This in effect is a more local and refined version of the approach Natural England have taken to their National Habitat Network Framework and Maps and their Habitat Potential data layers.**

By incorporating a component of site visits and habitat mapping within the **Priority Areas**, this simplified approach is likely to produce at least as good results as any ecological modelling result for a similar level of effort. That is not to say that ecological modelling methods would not be useful, but they are likely to refine the identified network, rather than completely re-invent it. They may in future, however, be useful if there are difficult choices to be made between different options for creating stepping-stone habitats. However, they will not change the locations of the core sites or the immediate priorities for creating a Nature Recovery Network for Huntingdonshire.

During fieldwork, detailed analysis of the priority landscape areas was undertaken, including targeted site surveys to update habitat information where this was out of date (most of the phase 1 habitat data dates from the 1990s). These site visits helped us gain a better understanding of local opportunities and constraints that may not be evident from desk-based studies. Analysis of the updated habitat information was used to refine the boundaries of the Priority Areas and to identify core habitat and buffer areas, and key linkages and stepping-stones within the study area, in line with the Lawton principles. As part of the study, connections to the wider Nature Recovery Network across Cambridgeshire and beyond were also considered.

The habitat information gathered during this project, was used to produce a series of GIS mapping layers showing the local Nature Recovery Network including the detailed boundaries of the Priority Areas and the components of a nature recovery network, with core areas, stepping stones and extensions to each of these. Chapter 4 of this report describes these areas in more detail, including the opportunities within each and their potential benefits.

The overall network maps identify the best and most important opportunities for a Nature Recovery Network across Huntingdonshire. However, they do not identify every opportunity and landowners and local communities will be able to bring forward other projects to complement and add to the core network set out in this report.

The information in this report will help inform land use planning decisions, including priority locations for delivery of biodiversity net gain, as well as other priorities for funding including agri-environment schemes.

2.3 Stakeholder Engagement

The draft Priority Areas boundaries were presented to key stakeholders, including Natural England, large conservation organisations such as the National Trust and RSPB, and a sample of landowners with significant land within one or more of the areas. The boundaries of the Priority Areas were further refined based on these discussions.

Once the boundaries of the Priority Areas were established, further discussions took place with key stakeholders to identify the critical components of a Nature Recovery Network and the best opportunities to create or enhance habitats within each. At this stage, not all opportunities have been identified. More detailed engagement with landowners and stakeholders outside of this project will be required to identify the full range of opportunities for expanding the nature recovery network core areas and stepping stones.

Further discussions with landowners will also enable identification of the potential delivery mechanisms for each component of the nature recovery network, whether that be through agricultural policy (Environmental Land Management Schemes), Biodiversity Net Gain linked to development, provision of green infrastructure, or other natural environment policy drivers. They will also identify those opportunities deliverable in the short-term compared to those that will be longer-term ventures.

The Priority Area boundaries and the critical Nature Recovery Network components set out in this report are therefore a product of combined desktop and field assessment, coupled with testing through engagement with key stakeholders.

The outputs from the project are this report and a series of GIS mapping layers showing an interim Nature Recovery Network for Huntingdonshire.

3. IDENTIFICATION OF PRIORITY AREAS

3.1 Sites of Highest Biodiversity Value

In order to establish areas on which to focus landscape-scale biodiversity opportunities, an evidence-based understanding of the current nature conservation sites and habitats across Huntingdonshire is required.

The broad nature of this study could not look at the details of the individual sites and so sites of high biodiversity were defined as those with some kind of designation (e.g. SSSIs, Local Nature Reserves, County Wildlife Sites, ancient woodlands, traditional orchards), or other protection, for instance a private nature reserve. Designated sites are already defined and well mapped and the GIS data for these was taken from the Natural England Open Data Geoportal. We supplemented this with local data available to the Wildlife Trust and through CPERC (the Local Records Centre) including County Wildlife Sites, Wildlife Trust nature reserves, and wildlife-rich countryside sites owned by other conservation stakeholders.

3.2 Identification of Priority Areas

Clusters of designated nature conservation sites were used as the initial basis for identifying potential **Priority Areas**. Although these designated sites cover the vast majority of priority habitats they do not represent all the wildlife habitats present in the area. We therefore supplemented this information with other data sources, to better define clusters of sites and habitats that were well connected.

⁴The Mapping Natural Capital and Opportunities for Habitat Creation in Cambridgeshire Report (Rouquette, 2019), provided a good basis for analysis of the full range of habitats, although not all of the data sets used in this were recent, for example the phase 1 habitat survey for the county dates from the 1990s. We therefore supplemented this high-level habitat opportunity mapping with local knowledge and additional field surveys to update the historical land use information where it is out-of-date.

The Natural England National Habitat Network data layers available on the MAGIC website were also downloaded and interrogated. These provided a coarse layer of information based on simple buffers around different types of priority habitat, which was helpful in identifying the initial areas of focus.

Using the above data, nine potential Priority Areas were outlined and then further defined by studying landscape features such as the topography, underlying geology (both solid and drift), current habitat and land use, and past habitat and land use. Published green infrastructure strategies and visions, such as the Great Fen Masterplan, and land owned and managed by organisations with a predominantly conservation remit was also taken into account. The boundaries of the Priority Areas were refined using the updated habitat information, gathered from site visits.

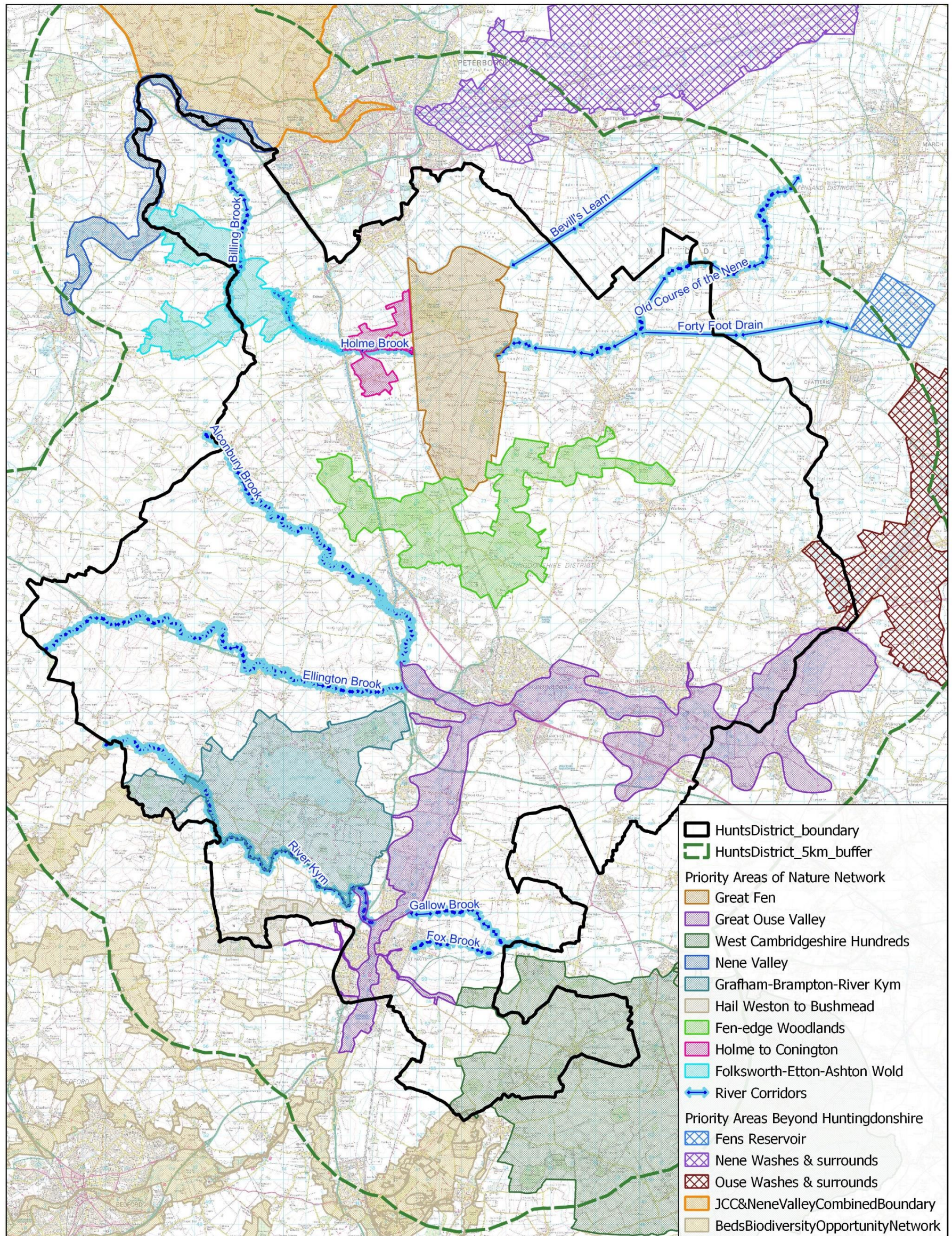
In defining the detailed boundaries of each Priority Area, the placement of the boundary has, where possible, followed land use and geographic features rather than the individual ownership of land, but inevitably these are sometimes one and the same. Where possible, Priority Areas have been connected to neighbouring areas to create a coherent network.

The above information formed the initial evidence base through which we defined areas of focus for a potential Nature Recovery Network within Huntingdonshire. Each area is different in character and may ultimately produce very different opportunities in terms of habitats and land uses.

Map 1: Huntingdonshire Interim Nature Recovery Network Priority Areas



Huntingdonshire Interim Nature Recovery Network Dec 2023



0 5 10 15 km

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The nine **Priority Areas** are described below, and also shown on Map 1 above:

It is important to note, when reading the descriptions below, that the Priority Areas as identified in Map 1 are not intended to be converted in their entirety to semi-natural habitats, but will be a mixture of enhanced habitat areas, new habitats, and nature friendly farming. The Priority Areas, as mapped, also do not have any new or amended statutory planning policy status arising from this Report (though future planning policy may take into account the contents of this Report). The purpose of the maps, and the opportunities described below for each mapped area, is to inform nature recovery and land use activities planned within each area. This Report will hopefully help steer those activities to achieve the best available nature recovery solutions.

Further details on each Priority Area, including an individual vision and objectives for each, can be found in section 4 of this Report.

3.3 Great Fen

The Wildlife Trust working with other partners including Natural England have identified a long-term vision to create a landscape for wildlife and people across 37 Km² between Huntingdon and Peterborough, covering the remaining deep peat soils around and connecting Woodwalton Fen and Holme Fen. Woodwalton Fen and Holme Fen represent two of the four remaining historic ancient fen sites in Cambridgeshire. Holme Fen is the lowest lying part of Britain, being 3-4 metres below sea level. Some of the deepest peat soils remain in the northern part of the Great Fen and these provide the best potential to restore lowland fen and other high nature value wetland habitats. The vision is to create a large mosaic of wetland habitats linking, extending and buffering the two historic fen sites. The conservation priorities in the north of the area are the creation of lowland fen priority habitat and other wetland mosaics.

Towards the south of the Great Fen area, the land rises towards Church End, Gamsey Wood and Riddy Wood. In the southern portion of the Vision area the priorities are the creation of lowland meadow priority habitat, and other complementary habitats such as hedgerow networks, ponds and small-scale woodland planting, to complement areas where farming might continue.

Within parts of the Great Fen area, it is recognised that farming will continue to be a long term and important feature of the area. However, there is growing recognition and support in the farming community to adapt farming practices so that thriving and viable farming can continue to take place, while integrating land management methods that support nature recovery. Alternative approaches to farming also have the potential to make a major contribution to reducing greenhouse gas emissions from agriculture in this area. Further details on farming related opportunities are covered in section 4 of this report.

3.4 Great Ouse Valley

The Great Ouse Valley priority area encompasses the River Great Ouse and its floodplain. The confluences with and lower reaches of many of the tributaries are also included. The Great Ouse Valley includes a number of remnant lowland floodplain meadows, with Port Holme being the largest in England. Other high-quality examples include St Neots Common SSSI, Houghton Meadows SSSI and the Hemingford Meadows CWS's. Much of the floodplain remains as grassland though many fields have in the past been agriculturally improved with herbicides and fertilisers to a greater or lesser extent.

Throughout the twentieth century large parts of the valley were dug for sand and gravel. Some of these gravel pits have been restored for conservation uses such as Paxton Pits nature reserve, Godmanchester nature reserve and Fen Drayton nature reserve. Others have deeper sides and are used for fishing or water sports. However, collectively they form a network of sites important for breeding and wintering waterbirds, as well as supporting a wide range of other wetland wildlife whether in the lakes, or associated reedbeds, wet grasslands and wet woodlands. Some of the deeper water lakes are also important for supporting wetland birds that winter on the Ouse Washes or near continent in times of hard winter weather, though these occasions are now becoming increasingly infrequent with climate change.

The River Great Ouse itself is managed as a navigation, however, the backwaters, often following the former course of the river, retain more natural river features and support a range of aquatic and wetland species. Many of the backwaters are high quality wetland habitats, so there is at present little scope to enhance the river itself.

The conservation priorities include the management and restoration of species-rich lowland floodplain meadows from St Neots to Holywell, and the management of the network of lakes and associated wetlands for breeding and wintering birds and other specialist aquatic plants and invertebrates.

The other priority is to improve the water quality of the river due to the adverse impacts of phosphates from agriculture and waste water on Port Holme, the Ouse Washes and other nature sites, as well as reduce excess flooding on the Ouse Washes downstream. However, this requires significant land use change across the catchment which extends well beyond Huntingdonshire.

3.5 West Cambridgeshire Hundreds

The higher ground in the south-east of the district includes a small part of the West Cambridgeshire Hundreds priority area, though most is in South Cambridgeshire. This area comprises glacial boulder clay deposits, which overlay the Cretaceous chalk bedrock. It forms part of the Bedfordshire and Cambridgeshire Claylands National Character Area, which includes most of the western and southern parts of Huntingdonshire.

Key sites within Huntingdonshire include Waresley & Gransden Woods SSSI and Sand and Weaveley Woods SSSI. The area also has the headwaters of the Abbotsley Brook and Hen Brook which flow towards St Neots and the Great Ouse.

In the early 2000s, the Forestry Commission commissioned the East Anglian Wildlife Trusts to identify priority areas for the management and restoration of ancient woodlands and creation of new woodlands to inform their woodland grants programme. Six areas were identified in Cambridgeshire, three of which were within Huntingdonshire including the West Cambridgeshire Hundreds, the Grafham-Brampton Woods and the Fen-edge Woodlands.

The conservation priorities in the West Cambridgeshire Hundreds are the restoration and better management of the ancient woodlands, along with buffering and better connecting them through woodland creation, enhancement of hedgerow networks and creation of complementary meadow and pond habitats.

3.6 Grafham-Brampton-River Kym

This priority area also forms part of the Bedfordshire and Cambridgeshire Claylands National Character Area. It encompasses Grafham Water and the surrounding land from Brampton Wood in the north-east to the River Kym to the south. The A1 forms the eastern boundary. The area directly connects to the Yardley-Whittlewood Ridge in Bedfordshire which is another area with increased woodland cover. The soils are glacial boulder clay deposits, overlying the Oxford Clay bedrock.

Key sites in Huntingdonshire include Brampton Wood SSSI, Little Paxton Woods SSSI, Perry Woods SSSI, as well as Grafham Water SSSI. There are a number of other ancient woodlands which form a network around Grafham Water and extend south and west to Bedfordshire. Around Southoe there are a number of species-rich lowland meadows, including ancient ridge and furrow meadows.

The conservation priorities in this priority area are the restoration and better management of the ancient woodlands, along with buffering and better connecting them through woodland creation, enhancement of hedgerow networks and creation of complementary meadow and pond habitats. The area around Southoe provides a particular focus for species-rich grassland creation. Grafham Water is designated for its waterbird populations and functionally linked to the Great Ouse Valley gravel pits. Wetland bird conservation is the priority at this site.

3.7 Fen-edge Woodlands

This priority area is located north of Huntingdon and Alconbury Weald and extends west to Sawtry and east to Warboys, with the fens forming the northern boundary. It is situated at the north-eastern edge of the Bedfordshire and Cambridgeshire Claylands National Character Area. The surface geology is again glacial boulder clay deposits, which overlay the Oxford Clay bedrock, though in places the Oxford Clay is present at the surface.

Key sites include Monks Wood and the Old Quarter NNR, Aversley Wood SSSI, Warboys Wood SSSI and another 15 ancient woodlands. There are few areas of species-rich grassland but those present are of a high quality including Upwood Meadows NNR, Woodwalton Marsh SSSI and Great Stukeley Railway Cutting SSSI.

The conservation priorities in this area are the restoration and better management of the ancient woodlands, along with buffering and better connecting them through woodland creation, creating woodland stepping stones and enhancing hedgerow networks. The creation of complementary meadow and pond habitats would be highly beneficial close to the ancient woodlands and particularly around Upwood Meadows NNR.

3.8 Hail Weston-Bushmead

This small priority area comprises a number of ancient woodlands and grasslands across the Huntingdonshire / Bedfordshire border. It is situated in the middle of the Bedfordshire and Cambridgeshire Claylands National Character Area and the surface geology is glacial boulder clay deposits, which overlay the Oxford Clay bedrock, though in places the Oxford Clay is present at the surface.

Key sites include Huntingdon Wood CWS, High Wood CWS, The Elms Hail Weston CWS, Moor Road Marshy Fields CWS and in Bedfordshire, Bushmead Big Wood CWS, Bushmead Meadows CWS and Hook & Home Woods CWS.

The conservation priorities are the restoration and better management of the ancient woodlands, along with buffering and better connecting them through woodland creation, creating woodland stepping stones and enhancing hedgerow networks. The creation of complementary meadow and pond habitats would be highly beneficial close to the ancient woodlands.

3.9 Folksworth-Elton-Ashton Wold

The area from Elton Park to Folksworth and onto Ashton Wold forms another wooded farmland priority area. Glacial boulder clay deposits form the surface geology, overlying the Oxford Clay bedrock, though in places the Oxford Clay again comes to the surface.

Key sites include Ashton Wold SSSI and Local Wildlife Site (in Northamptonshire), Caldecote Wood CWS, North Wood CWS, Fir Dale Lake and Fishponds CWS and Elton Park. There are also scattered patches of species-rich and other grassland along some of the road verges or watercourses. These include Morborne Hill roadside verge CWS, Greenhill road verges CWS and Luton Pastures Local Wildlife Site (in Northamptonshire).

Conservation priorities in this area are the restoration and better management of the ancient woodlands, as well as buffering them through more nature friendly farming or habitat creation. Enhanced landscape connectivity for wildlife would be best served by enlarging smaller woodlands or creating new woodland stepping stones. Fields are generally large but there is also scope to enhance landscape connectivity for wildlife through nature friendly farming involving an enhanced hedgerow network and use of uncropped field margins and headlands. The creation of new habitats along the upper reaches of the Holme and Billing Brooks would further contribute to a more connected nature network.

3.10 Holme-Conington

This small priority area lies west of Holme Fen on the other side of the East Coast mainline railway and covers the land around Holme and Conington Villages. Holmewood Hall and Conington Hall have extensive areas of parkland with broadleaved woodland and there is historic ridge and furrow grassland at Conington. North of Holme village there is an area of peat soils opposite Holme Fen and a couple of wildlife sites, The Roughs, Caldecote Fen and Denton Common Pit. Holme Brook passes through the area feeding the Great Fen. The underlying geology is Oxford Clay but with peat deposits north of Holme.

Conservation priorities include a range of more nature friendly farming to create better connectivity between the remnant woods and grasslands of Holmewood and Conington Halls and there is potential to create a continuous habitat corridor along the Holme Brook. Restoration of species-rich grassland is possible at both Holmewood Park and on and around the ridge and furrow grasslands at Conington Park. On the peat soils north of Holme, the priority is to conserve the peat and reduce the loss of carbon, which could be achieved in a number of ways including alternative forms of farming, grassland creation or even small areas of wetland creation.

3.11 Nene Valley

The River Nene forms the north-western boundary of Huntingdonshire with Northamptonshire and Peterborough. The River Nene is a priority area for its floodplain meadows in Peterborough and for wetland bird populations in Northamptonshire. The area of floodplain within Huntingdonshire is limited, with most recognised nature conservation sites within neighbouring districts. However, there are remnant flood meadows and other wetland mosaics at Water Newton, Sibson and Stibbington. The conservation priorities in these locations are the management and restoration of lowland species-rich flood meadow.

3.12 River Corridors (Kym, Alconbury Brook, Ellington Brook & Fen Rivers)

The tributaries of the Great Ouse including River Kym, Ellington Brook, Alconbury Brook and smaller watercourses such as Diddington Brook, Stirtloe Brook, Hen Brook, Wintringham Brook and Abbotsley Brook form a set of linear habitat corridors through the district. None of them have major floodplains, and many have been deepened and straightened as part of past agricultural drainage or engineered solutions to flood management.

There are few significant wetlands associated with these watercourses, however many of them have the potential to benefit from river restoration works aimed at achieving a more sinuous channel with more varied in-stream habitats.

The adoption of natural flood management measures across the wider farmed catchments could support improved flood risk management and water quality. As some of the watercourses are known to be subject to flash flooding, e.g. the Alconbury Brook, the adoption of natural flood management across the catchment is arguably a higher conservation priority than river restoration and wetland creation.

In addition, the Fen Rivers provide connectivity from the Great Fen eastwards to the other internationally important wetlands in the fens including Ouse Washes and Nene Washes through the Forty Foot Drain, Bevill's Leam and Old Course of the Nene. Their major function is water management and there are few habitat sites associated with them, though they could form the focus for better habitat connectivity through the fens.

These rivers are therefore shown as corridors on the Nature Network Maps as opposed to discrete areas of floodplain with potential for large-scale habitat creation, as with the Great Ouse and Nene.

4. PRIORITY AREA NATURE NETWORK COMPONENTS

4.1 Nature Network Rules of Thumb

There are different approaches that can be adopted to develop a nature network, based on local conditions. However, there are some broad principles that influence the design of functional and robust ecological networks (³Natural England Research Report NERR081). The following represents a hierarchical approach based on the Lawton principles (²Lawton et al, 2010), listing the most important elements in order. The key elements are then each considered in turn.

Better site quality > Bigger sites > More sites > Stepping stones & permeable matrix (nature friendly farming) > Corridors

Better site quality: Maintaining the quality of core sites within a network is the starting point, as these will represent the best quality areas of habitat supporting the largest range and number of key species. To achieve the best site quality, there needs to be sufficiently large habitat patches to allow for a complex mosaic of different habitats and micro-habitats, along with dynamic processes to allow the fullest range of species to flourish.

Core sites with long-term continuity of habitats, whether ancient woodland, or long-standing grassland and wetland habitats need to have strong protection as they will support more species and have more complete and carbon-rich soil structures than more recent examples of these habitats.

These core habitat patches should be buffered from adverse adjacent land uses by at least 50m, and ideally 100m of less intensive land uses. In some cases, e.g. where predation from urban cats would affect important species, a larger distance of up to 500m may be required.

The final critical element to achieving better quality core habitat patches is to ensure suitable management that allows key ecological processes such as grazing or natural regeneration to occur. Where this is not possible, for example on small sites, management interventions can attempt to replicate these processes, but this tends to be more costly with less natural results.

Bigger sites: Bigger sites with significant buffer zones have reduced edge effects, and provide larger core habitat patches that can support wider ranging species. They are also likely to have more habitat variation and better support those species with specialist habitat requirements. In the context of climate change, bigger sites are likely to provide more micro-climates and therefore be more resilient than smaller sites.

The aim should be to have core habitat patches of at least 100 Ha with a minimum habitat patch size of 40 Ha. If there are choices to be made, when expanding the size of sites, it will usually be better to choose the smallest core site to increase first (for example increase a site of 30 Ha to 40 Ha before increasing a site of 70 Ha to 100 Ha).

In the context of recreational pressure, bigger sites are usually able to cope with larger numbers of people because of the greater scope to provide areas with no / low disturbance to act as refuges for sensitive species.

More sites: When selecting locations for creating new sites, it will often be better to choose areas with greater variation of topography and aspect. Larger sites are better than smaller sites, but if the former is not possible, larger numbers of smaller sites can work so long as they are well connected to the core sites and each other.

Stepping stones & permeable matrix: Across a defined habitat network the aim should be for there to be at least 30% semi-natural habitat. For specialist species, habitat patches should be less than 200m apart, but for more generalist species less than 1 Km apart is acceptable.

Landscape-scale habitat mosaics help improve the stability of populations and may be important for wide-ranging species. In agricultural landscapes a more heterogeneous landscape can help counter the impacts of intensive farming practices. A landscape with a good variety of different types of habitats can often support a greater variety of species than would be predicted by just considering the number and type of habitats present (i.e. a Nature Network as a whole is potentially more valuable than each individual priority area).

Nature-friendly farming, with a variety of farm habitat features and some high-quality habitat stepping stones will support a habitat network by providing a more permeable matrix through which some species can move. Work at RSPB Hope Farm and the work of the Nature Friendly Farming Network (Georgina Bray & Martin Lines, *pers. comm.*) has shown that giving 10% of farms over to wildlife features is the level required to allow nature to recover. This is also achievable through using the least productive / unproductive parts of fields along with retaining existing farm wildlife features. This approach increases the area of breeding, foraging or sheltering habitats for some species. It is also likely that different landowners will take different approaches based on their own interests, so will increase the variety of the landscape in between habitat patches and help support a wider diversity of species.

Habitat corridors: For most habitat specialist species, corridors are of little value unless they are a minimum 100m wide, due to edge effects reducing the habitat quality along a linear corridor. Natural corridors, such as rivers function better than man-made corridors. Most species will “see” corridors differently to humans. For example, hedgerow corridors are a landscape feature that are of little value to wildlife unless they are dense and tall (i.e. they act as good scrub edge habitat) and they form part of a permeable landscape or part of a woodland habitat network.

Extent of nature-rich habitats: As well as the individual site size, the other critical aspect for the development of a coherent and functioning ecological network is the extent of nature-rich habitats. A minimum land cover of 30% is ideally required to allow species to thrive and respond to naturally fluctuating conditions across a landscape. While in some instances a lower % cover might suffice, this will inevitably require a significantly larger proportion of wildlife-friendly farmland habitats or extensive nature-friendly farming practices.

The following sections consider each of the **Priority Areas** in terms of these principles and identify the components of the habitat network and opportunities for enhancing it. The opportunities identified have been discussed with a few key stakeholders, but detailed discussions have not taken place with most landowners. This would be a valuable subsequent task once the Interim Nature Recovery Network has been published. Land use and land management opportunities will evolve over time, so the Nature Recovery Network should be seen as identifying the best opportunities and indicative of what could be achieved. It provides a framework for action and should evolve as opportunities rise.

4.2 Great Fen Priority Area

4.2.1 Key Facts

Total area: 3,756 Ha

Area of core habitats: 478.46 Ha

Area of core habitats and stepping stones: 542.82 Ha (14.45%)

Area in restoration (core extensions): 1,124.86 Ha

Total area habitats & land in restoration: 1,667.68 Ha (44.4%)

Core sites: Woodwalton Fen SSSI / NNR / SAC, Holme Fen SSSI / NNR.

Important habitats: Lowland fen, wet woodland, wetland mosaics, ditches, lowland meadows and ancient woodland.

Important species:

Fauna: Fen invertebrates for example, *Chrysolia graminis* (Tansy beetle), *Gagitodes sagittata* (Marsh Carpet Moth), and a range of aquatic beetles, flies, moths and spiders.

Birds including common crane, marsh harrier, wintering raptors such as hen harrier & short-eared owl.

Flora: Fen flora for example, fen violet, great water dock, fen wood-rush, bladderwort, water violet & saw sedge.

Overall, more than 1,000 species of beetle have been recorded (20% of them rare in the UK) and over 900 species of moth and butterfly from Woodwalton Fen. Woodwalton Fen supports 82 specialist fen species and 25% of UK priority species.

4.2.2 Network Approach:

Better Management

Woodwalton Fen, Holme Fen and the recent extensions being restored to wetlands are actively managed by Natural England and the Wildlife Trust BCN for their range of priority wetland habitats and species. Management of the core historic fen sites will continue, but in the longer-term, the priority is to further expand the area of high-quality habitats managed for nature, with a view to moving towards less intensive and costly approaches to site management, that work with natural processes. In the short-medium term targeted conservation management is still required on the historic fens to support the critical species and habitats. However, as the area of land buffering and linking these sites is restored to wetland, less intensive approaches to management can be introduced, as the land is progressively re-wetted and new wetlands created across the northern half of the Great Fen.

In the southern part of the Great Fen the land rises up onto the clay and there are a number of smaller nature sites including ancient woodlands, grasslands and scrub set within arable farmland. These small sites require ongoing management to maintain their species complement, particularly while active farming continues around them.

Buffering & Extending Core Areas

The expansion of the Woodwalton Fen & Holme Fen core area has been achieved through the purchase of the Holmewood Estate. Over the past 15 years, habitat creation has taken place at Darlowes Farm, Summer Standing, Corney's Farm, New Decoy Farm, Kesters Docking, Trundle Mere and Engine Farm. While some of this has been high value habitats, other areas have been put down to grass to protect the underlying peat soils until such time as re-wetting could occur. The recent addition of Spechley's Farm completes a hydrological unit west of Woodwalton Fen which will allow the re-wetting of Speechleys and Middle Farm along with Darlowes Farm, as the next stage of the project. However, there remain a small number of farms with peat soils in the north of the Great Fen area where further expansion of priority lowland fen and other habitats could occur but where longer term tenancies mean that arable farming continues. Full re-wetting of the northern half of the Great Fen will have to wait until such time as the

tenancies end or are bought out. The Wildlife Trust BCN hopes to achieve this in stages over the coming decades.

To the south and south-west of Woodwalton Fen there is potential to create a water storage area to replace the use of Woodwalton Fen which is used when the Raveley drain catchment is at risk of flooding. The water from the Raveley drain is rich in nutrients and is damaging some of the important low nutrient fen habitats within Woodwalton Fen.

Stepping Stones

The northern half of the Great Fen is now a near continuous block of habitat or land in habitat restoration. It is in the southern half of the Great Fen where additional areas of stepping stone habitat would be most valuable to better connect the remnant woodlands, hedges and grasslands, as part of a wider approach to nature friendly farming. New habitats could include small meadows, woods and a network of ponds.

Nature Friendly Farming

Across the south of the Great Fen area, on the clay soils arable farming is likely to continue. However, in these locations the adoption of regenerative and nature-friendly approaches to farming could be introduced to support the core habitat areas. The full range of measures including reduced or no tillage, use of cover crops, sowing of pollinator and wild bird seed mixes, and use of fallows or break crops would be beneficial to the creation of a more nature-rich landscape.

In the arable landscape to the south of the Great Fen area, the farming is currently highly intensive with few nature-friendly farming practices in place. Land is typically cropped close to the field boundaries and hedges have many gaps or have become lines of trees. Improved management of hedgerows, including planting up gaps or new connecting hedgerows, and the addition of wider uncropped margins and headlands would act to both buffer the stepping stone habitats and to provide space across the landscape for species to disperse.

Uncropped field margins and headlands could be sown with a variety of seed mixtures to benefit different aspects of the local wildlife. Around the remnant habitats appropriate wild seed mixtures could be sown along uncropped margins to provide food and forage for a range of farmland birds, including turtle doves and corn buntings, as well as pollinating insects. Game cover crops would benefit grey partridge while fallow areas may help lapwing. Ponds could also be created amongst new grassland habitats or within field corners to support populations of Great Crested Newt.

This approach could provide a valuable landscape corridor connecting the Fen-edge Woodlands to the core habitat areas of the Great Fen, improving the value of the land for wildlife and attracting and supporting a wider variety of species as part of the wider Great Fen landscape vision.

4.2.3 Objectives:

Short-term

- Continue management and enhancement of the historic Woodwalton Fen, Holme Fen and the recently created wetland habitats.
- Develop further areas of wetland habitats to buffer, extend and connect Woodwalton Fen and Holme Fen.
- Buffer all the stepping stone habitats in the south of the Great Fen area with species-rich headlands and field margins.
- Identify opportunities for additional habitat stepping stones across the south of Great Fen area.

Long-term

- Create a mosaic of priority habitats and nature-friendly farmland across the whole 37 Km² of the Great Fen Priority Area, to achieve the Great Fen Masterplan Vision to provide a well-managed landscape for nature between Huntingdon and Peterborough.
- Expand the area of priority fen and wetland habitats across all areas of remaining peat soils in the north of the Great Fen area.

- In the south of the Great Fen area, create at least three stepping stone habitats of priority grassland, woodland and pond habitats, each no more than 200 m from the other stepping stones.
- Establish nature-friendly farming approaches with provision of forage and supplementary feeding for farmland birds, addition of wider uncropped field margins and headlands, and well-managed hedgerows to attract a wider variety of wildlife in the south of the Great Fen area.

4.2.4 Priority Area Vision:

Launched early in the 21st century, the Wildlife Trust BCN with partners including Natural England, Huntingdonshire District Council, Middle Level Commissioners and the Environment Agency set out a long-term plan to create a diverse landscape for wildlife and people in the fen area between Huntingdon and Peterborough; connecting and expanding the historic fen sites of Woodwalton Fen and Holme Fen.

The Great Fen vision is to transform farmland between Huntingdon and Peterborough into a dynamic, diverse and beautiful fenland landscape through one of Europe's largest and most ambitious habitat restoration projects, creating benefits for wildlife as well as leisure and business opportunities for people. Once completed the 37 Km² area – the size of a small city – will be a mosaic of threatened wildlife habitats, including both wetland and drier areas of woodland and grassland, and will store water to reduce the risk of flooding and protect surrounding farmland and communities. It will create an accessible, inspiring and tranquil environment for recreation, education, health and well-being. A network of access routes and destination sites will be brought forward to promote recreation and tourism to support the diversification and development of the local economy and provide for the needs of a rapidly growing local population.

The Great Fen landscape will evolve into a mosaic of species-rich habitats including a large area of wetland in the north of the project area, focussed on the creation of fen and other wetland habitats and protection of peat soils to support a wide variety of abundant wildlife. Restoring natural processes, careful management of water and working with landowners will ensure future land management is sustainable, while protection of the peat soils will support climate change adaptation and mitigation. The south of the Great Fen area has the potential to deliver a mosaic of woodland, grassland and scrub alongside nature-friendly farming that may include ponds, hedgerows and species-rich field margins.

4.2.5 Delivery Mechanisms:

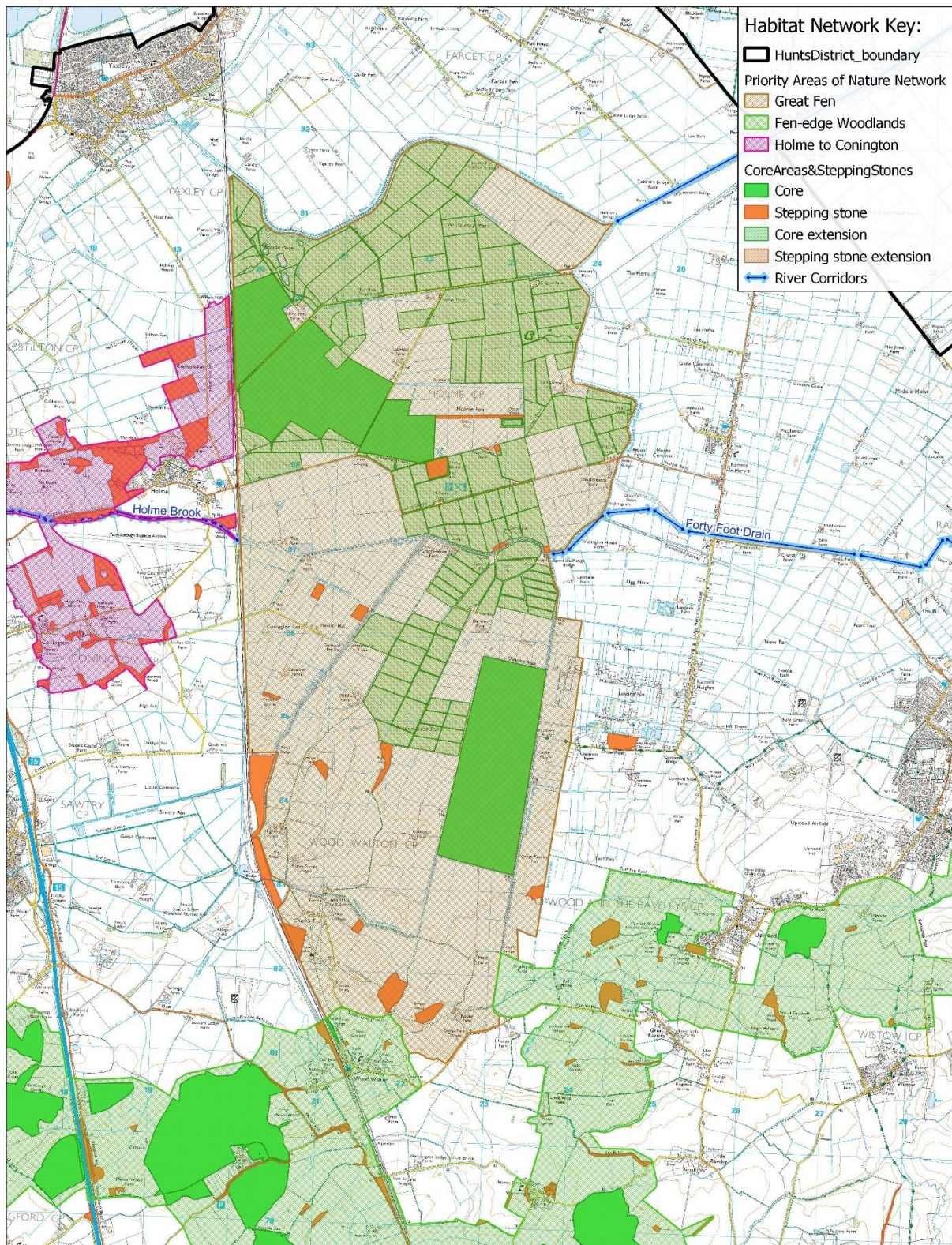
The aim of the Great Fen vision is to increase the land managed for wildlife and people. This will take place through a variety of delivery mechanisms, including land acquisition using the funding sources available to charities, or working in partnership with adjacent landowners. In some cases, landowners may deliver long-term habitat creation through the establishment of one or more habitats banks funded through biodiversity offsetting.

Regenerative and nature-friendly farming approaches will be supported through Environmental Land Management Schemes. However, peatland restoration or protection may be funded through the private market for carbon credits for example linked to the lowland peat carbon code.

Map 2: Great Fen Habitat Network



Great Fen Habitat Network Dec 2023



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4.3 Great Ouse Valley Priority Area

4.3.1 Key Facts

Total area: 7,323 Ha in Cambridgeshire (5,114 Ha in Huntingdonshire)

Area of core & stepping stone habitats: 3,023 Ha (41.3% of total area)

Core sites Portholme SSSI / SAC; St Neots Common SSSI, Godmanchester Eastside Common SSSI, Houghton Meadows SSSI, Berry Fen SSSI, Paxton Pits SSSI / CWS, Buckden Gravel Pits CWS, Brampton Flood Meadows CWS, Hinchingsbrooke Country Park CWS, West Meadow CWS, Westside Common Pollard Willows CWS, Godmanchester Nature Reserve CWS, Hemingford Abbots Meadow CWS, Hemingford Grey Meadow CWS, Meadow Lane Gravel Pits CWS, Holywell Front Pollard Willows CWS, Earith Gravel Pits CWS, Fen Drayton Gravel Pits CWS (South Cambs), Ouse Fen (South Cambs) and Wyboston Lakes (Bedford Borough).

Important habitats: Lowland floodplain meadows, floodplain wetland mosaics, reed swamp, wet woodland, open water lakes and river backwaters.

Important species:

Fauna: Nationally important numbers of overwintering waterfowl with key species including gadwall and tufted duck, along with a wide range of other species. Other wetland bird species include grey heron, cormorant, common tern, black-headed gull, lesser black-backed gull and bittern. Species of scrub and wetland margins include nightingale, cetti's warbler and grasshopper warbler. A wide range of wetland invertebrates with dragonflies including scarce chaser and Norfolk hawk.

Flora: Flora of lowland meadows including fritillary, great burnet, narrow-leaved water-dropwort & pepper saxifrage. A range of aquatic flora can be found particularly in the more natural back channels of the river.

4.3.2 Network Approach:

Better Management

40% of the Ouse Valley is already nature-rich land but much of it would benefit from better management or habitat restoration to reach its full nature potential.

This particularly applies to the floodplain meadows, many of which are a pale reflection of their former glory due to agricultural improvement in the 20th century or less than ideal management more recently. The traditional species-rich flood meadows require an annual hay cut (later in the growing season) and autumn / winter grazing, ideally with a mixture of cattle and sheep. However, livestock businesses are challenging to run in a profitable way, and a more ecologically and economically sustainable livestock farming model may be required if the better management and restoration of floodplain meadow habitats is to be realised. There are a couple of landowners who are exploring this and looking to better manage and restore their floodplain meadows, with one project started in 2023 and another due to start in 2024. One site, Hemingford Meadow (by the Dolphin, St Ives) has been in various Stewardship schemes for 30 years. Better management through extensive and traditional low-input hay cutting and grazing management over a long-time without any specific conservation restoration has eventually helped the recovery of a degraded flood meadow. However, it took twenty years before the change of management took effect and it is only in the past 10 years that a noticeable increase in wildflowers has been seen.

Many of the gravel pits are now several decades old having been worked in the middle and later stages of the last century. Without management trees eventually grow up around the margins of the lakes and reduce their value for waterbirds of open water and open lake margins. Work by Huntingdonshire District Council at Paxton Pits nature reserve, the Wildlife Trust BCN at Godmanchester nature reserve, and RSPB at Fen Drayton Gravel Pits shows what is required to maintain the variety of nature-rich habitats on areas of former sand and gravel quarries.

However, many of the former gravel pits along the Ouse Valley are surrounded by lines of trees and are now less valuable for wetland waterbirds and plants and invertebrates of open margins. Some sites, such

as those where sailing and water sports take place, do remain more open benefitting plants and invertebrates of open margins, but the level of recreational use limits use by some waterbird species.

With a growing population and demand for water-based recreation, alongside the need to make space for nature, a strategic approach to use of open water lakes along the valley is required. Even where the predominant use is water-based recreation, spatial or temporal zoning can be used to provide space for nature alongside recreational uses. For example, if a lake is important for wintering birds and a recreational activity is mainly summer based, the same lake can sustainably support both uses at different times of year. Likewise at other larger sites, it may be possible to set aside part of a lake for example one end, where recreational activities do not take place allowing wildlife a relatively undisturbed refuge.

Buffering & Extending Core Areas

Within the Ouse Valley buffering and extending the core habitat areas is about restoration of species-rich lowland floodplain meadows and floodplain wetland mosaics, where more water can be held on the land for longer to support wetland fauna and plant communities. There is also some scope to increase the extent of wet woodland habitats and reedbeds.

The Ouse Valley Habitat Inventory & Strategy Report (Wildlife Trust BCN, 2022) identified 58 sites / fields where the restoration of lowland floodplain meadow was desirable and possible, 27 where lowland flood meadows could be created, 10 sites where the creation of floodplain wetland mosaics was possible and a further 27 sites where wet woodland could be created. Implementation of these opportunities would create an additional 1,000 Ha (approximately) of nature-rich floodplain and restore the floodplain landscape to a functioning nature network. In addition, the largest lowland reedbed creation scheme in England is taking place post gravel extraction at Ouse Fen (though this is across the river in South Cambs).

Stepping Stones

The creation of additional stepping stone habitats is not needed in the Great Ouse Valley due to the extent of well-connected high quality meadow and open water habitats. The restoration of lower quality example of floodplain grassland and better management of some of the lake complexes are the conservation priorities in the valley.

Nature Friendly Farming

Nature-friendly farming within the Ouse Valley revolves around supporting more ecologically sustainable and profitable grazing enterprises to support the whole-sale restoration of lowland floodplain meadows or floodplain wetland mosaic habitats from St Neots to Earith. However, changes within the wider catchment are also required to significantly reduce diffuse pollution from farmland, which is detrimental to species-rich floodplain meadows.

4.3.3 Objectives:

Short-term

- To secure the continued traditional management of the remaining species-rich floodplain meadows.
- To implement a couple of demonstration floodplain meadow restoration projects at Houghton and Holywell, using locally sourced wildflower seed or green hay where possible.
- To organise a series of farmer / landowner events to promote management and restoration of floodplain meadows and other habitats.
- To work with local communities to plant areas of willow and wet woodland in locations along the valley.

Long-term

- To develop sustainable livestock enterprises to manage the full extent of high quality and restored floodplain meadows and other wetland habitats along the valley.
- To prepare a strategy for the sustainable use and zonation of open water lakes for nature and water-based recreation uses along the valley.
- To create the largest reedbed in lowland England (700 Ha) at Ouse Fen.

4.3.4 Priority Area Vision:

The Great Ouse Valley will comprise a continuous network of nature-rich sites from St Neots to Earith, with well managed and restored species-rich floodplain meadows, open water lakes, and expanded areas of reedbeds and wet woodland. There will be a number of profitable livestock enterprises operating along the valley supporting the continued sustainable management of the floodplain grasslands. The large core open water sites of Paxton Pits nature reserve, Godmanchester nature reserve and Fen Drayton nature reserve will support large nationally important population of waterbirds. They will be supported by the network of other open water lakes which will support wetland wildlife alongside water-based recreational uses through spatial and temporal zoning of uses.

4.3.5 Delivery Mechanisms:

The management and restoration of floodplain meadows and other wetland mosaics will be mainly supported by Environmental Land Management Schemes. However, the creation of sustainable livestock enterprises may also need other funding to support business development and re-structuring.

The large open water wetland complexes are managed by Hunts DC, Wildlife Trust BCN and RSPB. The reedbed creation at Ouse Fen is being delivered by Hanson's / RSPB through the minerals planning process following sand and gravel extraction.

Better management of other open water lakes, particularly those used for water-based recreation, should come through business development and the planning system where activities require planning permission. However, this should be guided by an over-arching strategy so that owners and water sports operators know what they should be doing to support nature recovery.

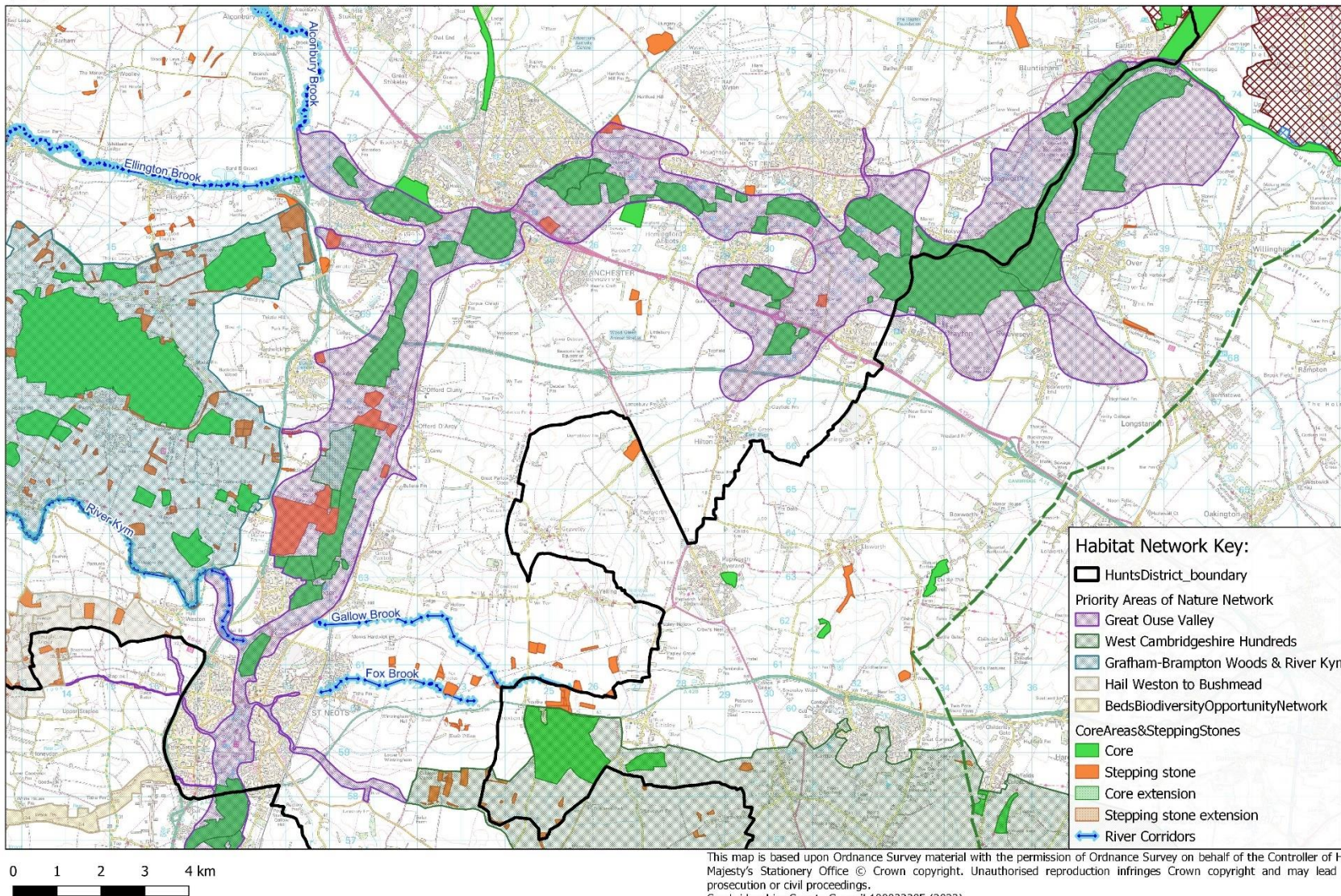
Small woodland planting or habitat creation schemes can be delivered through action by the many local communities living along valley and landowners.

The Environment Agency may play a role in the enhancement of the river backwaters or natural flood management solutions on the tributaries. In the future there may be additional scope for private finance where floodplain habitats are managed or restored to reduce flood risk management, or to help reduce diffuse pollution in the wider catchment, however, these are not "market ready".

Map 3: Great Ouse Valley Habitat Network



Great Ouse Valley Habitat Network
Dec 2023



4.4 West Cambridgeshire Hundreds Priority Area

4.4.1 Key Facts

Total area: 2,622 Ha in Hunts (18,176 Ha South Cambs & Hunts)

Area of core & stepping stone habitats within Hunts or immediately adjacent to Hunts boundary: 564.69 Ha (19.28% of area)

Core sites: Waresley & Gransden Woods SSSI, Weaveley and Sand Woods SSSI, Crimpledean Paddock CWS (all Hunts), and Gamlingay Wood SSSI, Croxton Park CWS, Eltisley Wood CWS (all South Cambs).

Important habitats: Ancient woodland, lowland meadow, wood pasture & parkland.

Important species:

Fauna: Woodland & farmland bird assemblage, Barbastelle bat, purple hairstreak, white-letter hairstreak, small heath & small copper butterflies, woodland invertebrate fauna including longhorn beetles and flies.

Flora: Ancient woodland flora, e.g. oxlip, herb paris, greater butterfly orchid, early purple orchid, bird's-nest orchid, yellow archangel, bluebell, primrose, cowslip, crested cow-wheat and slender tare.

4.4.2 Network Approach:

The Huntingdonshire part of the West Cambridgeshire Hundreds is characterised by intensive arable farmland with a network of larger ancient woodlands often on the heaviest clay soils or areas with poorer sandy soils near the edge of the Greensand Ridge, and a large number of smaller farm woodlands and shelterbelts. There are few grasslands, these are restricted mainly to the edge of villages where they are often used as pony paddocks or road verges. A series of brooks drain the higher ground towards the Great Ouse, but these have mostly been modified by straightening and over-deepening to drain the arable land. The number of core sites within the Huntingdonshire portion of the West Cambridgeshire Hundreds are limited to Waresley & Gransden Woods and Weaveley and Sand Woods SSSIs, but a number of other sites including Gamlingay Wood SSSI, Croxton Park and Eltisley Wood immediately border Huntingdonshire. The relationship and connection to these sites have therefore been considered in this analysis.

Within the area assessed, there are two significant core areas within the woodland habitat network. These are the SSSIs of Waresley & Gransden Woods, Weaveley & Sand Woods and Gamlingay Wood, together with the large number of smaller woodland areas around Waresley and Tetworth. The second is centred on Croxton Park and Eltisley Wood, along with the smaller woodlands round Caldecote and along the Abbotsley Brook. The nature network priorities are to enhance the quality of the habitat network within these two areas and to better connect them to each other.

Better Management

The SSSI ancient woodlands are all managed either as nature reserves or as part of larger Estates. The Wildlife Trust and larger Estates such as Tetworth actively manage their woods for conservation, or for other reasons helping to achieve a varied woodland habitat structure. Croxton Park is managed to conserve its large parkland trees with a programme of planting to provide replacement trees for the future. Croxton Park is in a stewardship scheme and the Estate is managed as an organic farm.

Most of the smaller farm woodlands across the landscape are more recent dating back to Victorian times or the twentieth century. However, across the landscape as a whole the woodlands are in a variety of states of management, some well-managed, others neglected. Many lack structural variety, as woodland management has become uneconomic and ceased and many are too small by themselves to support the full range of woodland habitat structure. However, across the landscape it would be possible to achieve a network of sites supporting the full range of woodland habitat structure from open space to thicket stage to high forest and retention of over-mature and veteran trees and deadwood. This could be achieved through planned management of the larger Estates with multiple woodlands, or through different landowners adopting different approaches to woodland management. Deer management across the landscape will

need to be undertaken to support woodland regeneration with the roaming herds of Fallow deer as well as increasing populations of Roe and Muntjac.

One of the key conservation priorities is therefore to ensure that woodland management provides for a full range of structural variety across the landscape, while being viable for landowners. The expectation is not that every wood would be managed, but that across the landscape a variety of high forest, coppice or thicket stage, woodland open space and veteran trees / deadwood would always be present and ideally in relatively close proximity (within 1 Km of each other).

Buffering & Extending Core Areas

The SSSI woods and their new woodland extensions at Waresley & Gransden Woods and Gamlingay Wood, together with Weavely & Sand Woods cover nearly 200 Ha. The connecting small woods across the Tetworth Estate and other farms increase the habitat area to approximately 280 Ha. There is potential to further increase the size of the core habitat block to between 400-500 Ha though the creation of further woodland extensions to Waresley & Gransden Woods and Gamlingay Wood and the creation of a range of flower-rich grasslands, and scrubby woodland buffers to the smaller farm woods across the landscape. Creating a “softer” more graded and ecologically diverse edge to the woods will support larger numbers of woodland bird species, including many warblers. These type of buffers also have the advantage of increasing shelter within the main ancient woodland for specialist woodland species, whether flora or invertebrates, that prefer sheltered, damper micro-climates.

The Croxton Park core area comprises 258 Ha of core habitats. The smaller woods within Huntingdonshire around Calcedote and the Abbotsley Brook add a further 35 Ha. The best option for buffering and extending these into a single large core habitat area of 400-500 Ha would be to focus provision of new habitats along the connecting brooks. These could be a mixture of flower-rich grassland or scrubby and woodland habitats.

Where farming still occurs adjacent to woods, the use of wide (minimum 12 metres) flower-rich and tussocky field margins and headlands will buffer the woods and provide complementary habitats, as would use of fallow fields in an arable rotation or bird seed and pollinator mixes.

Stepping Stones

The quality of the woodland habitat network around the two core habitat areas could be further enhanced through enhancing the habitat connectivity within and between them. They both already have a good number of smaller woodland stepping stones between the larger core habitat sites. There are two approaches that could be taken to enhancing wider landscape connectivity, one is based around an increased density and quality of hedgerows, while the other is based around the provision of additional stepping stone habitats, to reduce gaps between woodland patches to 200m.

Within each of the core habitat blocks the provision of an enhanced hedgerow network would be beneficial to support the existing woodland network. Hedgerows should be tall and thick (minimum 3 metres wide and 3-5 metres high), or where they are less than 2 metres high, they still need to be thick, but with a series of hedgerow trees along their length. Double hedges are better but are only likely to be provided along green lanes. Single hedges will be the predominant feature. The value of hedges as a nesting, feeding or sheltering habitat for birds, mammals and invertebrates is also greatly enhanced by having buffers of wide, grassy, flower-rich, field margins, which also allow space for the hedges to become bushy and reach their full fruiting potential.

Research has shown that a hedgerow density of 8 Km / Km² is needed for maximum bird species richness (⁵Fuller *et al.*, 2001). This would require significant reduction in field sizes which is not realistic in this area with modern farming techniques and equipment. However, just working with the current hedgerow network (including the scattered remnants of hedges in some locations) it would be possible to enhance the hedges by allowing them to grow wider and by providing wide uncropped flower-rich field margins. Some hedges could be allowed to grow tall where this would have minimal impacts on adjacent crops, while other hedges would have individual trees earmarked for protection and allowed to grow into hedgerow trees. Hedgerows with gaps should be enhanced by filling on the gaps with a diverse mixture of native shrub species.

Beyond the two core habitat blocks, a different approach should be taken to connect these with each other and into the wider landscape. The West Cambridgeshire Hundreds landscape has a significant number of small watercourses originating on the higher parts of the clay plateau. Many of these flow into the Abbotsley Brook / Hen Brook, a tributary of the Great Ouse. They include Banham Dean & Little Brook, College Dean Brook, Vicar's Dean Brook, Bleach Dean and Crimble Dean Brook, Gransden Brook, Small Brook and Waresley Dean Brook.

Most of these watercourses were straightened and deepened to help drain the land for arable agriculture during the twentieth century. However, they form a natural focus for better landscape connectivity. The creation of continuous habitat corridors or the provision of habitat stepping stones every 200 metres along each brook would provide the required connectivity. New habitats could include flower-rich grasslands, areas of shrubby woodland or new small farm woods. Other options include wide farm headlands or margins with tussocky grassland, bird seed mixes or pollen and nectar mixes. These new habitats could be supplemented by natural flood management measures and small wetland features to slow the flow and retain more water on the land for longer in defined places, helping to reduce flooding downstream.

Nature Friendly Farming

As the majority of this priority area will remain in arable farming, the wider adoption of nature-friendly farming options whether through Environmental Land Management schemes or as part of crop rotations will be essential to achieve nature network objectives. The retention and targeted enhancement of hedgerows, the use of fallows, bird seed mixes, pollinator seed mixes and various types of uncropped field margins will all help to enhance the permeability of the landscape for wildlife, as well as provide direct habitats for birds and insects associated with farming. Where these non-cropped habitats approach or exceed 10% of the farmed area, they will support increased populations of farmland birds.

4.4.3 Objectives:

Short-term

- Work with woodland owners to identify and implement opportunities for enhanced management of the woodlands, including deer management, to achieve the full range of woodland habitat structures across the landscape.
- Identify opportunities to buffer and enlarge the ancient woodlands and work with landowners to take forward favoured options.
- Expand the West Cambridgeshire Hundreds nature-friendly farmer cluster to: more widely promote best practice, work together to improve habitat extent and connectivity across the landscape, and promote actions for an agreed set of key species.

Long-term

- Increase the land cover of wildlife-rich habitats from 19% to 30%, including increasing the area of woodland cover from approximately 500 Ha to 800 Ha.
- Create two core habitat blocks covering 400-500 Ha each and where habitat parcels are within 200 metres of the next, through the best mix of enhanced hedgerow networks, creation of woodland and other habitat stepping stones, and nature-friendly farming options.
- Connect the two large core blocks of habitat to each other, using the numerous brooks through the landscape as a natural focus for habitat corridors and stepping stone habitats, and natural flood management.

4.4.4 Priority Area Vision:

The Vision for the West Cambridgeshire Hundreds is to create two much larger core habitat blocks through the expansion and buffering of ancient woodlands and networks of smaller farm woods. These habitats in turn will be better connected through an enhanced hedgerow network with flower-rich field margins and headlands. Across the wider landscape the larger core habitat blocks will be better connected to each other through a range of habitat corridors and stepping stone habitats, often following the water courses and incorporating approaches to natural flood management. These will be supplemented by the widespread

adoption of nature-friendly farming. Woodland and farmland bird populations will increase, and populations of ancient woodland specialist flora and invertebrates will begin to spread.

4.4.5 Delivery Mechanisms:

Achieving the desired nature network within this priority area will involve a variety of approaches. The dominant approach across most of the area will be the adoption of nature-friendly farming and Environmental Land Management Schemes, implemented through the work of individual landowners and an active farmer cluster.

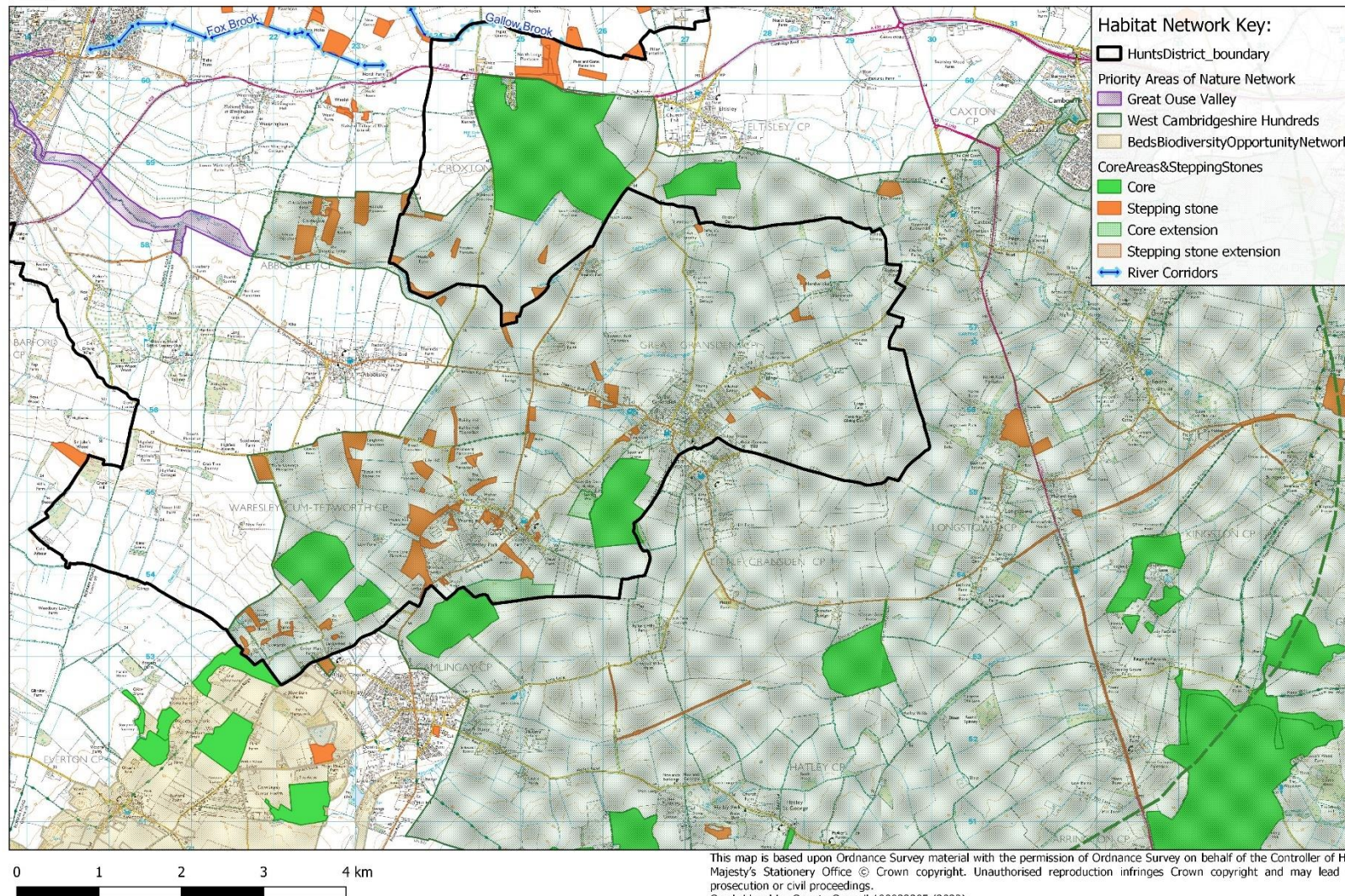
The adoption of natural flood management measures may form part of Environment Land Management Schemes or otherwise be supported by flood risk management authorities.

Elsewhere, in specific locations, there may be opportunities to create new priority habitats funded by a more diverse range of sources that may include woodland carbon payments or Biodiversity Net Gain related to development in Huntingdonshire and / or South Cambridgeshire.

Map 4: West Cambridgeshire Hundreds Habitat Network



West Cambridgeshire Hundreds Habitat Network Dec 2023



4.5 Grafham-Brampton-River Kym Priority Area

4.5.1 Key Facts

Total area: 5,294 Ha

Area of core habitats: 1,308.63 Ha (24.72% of area)

Area of core and stepping stone habitats: 1,548.47 Ha (29.25% of area)

Core sites: Grafham Water SSSI, Brampton Wood SSSI, Perry Woods SSSI, Little Paxton Wood SSSI, Ellington Pastures & Underlands Wood CWS, West Wood CWS, Calpher Wood & Hartham Street CWS, Dudney Wood & Lady Grove CWS, Diddington Wood CWS, Midloe Wood CWS, Meagre Wood CWS, Agdengreen Woods CWS, Honeyhill CWS, Tilbrook Bushes & Sandy Lane CWS, Horse Close, Midloe Grange CWS, Grassland South of Church Farm CWS, Southoe Hill Pasture CWS, Church Farm / Old Rectory Grasslands CWS and Grassland at the Vicarage CWS.

Important habitats: Ancient Woodland, open water, lowland meadow.

Important species:

Fauna: Hazel dormouse, black hairstreak, white-letter hairstreak and other elm dependent invertebrates, woodland and hedgerow bird assemblage, breeding and wintering waterbirds, farmland bird assemblage, great crested newt.

Flora: Sulphur clover, green-winged orchid, pepper saxifrage, marsh dock, ancient woodland flora and various elm sub-species.

4.5.2 Network Approach:

Better Management

This Priority Area has Grafham Water SSSI at its heart, important for its wetland bird assemblage, and managed by Anglian Water and the Wildlife Trust BCN. In the landscape surrounding the reservoir there is a high concentration of ancient woodlands, in places supported by a network of hedgerows or smaller more recent woodlands and plantations acting as stepping stone habitats.

The woodlands are in a variety of states of management, some well-managed, others neglected. Many lack structural variety, as woodland management has become uneconomic and ceased and many are too small by themselves to support the full range of woodland habitat structure from open space to thicket stage to over-mature and veteran tree woodland features. However, across the landscape it would be possible to achieve a network of woodlands supporting the full range of woodland habitat structure. This could be achieved through planned management of the larger Estates with multiple woodlands, or through different landowners adopting different approaches to woodland management.

Some landowners, particularly the Wildlife Trust, Anglian Water and the larger private Estates with multiple woodlands, do still undertake an active programme of woodland management whether for conservation or to support timber production or shooting. Active woodland management programmes offer the opportunity to provide for woodland structural variety across the landscape, including areas of high forest, thicket stage growth, open space and the retention of over-mature and veteran trees and deadwood. This in turn has the potential to support a more complete range of typical woodland species.

One of the key conservation priorities is therefore to ensure that woodland management provides for a full range of structural variety across the landscape, while being economically viable for landowners. The expectation is not that every wood would be managed, but that across the landscape a variety of high forest, coppice or thicket stage, woodland open space and veteran trees / deadwood would always be present and ideally in relatively close proximity (within 1 Km of each other).

The area around Southoe has one of the few significant groupings of ancient species-rich meadows in the district. There are five County Wildlife Sites with Lowland Meadow priority habitat across all or part of each

site. The three closest collectively cover an area of approximately 27 Ha. The other two are more isolated being between 800 and 1100 m from the main grouping. All of the meadows are managed by a mixture of hay cutting and / or grazing and continuation of this management is essential for their conservation.

Buffering & Extending Core Areas

Many of the ancient woodlands in this area are relatively large, and Brampton Wood is the second largest woodland in Cambridgeshire. Buffering and extension of core habitat areas aims to create larger habitat blocks, helping to support more species and larger populations of woodland fauna and flora, with the ideal aim to create habitat blocks of at least 100 Ha in size and with a minimum size of 40 Ha. There are already six groups of woodland meeting the minimum size threshold and three of these are already over or approaching 100 Ha.

Brampton Wood is 132 Ha by itself. Perry Woods together with Agdengreen Wood (290 metres away) are 94 Ha in size and across the Hunts / Beds border west of Kimbolton, Honeyhill Wood, Tilbrook Bushes and Swineshead Wood (in Beds) are collectively 126 Ha.

Other woodland groupings include Little Paxton Wood, Midloe Wood and Meagre Wood south-east of Grafham Water with a combined area of 67 Ha. The woods at the western end of Grafham Water (Savage's Spinney and Littless Wood), together with Dudney Wood & Lady Grove are approximately 60 Ha in size. While north of Grafham Water, West Wood and Calpher Wood are just over 40 Ha in size combined and are now linked by a newly planted woodland belt.

Within this priority area, significant habitat extensions are therefore less of a priority than better management of the woods to create the full range of habitat structure across the landscape. However, some habitat extensions would still be valuable and support better management, for example creating woodland extensions in the form of a mosaic of shrubs and flower-rich grassland would create more varied woodland edges favoured by a wide range of species. Creating a "softer" more graded and ecologically diverse edge to the woods will support larger numbers of woodland bird species, including many warblers. These type of buffers also have the advantage of increasing shelter within the main ancient woodland for specialist woodland species, whether flora or invertebrates.

At the western end of Grafham Water, Anglian Water have commenced a programme of woodland creation on formerly farmed land to better connect, buffer and extend Savage's Sipnney, Littless Wood and Dudney Wood & Lady Grove.

Where farming still occurs adjacent to woods, the use of wide (minimum 12 metres) flower-rich and tussocky field margins and headlands will buffer the woods and provide complementary habitats, as would use of fallow fields in an arable rotation or bird seed and pollinator mixes.

Not all ancient woodlands will need to be buffered in these ways. Some might already be well connected to other woodlands through being in close proximity (less than 200 metres) or through mature hedgerow networks. However, there will be a number of locations where the buffering approach would be highly beneficial, such as where one or more of the following situations might apply:

- Where woodland edges are highly exposed to prevailing winds or cool easterly / northerly winds; or
- Where the gaps between woodlands are over 200 m.

For example, Little Paxton Wood, Midloe Wood and Meagre Wood are each within 500-750 metres of the other. Buffering them with a mixture of the approaches described above would help to reduce the gap between each wood and provide complementary habitats in close proximity to each wood. However, where there are gaps significantly larger than 200m, an alternative approach is also required involving creation of stepping stone habitats or the use of linear hedgerow and field margin habitats to create a more wildlife friendly landscape between the woods.

Buffering and extension of the Southoe Meadows would be highly beneficial to support their long-term survival and conservation. A larger area of species-rich and other grassland would provide economies of

scale for a more sustainable livestock enterprise and provide greater flexibility in management operations. There are a number of smaller fields around the village that could be enhanced and restored to species-rich grassland. Creating new flower-rich meadow habitats nearby from less productive parts of some arable fields could also be an option, if combined with regenerative approaches to farming. In the absence of this, connecting the sites through a network of wide flower-rich field margin and headlands would be next best option. These field hedge habitats would not be suitable for grazing but would need to receive an annual hay cut if the wildflower species are to persist and spread.

Stepping Stones

For over 15 years a group of partners have been working to better connect the ancient woodlands around Grafham Water. A series of woodland belts and network of hedgerows have been created connecting Brampton Wood, West Wood, Calpher Wood and the woodlands at the western end of Grafham Water. The three core woodland blocks north and west of Grafham Water are now connected, though there is still potential to further enhance this habitat network with provision of other habitat features such as areas of wildflower-rich grassland, ponds, or nature-friendly farming options.

The three core woodland blocks south of Grafham Water are however much more isolated from each other. While it has not been possible to replicate the above approach, there are other options for creating a more connected landscape. The landscape south of Grafham Water is characterised by a number of small, planted farm woods and / or a network of low growing, thin hedgerows. Where the network of hedgerows is still in place these lend themselves to taking a linear approach to better woodland connectivity. Where hedgerows are less frequent, but small farm woods are present, an approach based around increasing the number and size of stepping stone habitat patches would be more appropriate.

To achieve better landscape connectivity for woodland species, the hedgerow network needs to function as good quality woodland edge habitat. To do this, hedgerows need to be tall and thick (minimum 3 metres wide and 3-5 metres high), or where they are less than 2 metres high, they need to be thick, and have a series of hedgerow trees along their length. Double hedges along green lanes are also better than single hedges. The value of hedges as a nesting, feeding or sheltering habitat for birds, mammals and invertebrates is also greatly enhanced by having buffers of wide, grassy field margins, which also allow space for the hedges to become bushy and reach their full fruiting potential. The hedgerow density of 8 Km / Km² for maximum bird species richness is unlikely to be achievable, as the significant reduction in field sizes is not realistic in this area with modern farming techniques and equipment.

However, just working with the current hedgerow network (including the scattered remnants of hedges in some locations) it would be possible to enhance the hedges by allowing them to grow wider and by providing wide uncropped flower-rich field margins. Some hedges could be allowed to grow tall where this would have minimal impacts on adjacent crops, while other hedges would have individual trees earmarked for protection and allowed to grow into hedgerow trees. Hedgerows with gaps should be enhanced with gaps filled in with a diverse mixture of native shrub species.

The area linking Dudney Wood & Lady Grove to the Perry Woods complex and towards Stoney lends itself to this hedgerow connectivity approach, as does the area immediately east of Perry Woods.

However, much of the landscape between Perry Woods and the Little Paxton Wood complex has a lower density of hedgerows. In this area there are a number of small farm woods that provide stepping stone habitats. An approach based around increasing the size of these stepping stones through woodland planting or uncropped flower-rich headlands would be a first step towards enhanced connectivity for woodland species. Creating new stepping stone habitats would be beneficial where gaps between existing ones are over 200m.

Diddington Wood is 36 Ha but is isolated from the other woods, though is close to the eastern end of Grafham Water. Between Diddington Wood and Midloe Wood there is a network of green lanes and bridleways. Creating tall, thick hedgerows alongside one or both sides of the path network with wide flower-rich margins would connect Diddington Wood into the wider woodland habitat network.

West of Grafham Water from Dudney Wood onto Warren Hill and then on to Kimbolton Park increased woodland connectivity could be achieved through a mixed approach of new stepping stone farm woodlands and tall thick single or double hedgerows with flower-rich margins along the rights of way network.

There are also some habitats that are lacking or absent across the landscape, notably ponds, small wetlands and flower-rich native grasslands. These habitats provide essential complementary habitats for woodland species, providing water and feeding opportunities for birds, or pollen and nectar sources for ancient woodland insects. While the provision of bird seed and pollinator or legume mixes as farm or nature-friendly farming options does make up this deficit to some extent, there is still a need for more ponds and flower-rich habitats across the landscape to provide habitat extensions or stepping stones to connect the core ancient woodland habitats.

Nature Friendly Farming

As the majority of this priority area will remain in arable farming, the wider adoption of nature-friendly farming options whether through Environmental Land Management schemes or as part of crop rotations will be essential to achieve nature network objectives. The retention and targeted enhancement of hedgerows, the use of fallows, bird seed mixes, pollinator seed mixes and various types of uncropped field margins will all help to enhance the permeability of the landscape for wildlife, as well as provide direct habitats for birds and insects associated with farming. Where these non-cropped habitats approach or exceed 10% of the farmed area, they will support increased populations of farmland birds.

4.5.3 Objectives:

Short-term

- Work with woodland owners to identify and implement opportunities for enhanced management of the ancient woodlands to achieve the full range of woodland habitat structures within each of the six core woodland habitat blocks.
- Identify opportunities to buffer and enlarge the ancient woodlands and present these to landowners for discussion and adoption (if appropriate).
- Continue to manage the Southoe Meadows complex to conserve the threatened lowland meadow priority habitats and work with landowners to identify opportunities to buffer, extend and better connect the meadows.
- Create a network of ponds across the landscape to support a stable or growing population of great crested newts.

Long-term

- Increase the land cover of wildlife-rich habitats from 29% to 40%, including increasing the area of woodland cover from approximately 750 Ha to 1,150 Ha.
- Connect each of the six core blocks of woodland habitat to each other through the best mix of enhanced hedgerow networks, woodland and other habitat stepping stones, and nature-friendly farming options.
- Explore interest in establishment of a nature-friendly farmer cluster to work together to improve habitat extent and connectivity at the landscape scale.
- Promote actions for an agreed set of the key species, through the farmer cluster.

4.5.4 Priority Area Vision:

The Vision for this priority area is to achieve a connected network of well-managed ancient woodlands around Grafham Water. The woodlands will be better connected through an enhanced network of hedgerows, farm woodlands, species-rich grasslands and ponds. The complex of meadows around Southoe will be enhanced and expanded and form part of a sustainable livestock enterprise. Grafham Water will continue to be a nationally important site for waterbirds. The high value nature sites will be set within a landscape of nature-friendly arable farms, each incorporating additional areas of native woodland, wildflower meadows, ponds, and field edge and in-field habitats including hedgerows, pollen and nectar-rich and wild bird seed mixes, and fallows, appropriate to their circumstances.

The core ancient woodland areas together with the farm woodland stepping stones will provide a range of woodland habitats, including dense shrubby areas for woodland birds and flower-rich glades or margins for insects and deadwood for fungi and invertebrates.

Within the six core blocks of woodland, the woods will be buffered by new woodland or other complementary habitats and be better connected to each other through habitat creation, or enhanced hedgerow networks and farm habitats such as margins of bird seed / pollen and nectar mixes. Each of the six core woodland habitat areas will cover an area of at least 100 Ha.

Arable farming will continue to be the predominant land use, but with greater use of regenerative farming practices and provision of farm and field edge habitats, there will be larger and more extensive populations of farmland birds and rare plants present across the area, and more carbon will be stored in the soils. In places, the hedgerow network will be expanded. The fields will support strong populations of grey partridge, corn bunting and skylark, while in the hedgerows linnet, yellowhammer and whitethroat will breed amongst many other birds. A network of ponds will allow the population of great crested newt to expand.

4.5.5 Delivery Mechanisms:

Achieving the desired nature network will involve a variety of approaches. The dominant approach across most of the area will be the adoption of nature-friendly farming and Environmental Land Management Schemes, implemented through the work of individual landowners and possibly an active farmer cluster.

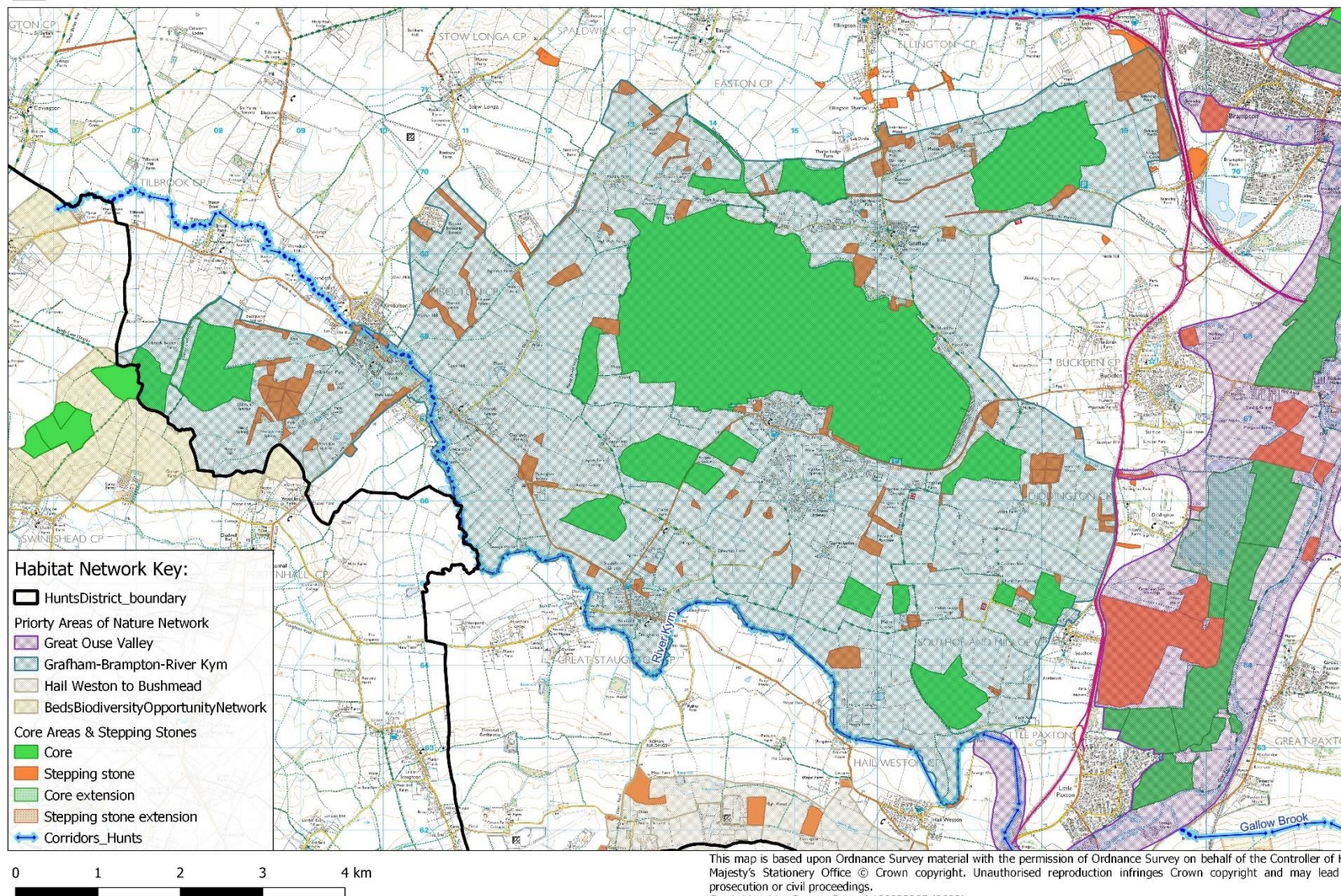
However, in specific locations, there may be opportunities to create new priority habitats funded by a more diverse range of sources that may include woodland carbon payments or Biodiversity Net Gain related to development in Huntingdonshire.

Expansion of the woodland at the western end of Grafham Water will be delivered as part of Anglian Water's commitment to biodiversity enhancement.

Map 5: Grafham-Brampton-River Kym Habitat Network



Grafham-Brampton-River Kym Habitat Network Dec 2023



4.6 Fen-edge Woodlands Priority Area

4.6.1 Key Facts

Total area: 3,821 Ha

Area of core habitats: 639.24 Ha (16.73% of total area)

Area of core & stepping stone habitats: 789.99 Ha (20.67% of total area)

Core sites: Monks Wood & The Old Quarter NNR / SSSI, Upwood Meadows NNR / SSSI, Aversley Wood SSSI, Great Stukeley Railway Cutting SSSI, Woodwalton Marsh SSSI, Warboys Wood SSSI, Warboys Claypit SSSI, Archer's Wood CWS, Copingford Lane CWS, Copingford Wood CWS, Upton Wood CWS, Bevill's Wood CWS, Wennington & Raveley Woods CWS, Holland Wood CWS, Little Less Wood CWS, Boulton's Hunch Wood CWS, Round Wood CWS, Hilly Wood CWS, Raveley Wood CWS, Lady's Wood CWS, Rolt's Wood CWS and Pingle Wood & Cutting CWS.

Important habitats: Ancient woodland and lowland mixed deciduous woodland, lowland meadows, ponds.

Important species:

Fauna: Woodland bird assemblage, black hairstreak, elm & other woodland invertebrates (particularly beetles, flies & moths).

Flora: Ancient woodland flora (e.g. bluebell, primrose, yellow archangel, wood anemone, early purple orchid). Elm species. Lowland meadow flora (e.g. saw-wort, betony, devil's-bit scabious, sulphur clover, green winged orchid, marsh orchids, adder's-tongue & pepper saxifrage).

4.6.2 Network Approach:

The Fen-edge Woodlands priority area is characterised by a network of larger and medium sized ancient woodlands, with Monks Wood National Nature Reserve (NNR) at its centre, set within an intensive arable farmland landscape. Beyond these large woods there are many smaller farm woodlands and shelterbelts, though hedgerows are generally sparse with arable fields being large. There are few species-rich grasslands, but those present are of a high quality including Upwood Meadows SSSI, Woodwalton Marsh SSSI and Great Stukeley Railway Cutting SSSI. Many of the large ancient woodlands also have species-rich grassland along their rides.

There are five distinct blocks of core habitats. Monks Wood NNR and the neighbouring woods forms the largest at the centre of the area, with other significant blocks around Abbots Ripton and between Sawtry, Copingford and Upton in the west of the area. Two small habitat complexes are found around the village of Upwood with Upwood Meadows NNR at the core of this area, and the woods and other sites around Warboys Wood at the eastern edge of this priority area. The nature network priorities are to enhance the quality of the habitat sites and networks within each of these five areas while also seeking to better connect them to each other.

Better Management

The ancient woodlands are mostly managed as nature reserves by conservation organisations or as part of larger Estates. Natural England manage Monk's Wood, The Woodland Trust manage Aversley & Archer's Woods and the Wildlife Trust manage Upwood Meadows, Woodwalton Marsh, Warboys Wood (part), Lady's Wood and Raveley Wood. The Abbots Ripton Estate manages many of the woods around the village and north of Alconbury Weald, while Upton and Copingford Woods in the west are owned by Milton Estate.

A majority of the woods have been subject to some form of management, whether for nature conservation, timber production or shooting, thereby achieving a varied woodland structure across the landscape. However, the woods are probably still somewhat undermanaged in terms of providing open space and from the impacts of deer browsing pressure on natural regeneration. Past management in the first half of the

twentieth century removed many timber trees, so the numbers of veteran and over-mature trees and amount of deadwood are still below optimal levels in many of the woods.

Continuation or re-instatement of active programmes of woodland management, whether for timber and other wood products, shooting or as part of nature reserve management, while leaving other areas as limited intervention to allow old trees to grow and levels of deadwood to build up, would help achieve the full range of woodland habitat across the landscape. The provision of areas of high forest, thicket stage growth, open space and the retention of over-mature and veteran trees and deadwood will support a more complete range of typical woodland species.

Some of the ancient woodlands, such as Bevill's Wood, were replanted in the past, but still retain an ancient woodland flora in parts. Restoration of these replanted woodlands to lowland mixed deciduous woodland is the priority for these sites.

One of the key conservation priorities is to ensure that woodland management provides for a full range of structural variety within each of the five woodland habitat blocks, while being viable for landowners. The expectation is not that every wood would be managed, but that across the landscape a variety of high forest, coppice or thicket stage, woodland open space and veteran trees / deadwood would always be present and ideally in relatively close proximity (within 200-300m of each other).

Buffering & Extending Core Areas

The Monk's Wood habitat complex comprises a number of large sites many of which are in close proximity to each other. It is 275 Ha in size and has a high degree of connectivity between sites (each site immediately adjacent or within 200-300m), so extending this area is not a priority.

However, many of the woods still have intensive arable farming coming up to or close to their boundaries. Buffering of the ancient woodland sites with broad headlands and margins, which are allowed to become mosaics of wildflower-rich grassland and shrubs would enhance the landscape habitat quality. A "softer" more graded and ecologically diverse edge to the woodlands would support larger numbers of woodland bird species, including many warblers. These type of buffers also have the advantage of increasing shelter within the main ancient woodland for specialist woodland species, whether flora or invertebrates. In other areas, arable farm habitats such as fallows or bird seed or pollinator mixes, or tussocky grassland might be used to buffer the ancient woodlands.

The Abbots Ripton habitat complex (140 Ha) and Warboys Wood (73 Ha) habitat complex also have a number of sites in close proximity (within 200m). A similar approach to buffering the ancient woodlands is also the priority in these two areas.

In the western part of this priority area, the Sawtry-Copingford-Upton habitat complex meets the minimum size threshold with approximately 140 Ha of core habitats. Upton Wood, Coppingford Wood and Archer's Wood are very well connected, lending themselves to the buffering approach. The valley between Upton Wood and Coppingford Wood provides the best opportunity for woodland creation, potentially through natural regeneration. A mix of flower-rich grassland and shrubs in this area would dramatically enhance both sites. Aversely Wood is isolated from the other woods but would benefit from wider buffers of uncropped field margin and headland habitats, particularly adjacent to the connecting hedgerows.

The Upwood habitat complex is the most fragmented. The creation of new species-rich grasslands adjacent to Upwood Meadows is required to achieve a larger and more sustainable management unit, as well as create priority grassland and pond habitats. There is potential to buffer and extend Rolt's Wood to double its size and create a 40 Ha site between Upwood and Wistow. For the other sites, buffering with uncropped field margin and headland habitats would be the first step to enhancing the habitat network.

Stepping Stones

To achieve a better functioning habitat network across the whole Fen-edge Woodlands priority area, stepping stone habitats are needed in between the five core habitat blocks to better connect them to each other. The aim should be to reduce the gaps between each core habitat block and new stepping stone sites

to less than 1 Km, to better facilitate movement by woodland and farm wildlife. The locations where such stepping stones are most needed are west of Abbots Ripton either side of the East coast mainline railway, around Woodwalton village (to connect to the Great Fen), between Wennington and Raveley villages (two stepping stone sites ideally required), and north of Wistow.

Within the Monks Wood, Abbots Ripton and Warboys core habitat blocks new habitat stepping stones are generally not required (though some existing ones could be enlarged). The large number of small woods and other habitats help make the landscape more permeable for farm wildlife and some woodland species.

However, a new habitat stepping stone created between Aversley and Archer's Woods would help to better connect them, supplemented by the establishment of thicker hedgerows with adjacent wildflower-rich field margins and headlands.

The Upwood habitat complex is the one where the creation of additional and larger habitat stepping stones is most needed to achieve a higher quality habitat network.

Nature Friendly Farming

There are also some habitats that are lacking or absent across the landscape, notably ponds, small wetlands and flower-rich native grasslands. These habitats provide essential complementary habitats for woodland species, providing water and feeding opportunities for birds, or pollen and nectar sources for ancient woodland insects.

While the provision of bird seed and pollinator or legume mixes as farm or nature-friendly farming options does make up this deficit to some extent, there is still a need for more farm woods, ponds and flower-rich habitats at the landscape-scale to provide habitat connectivity within and between the core habitat blocks. Wildflower grasslands also provide pollen and nectar sources over a longer season than agricultural mixes. The lack of livestock and mixed farming is currently a constraint to the creation of flower-rich grasslands, but there may be opportunities closer to the villages, where there is a demand for paddocks for pony grazing. More ponds would support the recovery of populations of great crested newts.

The hedgerow network across the landscape is generally sparse and many are low growing, thin and often gappy, so do not provide a good "woodland edge" habitat structure for nesting birds. The large fields and high-quality arable land do not favour the creation of a high density of hedgerows. However, well-placed hedgerows that are allowed to grow thick and either tall, or else have good numbers of hedgerow trees, can make a contribution to enhancing the landscape for wildlife. A first step would be to enhance / reinstate degraded hedges along current field boundaries and increase their diversity by planting a mixture of native species. The value of a hedgerow as a nesting, feeding or sheltering habitat for birds, mammals and invertebrates is greatly enhanced by being tall, wide and having buffers of wide, grassy field margins, which also allow space for the hedges to become bushy and reach their full fruiting potential. Targeted use of Environmental Land Management schemes to enhance the network of hedgerows and field margins through the landscape, would further increase the diversity and number of animal and plant species.

The areas between Aversley Wood and Archer's Wood, the areas immediately west and east of Monks Wood, the area between Bevills Wood and Abbots Ripton and the area south of Wennington Wood and Abbots Ripton village are the priorities for this approach.

The adoption of nature-friendly farming options whether through agri-environment schemes or as part of wider crop rotations would significantly enhance the landscape for wildlife. The retention of hedgerows, and the use of fallows, bird seed mixes, pollinator seed mixes and various types of uncropped field margins help enhance the permeability of the landscape for species, as well as provide direct habitats for birds and insects associated with farming. Where these non-cropped habitats approach or exceed 10% of the farmed area, they will support increased populations of farmland birds.

4.6.3 **Objectives:**

Short-term

- Promote the adoption of nature-friendly farming to improve farm habitat extent and connectivity on a landscape scale and promote action for an agreed set of the key species.
- Improve the quality of remnant hedgerows and increase the extent of flower and seed rich field margins and headlands to encourage a wider range of birds, mammals and invertebrates.
- Create a network of ponds across the landscape to support a stable or growing population of great crested newts and other pond species.

Long-term

- Increase the % cover of semi-natural habitat, including woodland, flower-rich grasslands and wide, grassy field margins to achieve a habitat land cover of 30%.
- Increase the area of woodland cover from approximately 650 Ha to 800 Ha, and improve woodland connectivity, through buffering the core sites and creating new stepping stone habitats.
- Seek to buffer and extend Upwood Meadow National Nature Reserve to create a larger, more sustainable management unit.
- Create a series of habitat stepping stones to connect the five core habitat blocks to each other and reduce the gaps between them to less than 1 Km.

4.6.4 **Priority Area Vision:**

The Vision for this priority area is a network of large, well-connected ancient woodlands set within nature-friendly arable farms, incorporating additional areas of native woodland, wildflower meadows, ponds, and field edge and in-field habitats including hedgerows, pollen / nectar-rich / wild bird seed mixes, and fallows.

Within the five core habitat blocks, the core ancient woodland and lowland meadow habitat sites will be buffered by new priority habitats or through nature-friendly farming options. Opportunities to extend sites such as around Upwood Meadows and between Upton and Copingford Woods will be taken. The woodlands will be well managed to create a diverse age structure and provide for the full range of woodland habitats, including dense shrubby areas for woodland birds and flower-rich glades or margins for insects and deadwood for fungi and invertebrates. Woodland cover will be increased, particularly through the creation of new habitat stepping stones between the core habitat blocks.

Arable farming will continue to be the predominant land use, but with greater use of regenerative farming practices and provision of farm and field edge habitats, there will be larger and more extensive populations of farmland birds and insects across the area, and more carbon will be stored in the soils. The fields will support strong populations of grey partridge, corn bunting and skylark, while in the hedgerows linnet, yellowhammer and whitethroat will breed amongst many other birds. A network of ponds will allow the population of great crested newt to expand. Larger and more extensive areas of wildflower-rich grassland will support thriving insect and pollinator populations.

4.6.5 **Delivery Mechanisms:**

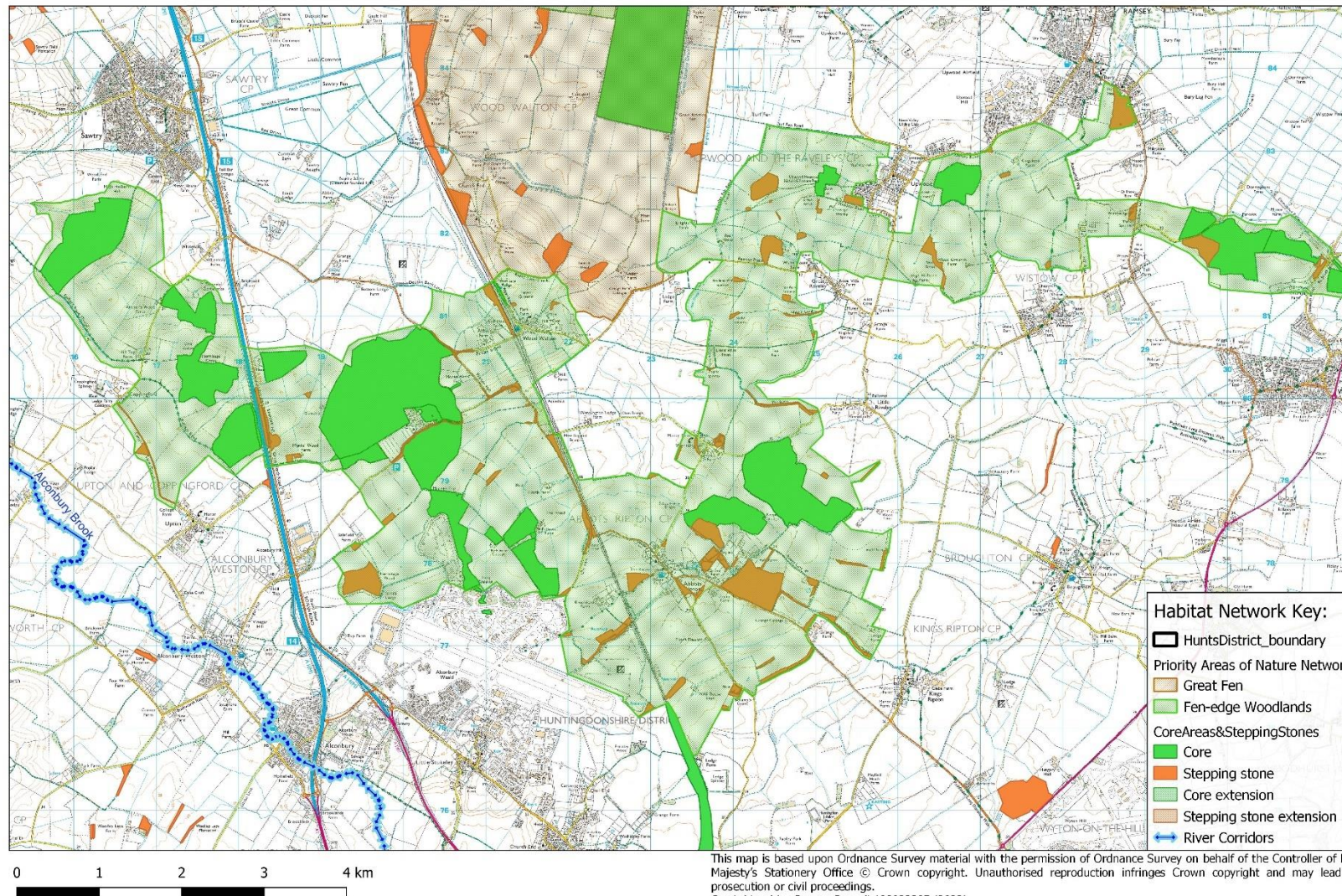
Achieving the desired nature network will involve a variety of approaches. The dominant approach across most of the area will be the adoption of nature-friendly farming and Environmental Land Management Schemes, implemented through the work of individual landowners and possibly an active farmer cluster.

However, in specific locations, there may be opportunities to create new priority habitats funded by a more diverse range of sources that may include woodland carbon payments or Biodiversity Net Gain related to development elsewhere in Huntingdonshire.

Map 6: Fen-edge Woodlands Habitat Network



Fen-edge Woodlands Habitat Network Dec 2023



4.7 Hail Weston-Bushmead Priority Area

4.7.1 Key Facts

Total area: 725 Ha in Hunts & Beds (401 Ha in Hunts)

Area of core and stepping stone habitats: 105.1 Ha (14.5% of total area)

Core sites: High Wood CWS, Huntingdon Wood CWS and Moor Road Marshy Fields CWS (all Hunts) and Bushmead Big Wood CWS and Bushmead CWS (both Beds).

Important habitats: Ancient Woodland, hedgerows, ponds & small wetlands.

Important species:

Fauna: Great crested newts, woodland and farmland bird assemblages.

Flora: Ancient woodland and wetland flora.

4.7.2 Network Approach:

Better Management

The management of the ancient woodland and open grassland / wetland wildlife sites to support their full range of potential species are the top priority. Within the ancient woodlands, beneficial management includes enhancing the woodland structure to support assemblages of woodland birds and invertebrates while maintaining the ancient woodland flora. This requires protection of old trees and deadwood, areas of dense shrubby growth for warblers and other woodland bird species, and provision of flower-rich rides and glades or patches of species-rich grassland adjacent to the woods.

The wildlife-rich grasslands and wetlands also require some form of management whether through grazing or a cutting regime to provide a varied habitat structure and promote a diversity of wildflower and wetland plant species and invertebrate species.

Buffering & Extending Core Areas

The remaining wildlife sites within Huntingdonshire are relatively small. However, there is the potential to better connect them together to form a single core habitat area of over 40 Ha. This could be achieved through buffering and extending each site with the creation of areas of new woodland or shrubby margins to the ancient woodlands, new wildflower grasslands, thicker hedgerows and small wetlands and ponds. The South Brook watercourse / drain connects Moor Road Marshy Fields, High Wood and Huntingdon Wood. This provides a natural focus for habitat creation.

A solar park has been built west of High Wood. There are plans to expand this to the south of and in between High Wood and Huntingdon Wood. If these are to be brought forward, they could incorporate the above measures into the design of the scheme. Unfortunately, the existing solar park has species-poor grassland around and beneath the solar panels. If the extension was to have areas of flower-rich grassland at least around the margins of the solar park, this would complement the existing ancient woodland habitats. It should also be possible to create a new area of woodland adjacent to the watercourse and linking the northern parts of High Wood and Huntingdon Wood.

The South Brook is buffered from the adjacent arable farmland by wide grassland margins and headlands. This corridor could be enhanced through the incorporation of areas of species-rich grassland, a number of ponds and small wetlands (e.g. by re-profiling the water course banks in two or three places) and the inclusion of one or two small areas of species-rich mixed scrub.

Stepping Stones

New stepping stone habitats could be created across this area, with priority locations in the areas between Moor Road Marshy Fields and High Wood and between these two sites and Bushmead CWS in Bedfordshire. Stepping stones comprising a mosaic of woodland, scrub, open flower-rich grassland and

small ponds or wetlands would add most value to the landscape. A network of new ponds would support the expansion and conservation of Great Crested Newt population and other aquatic fauna and flora.

Hedgerows could be allowed to grow wider and either taller or have hedgerow trees along their length. Thick, wide hedges provide higher quality nesting, sheltering and foraging habitats and at sufficient density can also support the woodland bird assemblages of the ancient woodlands, as well as provide connectivity between the existing habitats and new habitat stepping stones.

Nature Friendly Farming

The majority of this priority area will remain in arable farming, therefore the wider adoption of nature-friendly farming options whether through Environmental Land Management schemes or as part of crop rotations will be essential to achieve nature network objectives. The retention and targeted enhancement of hedgerows, the use of fallows, bird seed mixes, pollinator seed mixes and various types of uncropped field margins will all help to enhance the permeability of the landscape for wildlife, as well as provide direct habitats for birds and insects associated with farming. Where these non-cropped habitats approach or exceed 10% of the farmed area, they will support increased populations of farmland birds.

4.7.3 Objectives:

Short-term

- To enhance the ancient woodland sites through management to achieve a varied habitat structure with old trees and deadwood, dense shrubby growth and areas of flower-rich open space.
- To create an enhanced habitat corridor along the South Brook connecting Huntingdon Wood, High Wood and Moor Road Marshy Fields CWS.
- To incorporate a new woodland to connect High Wood and Huntingdon Wood as well as species-rich grassland buffers to both woods (through the solar park expansion proposal if approved).

Long-term

- To create a mosaic of stepping stone habitats including woodland / scrub, flower-rich grasslands and small wetlands / ponds between Moor Road Marshy Fields and High Wood in Hunts and Bushmead in Beds.
- To increase the high-quality habitats from 14.5% to 25-30% land cover within the Priority Area.
- To adopt nature-friendly farming across the majority of the area.

4.7.4 Priority Area Vision:

To create an expanded network of woodland, scrub, hedgerow, flower-rich grassland, wetland and pond habitats across the farmed landscape. These will support increased populations of breeding songbirds and Great Crested Newts. Nature-friendly farming will provide the backdrop to the expanded area of priority habitats, providing greater breeding, sheltering and foraging opportunities for larger populations of birds, amphibians, reptiles and invertebrates. The solar parks within the area will contribute new hedgerows and areas of flower-rich grassland, with any new solar parks also contributing new woodland and other habitats to connect Huntingdon Wood, High Wood and Moor Road Marshy Fields.

4.7.5 Delivery Mechanisms:

The main delivery mechanism across most of this area will be the use of Environmental Land Management schemes, to support nature-friendly farming and the better management of woodlands, hedgerows and grasslands and the creation of new habitat buffers and stepping stones.

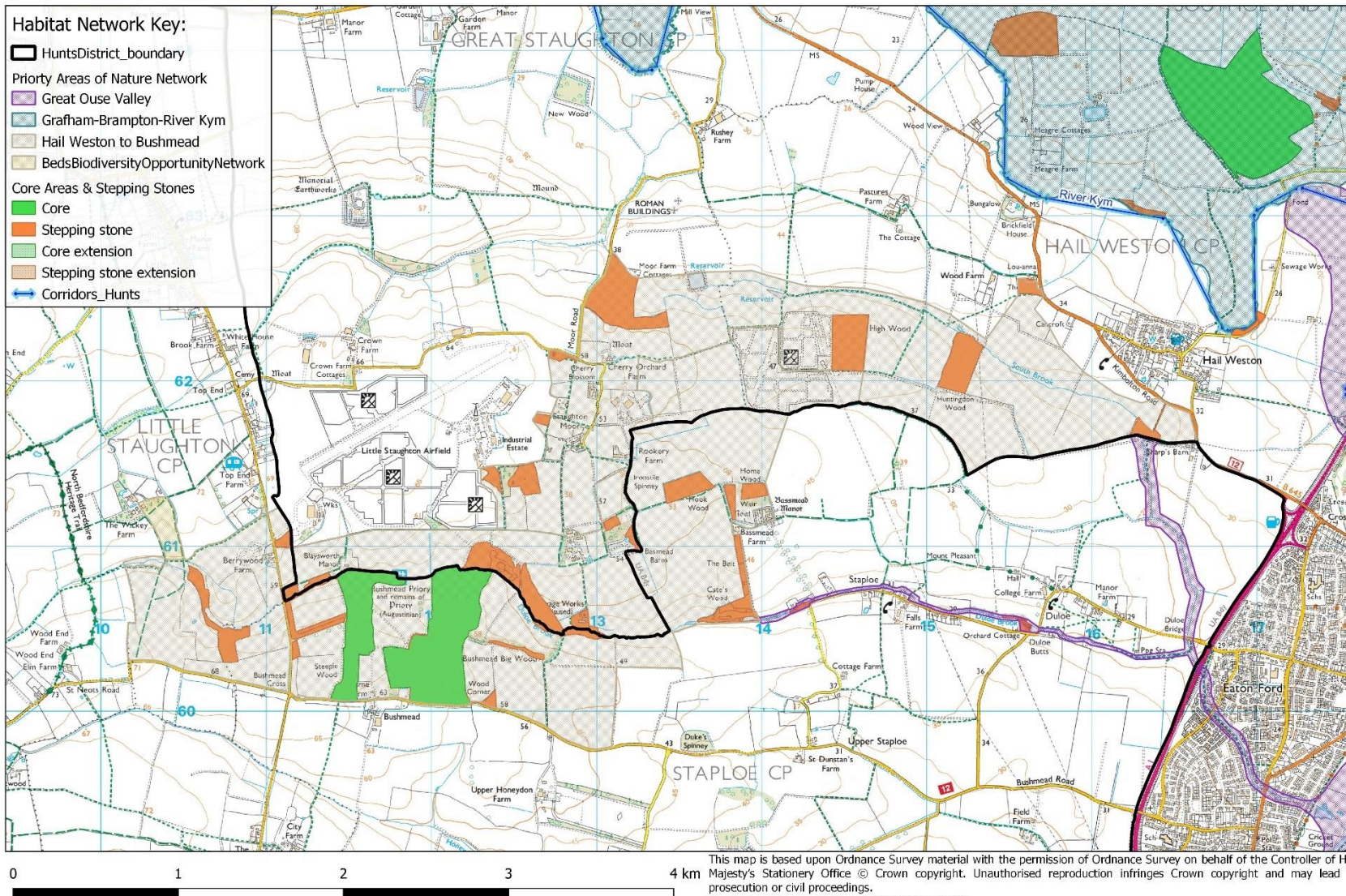
The Natural England great crested newt District Licencing Scheme could support pond creation.

Any new solar parks should also make a major contribution of new habitats to buffer, extend and connect the existing high value nature sites, as well as support better management of the ancient woodlands.

Map 7: Hail Weston-Bushmead Habitat Network



Hail Weston to Bushmead Habitat Network Dec 2023



4.8 Folksworth-Elton-Ashton Wold Priority Area

4.8.1 Key Facts

Total area: 1,183 Ha in Hunts (1,980 Ha Hunts & Northants)

Area of core and stepping stone habitats: 502.39 Ha (25.05% of total area)

Core sites: Ashton Wold SSSI, Caldecote Wood CWS, North Wood CWS, Fir Dale Lake & Fish Ponds CWS, Elton Park and Lady Margaret Wood CWS (Northants).

Important habitats: Ancient woodland, lowland mixed deciduous woodland.

Important species:

Fauna: Woodland and farmland bird assemblage.

Flora: Ancient woodland flora.

4.8.2 Network Approach:

This area comprises three main habitat blocks that should form the focus of conservation action. Ashton Wold SSSI and associated habitats is the most important of the three. The second area is the group of sites including two ancient woodlands and Fir Dale Lake around Folksworth, while Elton Park and Estate with its large secondary and plantation woodland blocks is the third. Much of the farmland between these three habitat blocks is highly intensive arable farmland with few habitat features. The Billing Brook, a tributary of the Nene divides the area, while the Holme Brook flows from Folksworth towards the Great Fen.

Better Management

The focus around Ashton Wold is better management of the various woodlands to achieve a more varied woodland structure and a range of complementary habitats including flower-rich grasslands and ponds. This area is already 200 Ha in size and provides sufficient space to incorporate a high-quality network of wooded and other habitats.

The Folksworth ancient woodlands, North Wood and Caldecote Wood, are both too small to achieve the full range of woodland habitat structure, but management could be targeted at enhancing key parts of each to provide more varied woodland habitats.

Elton Park and the other woodlands around the Estate form the third main block of habitats in this area. Across the Northants border, Lady Margaret Wood is a partially replanted ancient woodland, however many of the woods are secondary or planted. Elton Park has some old planted trees but these have not yet reached the veteran stage. The grassland under the park is also species-poor, so the site is undesignated. However, the extent of habitats at over 220 Ha provides a large area within which it would be possible to achieve better outcomes for wildlife through targeted habitat restoration and creation. Priorities include allowing the parkland trees to age, while providing replacements for the future, creating areas of species-rich grassland around the park, and management of the woodlands to achieve a more varied habitat structure.

Buffering & Extending Core Areas

The small ancient woodlands and other stepping stones west of Folksworth currently cover approximately 40 Ha though they are each separated from each other by intensive arable farmland. With buffering and some limited extension of these sites it would be possible to ensure they are each within 200 metres of each other and thus create a larger core habitat area approaching 100 Ha. New habitats could include flower-rich grasslands, shrubby margins to the woods to create a “softer”, more ecologically varied edge or the creation of new woodland stepping stones. These could be supplemented by much wider flower-rich, pollen and nectar mixes, bird seed mixes or tussocky field margins and headlands. Other complementary habitats could include ponds or small wetland features along the upper reaches of the Holme Brook and farm drains.

Stepping Stones

Much of the land between the three main habitat blocks is intensive arable farmland with few habitat features. Remnant hedges, where present are gappy and generally low and sparse, providing poor quality habitat for birds.

The area east of Elton up to the Bullock Road forms part of the Elton Estate and has a number of small farm copses and shelterbelts, but these are generally very small. There is also a stronger network of hedgerows with some thicker hedgerows, often with hedgerow trees. The expansion of the small woods to create larger stepping stone habitats would ensure that the habitats between the Elton habitat block and the Folksworth habitat block are within 1 Km of each other and thereby able to better support movement of species across the landscape. The enhancement of the hedgerow network to allow all of the hedges to grow thicker, to add hedgerow trees (where absent) and to create flower-rich and bird-seed rich margins and headlands would create much improved landscape connectivity.

Landscape connectivity along the Billing Brook and between Folksworth and Ashton Wold is generally much poorer. The creation of two-three new woodland habitat stepping stones, perhaps located adjacent to remnant hedgerows, would be the best approach to enhancing landscape connectivity. The remaining hedgerows should be allowed to grow thicker, with hedgerow trees protected and buffers of wide flower-rich field margins added.

Nature Friendly Farming

The majority of this priority area will remain in arable farming, therefore the wider adoption of nature-friendly farming options whether through Environmental Land Management schemes or as part of crop rotations will be essential to achieve nature network objectives. The retention and targeted enhancement of hedgerows, the use of fallows, bird seed mixes, pollinator seed mixes and various types of uncropped field margins will all help to enhance the permeability of the landscape for wildlife, as well as provide direct habitats for birds and insects associated with farming. In addition, there is the potential to use natural flood management approaches to create a habitat corridor along the Billing and Holme Brooks with small wetland and other habitat features at regular intervals. Where these non-cropped habitats approach or exceed 10% of the farmed area, they will support increased populations of farmland birds.

4.8.3 Objectives:

Short-term

- Enhance the variety of habitats and create more varied woodland habitat structure within the Ashton Wold and Elton Park habitat cluster areas.
- Adopt a range of nature-friendly farming approaches including enhancement and restoration of hedgerows and hedgerow trees, provision of flower and seed-rich margins and headlands, use of fallows and creation of natural flood management features along the watercourses.

Long-term

- Buffer, extend and better connect the habitats within the Folksworth habitat cluster to create an area approaching 100 Ha in size.
- Increase the % cover of semi-natural habitat, including woodland, flower-rich grasslands and wide, grassy field margins to achieve a habitat land cover of 30%.

4.8.4 Priority Area Vision:

The Vision for this priority area is a network of nature-friendly arable farms, incorporating additional areas of native woodland, wildflower meadows, small wetlands and field edge and in-field habitats including hedgerows, pollen and nectar-rich and wild bird seed mixes, and fallows. The use of natural flood management measures will enhance the brooks and farm drains and reduce flooding downstream.

Arable farming will continue to be the predominant land use, but with greater use of regenerative farming practices and provision of farm and field edge habitats, there will be larger and more extensive populations of farmland birds across the area, and more carbon will be stored in the soils.

4.8.5 Delivery Mechanisms:

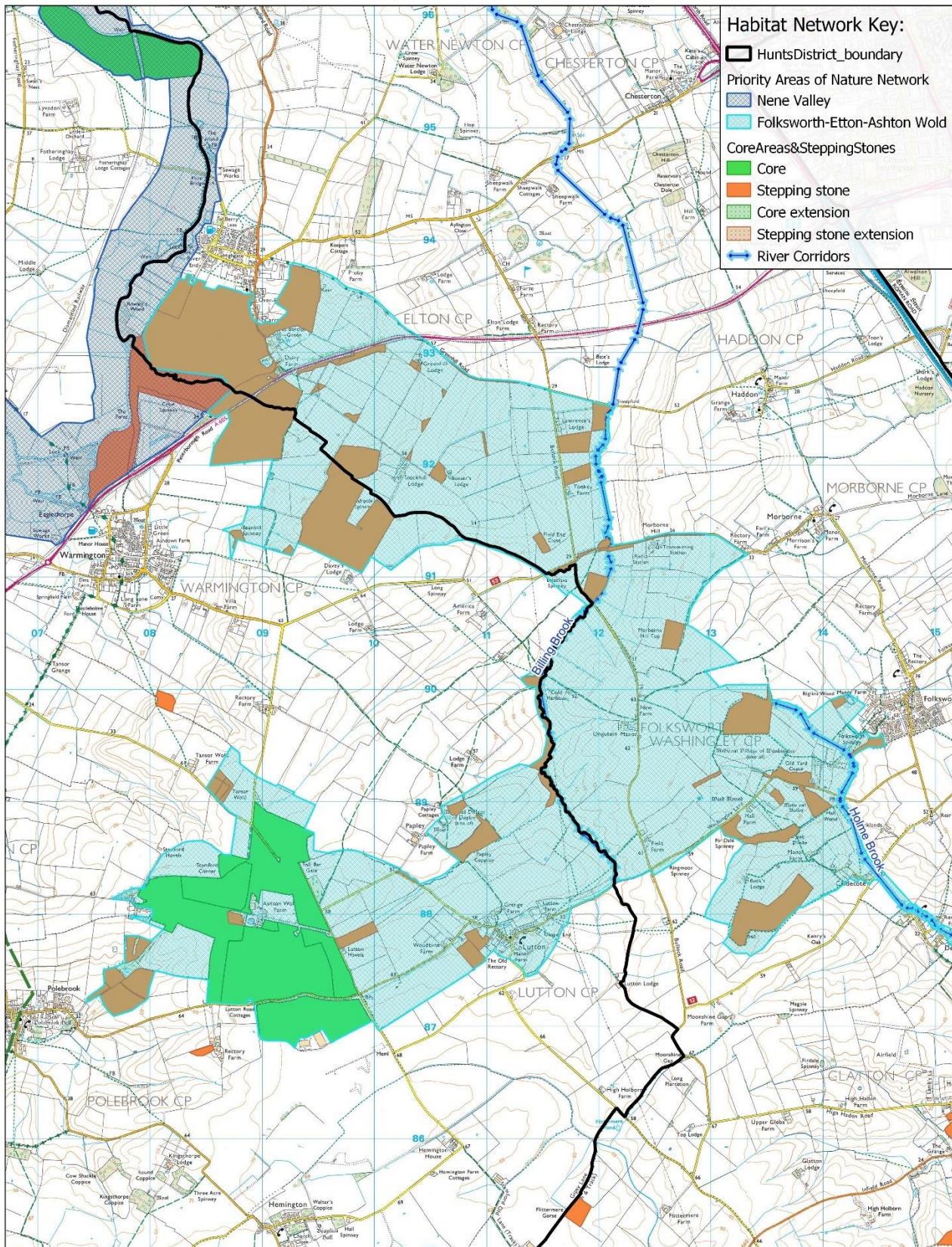
Achieving the desired nature network within this priority area will involve a variety of approaches. The dominant approach across most of the area will be the adoption of nature-friendly farming and Environmental Land Management Schemes, implemented through the work of individual landowners and possibly an active farmer cluster.

The adoption of natural flood management measures may form part of Environment Land Management Schemes or otherwise be supported by flood risk management authorities.

Map 8: Folksworth-Elton-Ashton Wold Habitat Network



Folksworth-Elton-Ashton Wold Habitat Network



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4.9 Holme-Conington Priority Area

4.9.1 Key Facts

Total area: 516 Ha

Area of stepping stone habitats: 113.18 Ha (21.9% of total area)

Core sites: The Roughs Caldecote Fen CWS, Denton Common Pit CWS, Holmewood Park & Conington Park.

Important habitats: Swamp, open water, parkland.

Important species:

Fauna: Farmland and wetland birds.

4.9.2 Network Approach:

This small priority area lies west of Holme Fen on the other side of the East Coast mainline railway and covers the land around Holme and Conington Villages. Holmewood Hall and Conington Hall have extensive areas of parkland with broadleaved woodland and there is historic ridge and furrow grassland at Conington. North of Holme village the area includes an area of peat soils opposite Holme Fen and a couple of County Wildlife Sites, The Roughs, Caldecote Fen and Denton Common Pit. Holme Brook passes through the area feeding the Great Fen.

Conservation priorities include a range of more nature-friendly farming to create better connectivity between the remnant woods and grasslands of Holmewood and Conington Halls and the creation of a continuous habitat corridor along the Holme Brook. Restoration of species-rich grassland is possible at both Holmewood Park and on and around the ridge and furrow grasslands at Conington Park. On the peat soils north of Holme, the priority is to conserve the peat and reduce the loss of carbon, which could be achieved through alternative forms of farming, grassland creation or even small areas of wetland creation.

Better Management

There is potential to enhance the biodiversity value of the parkland at Holmewood Hall and Conington Hall by creating a range of complementary habitats to the extensive areas of planted broadleaved woodlands and parkland trees. These include the creation of areas of flower-rich grassland within the parklands and on areas of historic ridge and furrow grassland. There may also be potential to create networks of new ponds to enhance the habitat variety. Long-term management of the numerous woodlands would in time enhance their biodiversity value for example by enhancing the woodland structure to provide for deadwood and areas of dense shrubby growth for songbirds.

Buffering & Extending Core Areas

This priority area has 22% land cover of habitats, but these are present as numerous smaller habitat parcels of mainly planted broadleaved woodland. There are not the large areas of priority core habitats present in most of the other Priority Areas. The conservation priorities are therefore more focussed on better management of these small habitat patches, as well as better connecting them through the creation of additional habitats in select locations and adoption of nature-friendly farming options.

Stepping Stones

Many of the small habitat patches are already within 200-300 metres of their next nearest. Where these gaps are larger than 500 metres the creation of new, small habitat patches to reduce gaps to around 200 metres would be beneficial. There are 7-8 locations around Conington and a further 4 or 5 around Holme where the creation of new stepping stone habitats would enhance overall connectivity for wildlife. The Holme Brook also provides a focus for habitat creation, including the creation of a more varied channel profile and in-stream habitats. Habitat types to create could include small woods, networks of ponds

associated with woods or grassland and the use of wide headlands and field margins in arable cropped areas.

Nature Friendly Farming

Arable farming would be expected to continue across the majority of this priority area. Adoption of nature-friendly farming approaches, together with regenerative farming could support the wetland and woodland habitats, helping to buffer them from adjacent land uses. Buffering of the Holme Brook along with well-sited broad headlands and field margins including bird seed mixes or pollen and nectar mixes would also provide a range of feeding and breeding opportunities for farmland birds and invertebrates and allow more mobile species to move between habitat patches.

On the peat soils north of Holme there is potential to explore alternative forms of wet farming, should trials at the Great Fen and elsewhere demonstrate the economic viability of this approach. Even without wet farming, more could be done to protect and reduce the carbon emissions from the soils through careful choice of crops and cropping patterns and rotations and creation of areas of grassland.

4.9.3 Objectives:

Short-term

- To enhance Holmewood Park and Conington Park through the creation of a mosaic of habitats including addition of missing elements such as areas of flower-rich grassland, e.g. on the historic ridge and furrow grassland in Conington, or networks of ponds.
- To manage the numerous small park and farm woodlands to create a more diverse habitat structure with areas of dense shrubby growth for songbirds and some trees allowed to age and provide deadwood.
- To buffer the whole length of Holme Brook with wide field margins and / or small woods.
- To promote nature friendly farming options such as bird seed mixes and pollen and nectar mixes in headlands and wide field margins to enhance connectivity across the landscape.

Long-term

- To protect the peat soils north of Holme through alternative approaches to farming and cropping.
- To create a more natural profile and in-stream habitats within Holme Brook.

4.9.4 Priority Area Vision:

The vision is to enhance the biodiversity value of the parklands and woodlands that form the landscapes of Holmewood Hall and Conington Park and to create a better-connected landscape between the two. This will involve the creation of flower-rich habitats in select locations along with some additional small woods and networks of ponds. The Holme Brook will be enhanced as a wildlife corridor, while north of Holme the peat soils will be protected to better store carbon.

4.9.5 Delivery Mechanisms:

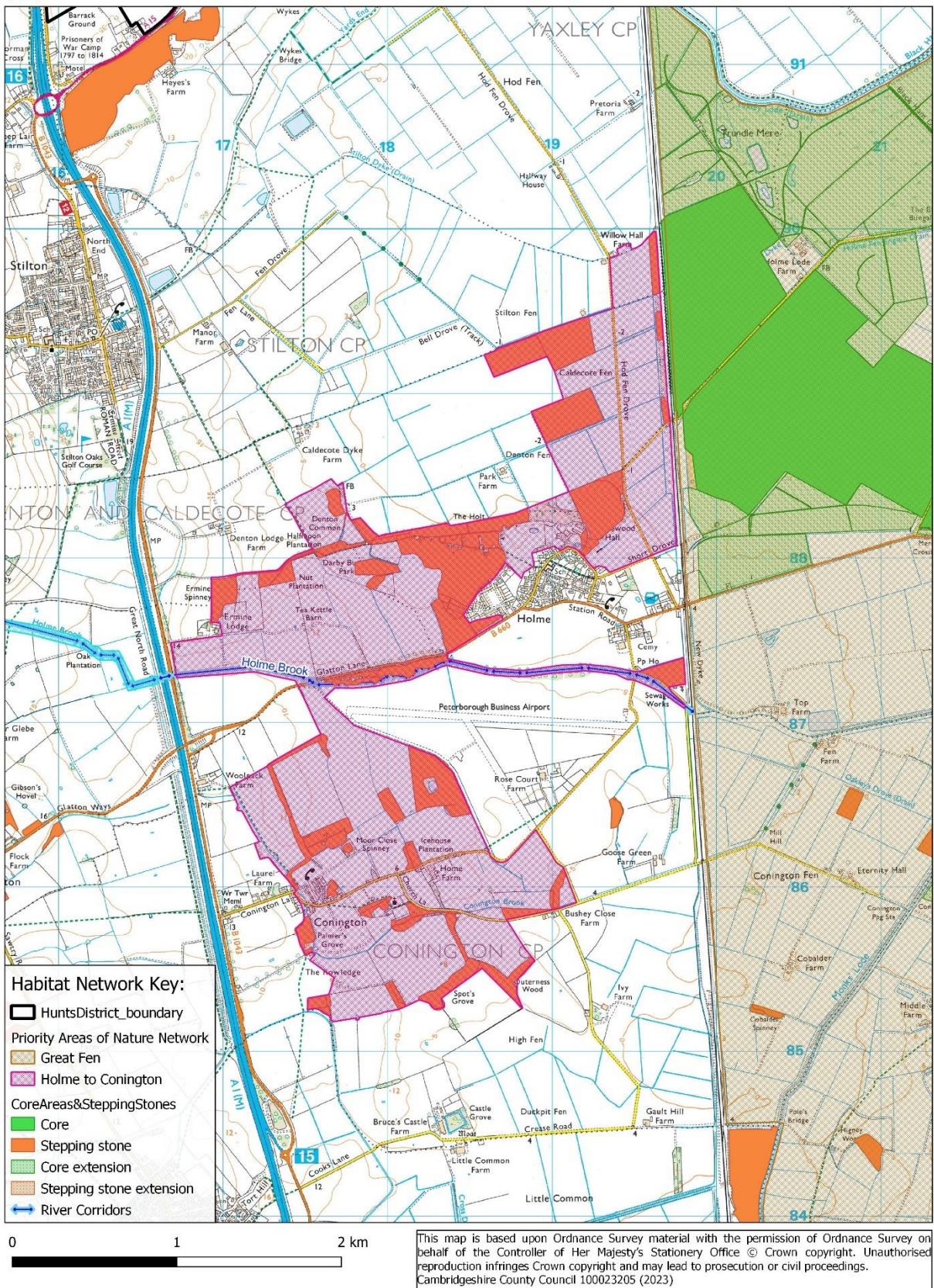
The main delivery mechanism will be the use of Environment Land Management Schemes, whether to create small habitat patches or to support nature-friendly farming. Alternative farm cropping rotations may also play a role.

Carbon payments could support alternative farming or wetland creation on the areas of peat soils.

Map 9: Holme-Conington Habitat Network



Holme-Conington Habitat Network Dec 2023



4.10 Nene Valley Priority Area

4.10.1 Key Facts

Total area: 1,374 Ha Hunts, Peterborough & Northants within 5 Km of Huntingdonshire (363 Ha within Hunts).

Area of core & stepping stone habitats (in Hunts): 109.53 Ha (30.2%)

Core sites: Castor Flood Meadows SSSI (part Peterborough), Stibbington nature reserve CWS, Sibson Flood Meadows CWS, Water Newton Meadows & Water Newton Pollard Willows CWS (all Hunts). East Holmes CWS, Normangate River Meadows CWS, Sutton Meadows South CWS, Sutton-Sibson Flood Meadows CWS & Sutton Meadows North CWS (all Peterborough).

Important habitats: Floodplain wetland mosaics, lowland floodplain meadows & river backwaters.

Important species:

Fauna: Otter, water vole, aquatic invertebrates including dragonflies and water beetles.

Flora: Great burnet, tubular water-dropwort, narrow-leaved water dropwort, common meadow-rue, pepper saxifrage early marsh orchid, slender tufted sedge and marsh arrow-grass.

4.10.2 Network Approach:

Better Management

The River Nene forms the north-western and northern boundary of the district. From the A1 eastwards there is a continuous network of habitats to the edge of Peterborough. These are either floodplain wetland mosaics or lowland flood meadows. Although a continuous network many of these sites would benefit from enhanced management and / or restoration of species-rich grassland and floodplain wetland features.

Within the Huntingdonshire section of the Nene Valley, 30% of the floodplain is nature-rich land but all of it would benefit from better management or habitat restoration to reach its full nature potential.

Agricultural improvement in the 20th century or less than ideal management more recently has reduced the species-richness of most floodplain sites. The traditional species-rich flood meadows require an annual hay cut (later in the growing season) and autumn / winter grazing, ideally with a mixture of cattle and sheep. The other floodplain wet grassland sites would benefit from retaining more water for longer within a range of ditch and scrape features to encourage the return of wintering and breeding waders. These habitats also benefit from seasonal grazing. However, livestock businesses are challenging to run in a profitable way, and a more ecologically and economically sustainable livestock farming model may be required if the better management and restoration of floodplain meadow and wetland habitats is to be realised. Nene Park Trust own many of the floodplain sites and they are exploring how best to work with their tenant farmers to better manage and restore these sites. They have also implemented a floodplain wetland restoration project at Sutton / Sibson Flood Meadows and are planning a floodplain meadow creation project at West Holmes, to demonstrate approaches to other landowners.

Many of the sites along the Nene Valley are important for their collections of ancient, mainly willow trees, many of which have been pollarded. Continuation of pollarding regimes helps prolong the life of these ancient trees. Planting replacement trees for the future is also required and a couple of landowners are actively doing this, but more could be done. With planting of replacement trees for the future, not all of the ancient willows need be pollarded and some can be allowed to grow old and collapse to provide a wider range of micro-habitats for invertebrates. Some of these fallen trees will re-establish from fallen branches as willows will often re-root when in contact with the soil.

Buffering & Extending Core Areas

Within the Nene Valley east of the A1 buffering and extension of the core habitat areas is about restoration of species-rich lowland floodplain meadows and floodplain wetland mosaics, where more water can be held on the land for longer to support wetland fauna and plant communities.

Stepping Stones

The creation of additional stepping stone habitats is not needed east of the A1 in the Nene Valley due to the extent of well-connected high quality meadow and river backwater habitats. However, upstream from Wansford to Elton, there is potential to create a couple of additional small wetland stepping stone habitats within the floodplain, though due to the limited extent of floodplain on the Hunts side of the river, these may be better located on the Northants side. The floodplain east of Yarwell and south-west of Elton provides potential locations for the creation of floodplain wetland mosaics.

Nature Friendly Farming

Nature-friendly farming within the Nene Valley revolves around supporting more ecologically sustainable and profitable grazing enterprises to support the whole-sale restoration of lowland floodplain meadows or floodplain wetland mosaic habitats upstream of Peterborough. However, changes within the wider catchment are also required to significantly reduce diffuse pollution from farmland, which is detrimental to species-rich floodplain meadows.

4.10.3 Objectives:

Short-term

- Ensure the existing important conservation sites, the SSSI at Castor Flood Meadows and the floodplain meadows and grassland CWS are well managed.
- Implement demonstration projects showcasing restoration and creation of floodplain meadow and floodplain wetland mosaic habitats, with a particular focus on Nene Park Trust sites.
- Work with farmers and farm tenants to support nature-friendly farming, including establishment of a farmer cluster if desired.

Long-term

- Restore the floodplain to a mixture of lowland flood meadow priority habitats and floodplain wetland mosaic habitats to support populations of wintering waders and water birds and facilitate the return of breeding waders.

4.10.4 Priority Area Vision:

The vision for the Nene Valley is to enhance the quality of the floodplain habitats through the better management and restoration of species-rich floodplain meadows and floodplain wetland mosaics, to create a more species-rich and wetter floodplain. There will be a continuous network of nature-rich sites upstream from Peterborough to Stibbington, and beyond a network of stepping stone floodplain wetland habitats between Wansford and Elton.

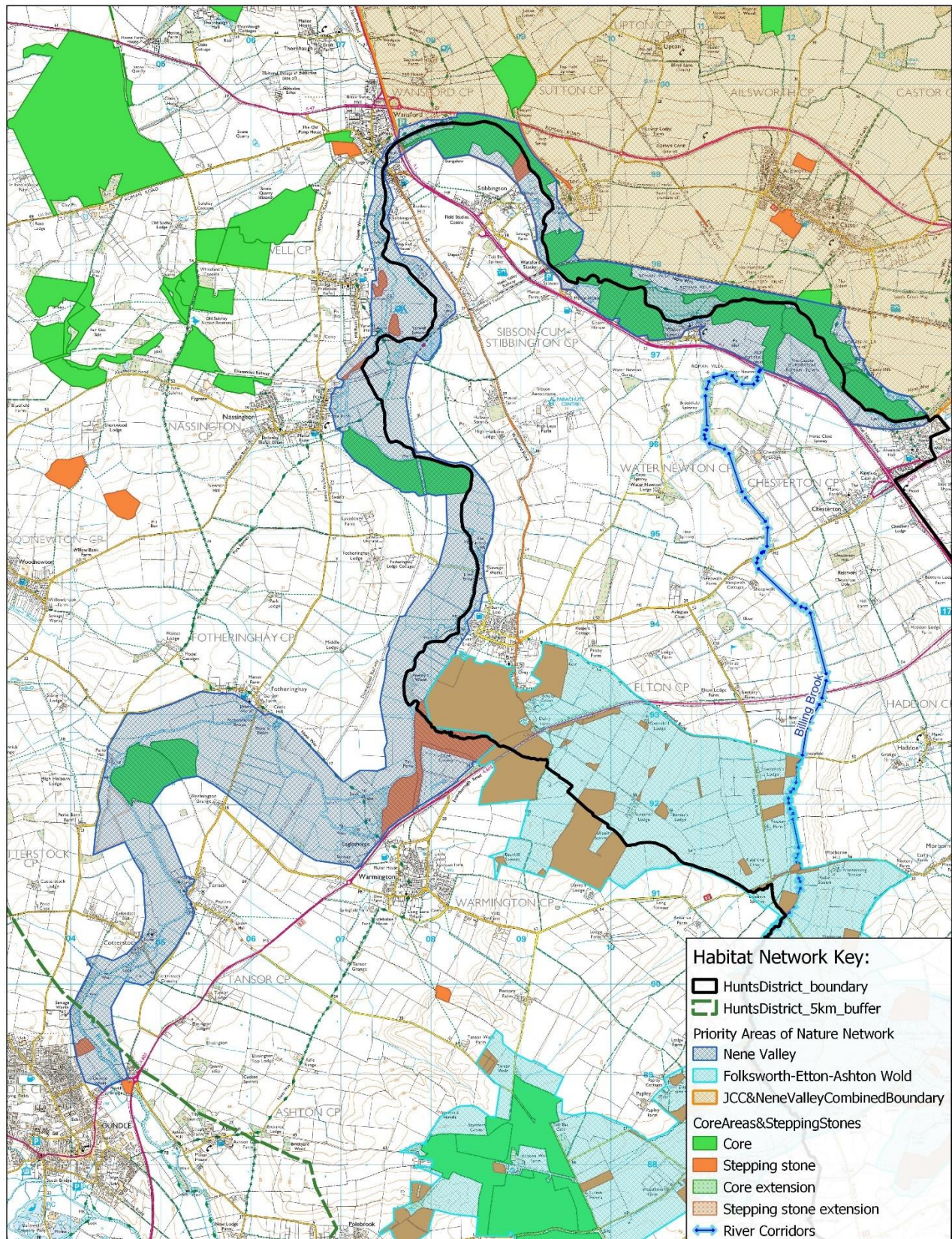
4.10.5 Delivery Mechanisms:

The main delivery mechanism is likely to be Environmental Land Management Schemes to support the management or restoration of floodplain meadow and wetland habitats.

In the future there may be additional scope for private finance where floodplain habitats are managed or restored to reduce flood risk management, or to help reduce diffuse pollution in the wider catchment, but these are not “market ready”.

The Environment Agency may play a role in the enhancement of the river Nene backwaters and supporting natural flood management measures, particularly on the tributaries.

Map 10: Nene Valley Habitat Network


Nene Valley Habitat Network
Dec 2023


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4.11 River Corridors (Kym, Ellington Brook, Alconbury Brook and Fen Rivers)

4.11.1 Network Approach:

Outside the identified Priority Areas, including the main rivers of the Great Ouse and Nene there are a number of other smaller rivers and water courses that are tributaries of these larger rivers. These include the River Kym, Ellington Brook, Alconbury Brook, Holme Brook and Billing Brook amongst others. These do not support sufficient quantity and quality of habitats to be identified as their own Priority Areas. However, some do flow through other Priority Areas, the river Kym forms the southern boundary of the Grafham-Brampton Priority Area, while Holme Brook connects the Holme-Conington and Folksworth-Elton-Ashton Wold Priority Areas, and Billing Brook partly flows through the Folksworth-Elton-Ashton Wold Priority Area.

These water courses provide continuous, but relatively narrow habitat corridors through the west of the district and provide a focus for small-scale habitat creation and restoration across the wider landscape of west Huntingdonshire. However, many have been engineered in the past and with undersoil drainage of the surrounding farmland they can cause flooding and diffuse pollution problems downstream.

The priority conservation actions for each of these watercourses and their catchments are working with farmers to introduce natural flood management solutions to retain more water within carefully selected areas of farmland and the river channels to reduce peak flood flows and the risk of flooding downstream. Small scale wetlands and other in-channel interventions such as leaky dams will in turn enhance the river corridors as wildlife corridors. The creation of in-river features such as pools and riffles will further enhance the quality of these small rivers. Natural flood management features can also be designed to help reduce diffuse pollution and improve water quality. Collectively these measures will contribute to addressing issues such as diffuse pollution affecting nationally and internationally conservation sites downstream such as Portholme, the Ouse Washes and the Great Fen.

The north-east of the district forms the western edge of the Fens basin. Here there are large man-made water courses running through the Fens and connecting the Great Fen to the other major fen wetland sites. These include the Forty Foot Drain, Old Course of the Nene and Bevills Leam. These are in turn connected to the Internal Drainage Board (IDB) drainage ditch network and collectively through pump drainage they keep the farmland within the fens dry to support arable agriculture.

With their primary drainage function the scope to create wildlife habitats within the rivers is limited, though banks could be more flower-rich as pollinator highways and in specific locations it may be possible to create two stage channels to support a wider range of wetland flora and fauna. The Middle Level Commissioners have their own biodiversity action plan that brings forward these opportunities.

The IDB drainage network is known as a regional if not national stronghold for water voles, due to the length and connectivity of the drainage network. It is the size and profile of the IDB drains that best support water voles, though it is also possible in select locations to provide higher quality habitats, e.g. through the creation of two-stage channels. Where the water is clean and comes from underlying gravels or peats, drainage ditches can also support outstanding assemblages of invertebrates, including some fen specialist species.

The farmland adjacent to, but outside of these fen river corridors can help support some of the wildlife associated with rivers and wetlands and farmland bird populations. A range of nature-friendly farming measures are possible including the creation of small farm wetlands, enhancement and use of field margins to buffer ditch networks, provision of bird seed mixes and pollen and nectar mixes, and regenerative cropping.

There is also scope to provide small farm-scale wetlands to complement the river corridors. This is likely to include irrigation reservoirs increasingly required to secure water supplies. These can include some shallow margins, or the creation of small reedbeds for their biodiversity value or as part of natural water cleaning solutions.

4.11.2 Objectives:

Short-term

- Promote an expansion of natural flood management measures within the Alconbury Brook catchment, also looking at measures to reduce diffuse pollution and provide in-stream and riverside habitat enhancements.
- Continue the Middle Level Commissioners programme of conservation enhancements to the Fen Rivers and IDB drainage ditch network.

Long-term

- Extend programmes of natural flood management and diffuse pollution reduction measures to the other rivers of west Huntingdonshire including River Kym, Ellington Brook, Holme Brook and Billing Brook.
- Seek to establish a Nature Friendly Farmer Group to cover the Huntingdonshire fens outside of the Great Fen and promote nature-friendly approaches to farming, water course management and farm reservoir design.

4.11.3 Delivery Mechanisms:

The main delivery mechanism is likely to be Environmental Land Management Schemes, whether that be for the management of the farmland adjacent to the river corridors or provision of natural flood management features.

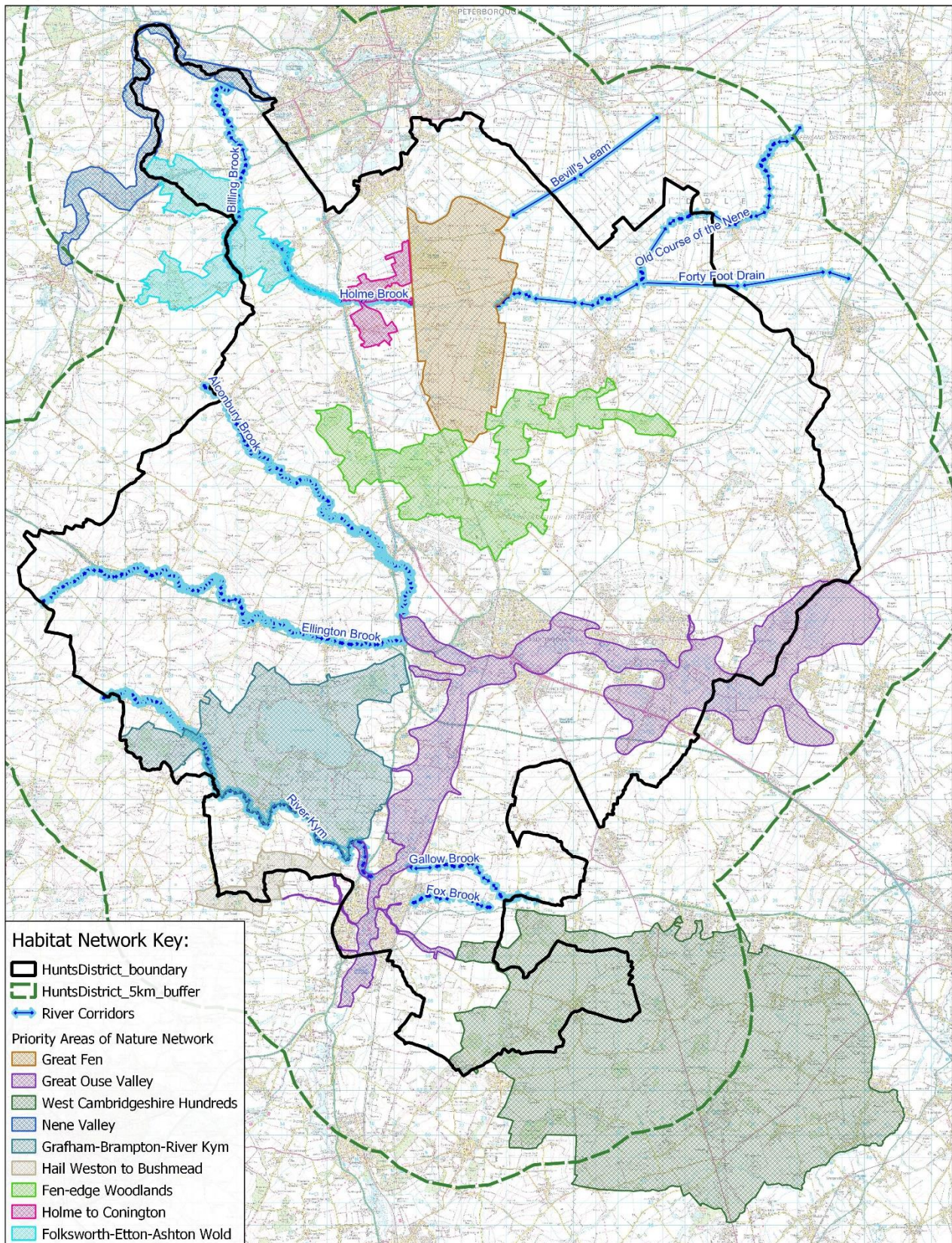
The Environment Agency may also play a role in financially supporting natural flood management measures.

Private finance solutions may emerge to support natural flood management and diffuse pollution reduction, but these are not yet “market ready”.

Map 11: River Corridors



River Corridors & Habitat Network Dec 2023



0 5 10 15 km

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5. HUNTINGDONSHIRE INTERIM NATURE RECOVERY STRATEGY SUMMARY

5.1 A Coherent Nature Recovery Network

This report describes the building blocks for a coherent Nature Recovery Network across Huntingdonshire, by identifying **Priority Areas** for nature conservation across the district and their links to neighbouring areas. The nine Priority Areas in total cover approximately 25% of the land area of Huntingdonshire district.

Some of the best opportunities for the creation of priority habitats have been identified within each Priority Area, together with short and long-term objectives. Collectively these will contribute to the delivery of the Cambridgeshire Doubling Nature aspirations within the study area, as well as contribute towards the minimum 30% of land dedicated to nature required for a coherent and functioning ecological network within each Priority Area.

Table 1 below shows the area and percentage land cover of the core areas and stepping stone habitats for the nine Priority Areas identified. There are opportunities to significantly increase the area of priority habitats within the nine Priority Areas, from just under 30% to over 40% land cover. At this level of land cover, ecological networks become more robust and better able to support a more complete range of expected species across the landscape.

Table 1: Priority Areas - Habitat Areas & Percentages

Priority Area	Area (Ha) within Hunts	Core & Stepping stone habitat area 2023 (Ha / %)	Minimum potential long-term habitat area (Ha / %)
Great Fen	3,756	1,667 (44.4%)	2,254 (60%)
Great Ouse Valley	5,114	1,854 (32.2%)	2,554 (50%)
West Cambridgeshire Hundreds	2,622	565 (19.3%)	878 (30%)
Grafham-Brampton-River Kym	5,294	1,548 (29.3%)	2,118 (40%)
Fen-edge Woodlands	3,821	790 (20.7%)	1,146 (30%)
Hail Weston-Bushmead	401	43 (10.8%)	83 (20%)
Folksworth-Elton-Ashton Wold	1,183	190 (16.1%)	290 (25%)
Holme-Conington	516	113 (21.9%)	155 (30%)
Nene Valley	363	109 (30.2%)	145 (40%)
TOTAL	23,070	6,879 (29.8%)	9,623 (42%)

The majority of land within the Priority Areas will continue to be farmed. However, opportunities from the new environmentally-focussed agricultural support regime will result in areas of new habitat on farmland to buffer, connect and provide stepping-stones between the core habitat areas. The best opportunities identified within each Priority Area are not the only areas where landowners and individuals can take action. Over time other opportunities may arise whether from change of ownership, changes to agricultural policies and farming, private finance, or through land use planning.

New nature areas and green spaces will be created in specific locations within the Priority Areas through philanthropy, fund-raising, and payments for ecosystem services such as carbon offsetting or for flood risk management. The planning system through the Local Plan will play an important role in supporting this network, for example through biodiversity net gain and offsetting, provision of strategic natural greenspace through developer contributions, and by ensuring that any green spaces being created as part of new developments link to and support the Nature Recovery Network.

The Nature Recovery Network described is the minimum required to provide space for nature's recovery within Huntingdonshire. The Priority Areas also connect to the surrounding landscape, and form part of a bigger connected network across the rest of Cambridgeshire and neighbouring counties.

5.2 Nature Beyond the Priority Areas

While this study has deliberately focussed on the Priority Areas for a Nature Recovery Network, this does not preclude landowners, individuals, or community groups from taking action in areas outside of the Priority Areas.

Outside of the Priority Areas there are important nature conservation sites and areas of semi-natural habitat, but these are fewer and more isolated from others. In these areas, at the present time, it will be very difficult to achieve the agglomeration benefits of landscape-scale conservation. However, nature-friendly farming can occur anywhere. Wildlife friendly management of open spaces, gardens and buildings can occur throughout our towns and villages. A coherent Nature Recovery Network and nature's recovery will also depend on action being taken across the countryside and within urban areas if we are to restore a truly connected landscape for nature and people.

While the creation of priority habitats might be focussed with the Priority Areas, there is scope for all farmers to adopt nature-friendly farming or regenerative farming methods, wherever they farm. Farmers can provide more space around field margins and headlands, optimise and limit use of agricultural chemicals and manage hedgerows better.

Within the towns and villages there is a network of public open spaces. Some of these in St Neots, Huntingdon or St Ives are within a Priority Area. However, others lie beyond the Priority Area boundaries, but these still provide space for people to interact with nature. In some towns and villages they provide the only access to nature within walking distance for residents.

Huntingdonshire has recognised the environmental importance of their open spaces with some specifically managed for their environmental value, often with community groups. Parish Councils will also often manage small open spaces. There are significant opportunities to work with local residents and community groups to achieve even more for nature across these public parks and open spaces.

There is a wealth of private gardens across the market towns which can provide a potential haven for urban wildlife from foxes and hedgehogs to garden birds, frogs and insect pollinators such as bees. Everyone can garden for wildlife, whether it is a detached house with large garden, a typical modern housing estate small garden or window boxes in flats.

The public open spaces and gardens provide the basis for the "urban forest" but are supplemented by street trees and road verges. As temperatures continue to rise there is a need for much greater "urban greening" with increased tree and vegetation cover to help provide urban cooling in towns, as well as the other benefits of cleaner air and recreation. Buildings can also be made greener through green roofs and green walls.

In a similar vein to the public open spaces and gardens within towns, the parish and village open spaces and rural gardens can also support wildlife, whether through introduction of wildflowers, pond restoration and creation, or more wildlife-friendly mowing and hedge cutting regimes. Each parish or group of parishes could prepare their own Parish Nature Recovery Plan, to guide actions on parish land, within gardens and by the farming and landowning community of their parish.

Across town and country communities working together can help create a Nature Recovery Network within and beyond the Priority Areas. The Biodiversity for All Toolkit prepared alongside this report will provide ideas and options for enhancing these urban open spaces.

6. NEXT STEPS

6.1 Informing the Statutory Local Nature Recovery Strategy

Over the next 12 to 15 months, local partners and stakeholders will be preparing a Local Nature Recovery Strategy for Cambridgeshire and Peterborough. This interim Nature Recovery Network will provide an evidence base to help inform the county-wide strategy.

6.2 Informing local land-use policy

This Interim Nature Recovery Network supports the Huntingdonshire Local Plan by identifying priorities for landscape-scale action for nature and informing locations for delivery of biodiversity net gain, including biodiversity offsetting.

Biodiversity Net Gain through the planning system is measured using the ⁶Defra Biodiversity Metric (latest version 4.1 as at December 2023). In calculating the biodiversity units allocated to each habitat, a strategic significance score is applied, which if high or medium will increase the number of biodiversity units. There are three strategic significance scores:

- High Strategic Significance - Within area formally identified in local strategy.
- Medium Strategic Significance - Location ecologically desirable but not in local strategy.
- Low Strategic Significance - Area / compensation not in local strategy.

This report formally identifies the nine **Priority Areas** as being the locations within Huntingdonshire where the High Strategic Significance score can be applied to calculating biodiversity units.

The Priority Areas can also be used to inform future locations for development or provision of strategic green infrastructure and provide a framework within which sustainable development across Huntingdonshire can occur. They can be used to inform and target action by landowners through the prioritisation of agri-environment schemes, and they provide a basis for individual landowners and managers to take action to address the biodiversity crisis locally.

6.3 Landowner / stakeholder engagement

Creating a Nature Recovery Network has to involve local stakeholders and particularly landowners, especially where there is a desire to initiate changes to their land and provide space for public access.

During this work we have had high level discussions with a number of key landowners to identify potential issues and opinions relating to delivery of the Nature Recovery Network, whether that be creation of high-quality habitats, nature-friendly farming approaches, or the provision of new public access in the form of permissive routes across farmland or through the creation of accessible natural greenspaces. This has allowed us to better understand landowner aspirations and their views of the opportunities available and potential constraints. From these discussions we have been able to identify a number of opportunities that can be taken forward in the Priority Areas, some in the short-term and others as longer-term endeavours.

Continuing landowner and stakeholder engagement will be critical to successful delivery of a Huntingdonshire Nature Recovery Network. Some discussions are already taking place with a small number of major landowners, exploring the potential for delivering the opportunities and for establishing one or more habitat banks.

6.4 Other Natural Capital & Ecosystem Services

This study only looked at the habitat components of a Nature Recovery Network and has not considered natural capital. However, the Priority Areas identified will also provide a strong focus for delivering wider natural capital benefits.

Taking action within the major river corridors to retain more water within the floodplains for longer will help to manage flood risk. Management of the smaller river corridors and their catchments and amending farming practices in strategic locations to retain more water on land for longer will help contribute to natural flood management, slowing the flow and therefore ameliorate flood risk downstream. This is particularly important on the clay soils that cover much of the district.

The provision of Prestley Country Park at Alconbury Weald and other significant greenspaces as part of new developments will help to provide natural greenspace for the growing populations of the market towns.

Elsewhere, the creation of habitats on the peat soils within the Great Fen Priority Area and elsewhere in the Fens will help to reduce carbon emissions from farming and could in time also help to build soil carbon. Creation of habitats in all Priority Areas whether woodland, hedgerow and even species-rich grassland creation will increase soil carbon levels.

The forthcoming county-wide Local Nature Recovery Strategy is likely to explore these natural capital benefits in greater detail.

6.5 Monitoring & Evaluation

Monitoring of outcomes is essential in order to demonstrate success to stakeholders, funders and the public alike. Ultimately success of a Nature Recovery Network will be judged by a number of measures, including:

- The land cover and quantity of high value and priority habitats;
- The quality of priority habitats and designated nature conservation sites;
- Landscape connectivity; and
- Increasing or stable populations of key species.

Natural Cambridgeshire is developing a series of indicators of success to measure the “Doubling Nature” initiative, as well as methods and projects to address each of the above measures, in priority landscape areas as well as across the county as a whole. There are a number of sources of help including Local Records Centre and volunteer species groups.

It is hoped that as part of this initiative a citizen science monitoring framework and programme could be developed. This would enable the conservation NGOs and others to involve their volunteers and supporters in citizen science programmes as well as providing opportunities to involve the wider public in measuring change and success of the Nature Recovery Network. However, further work is needed to bring together relevant experts and develop these measures into a coherent programme.

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