

POTTON NEIGHBOURHOOD DEVELOPMENT PLAN

A vision of ecological networks and potential for Potton

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1 Introduction

The Potton Green Infrastructure Plan, 2018 (see Annex B: Revised Green Infrastructure Plan) highlights areas of interest and value held by the community, arrived at through a series of public workshops and analysis by Bedfordshire Rural Communities Charity (BRCC). This document builds on the outcomes of those workshops and resulting document, by looking in detail at the potential ecological opportunities within the Parish and how they relate to wider landscape and priority habitats.

1.1 Context

Situated at the eastern extreme of the Greensand Ridge, the Parish of Potton covers an area of approximately 1,085ha. It sits over the south-east facing dip slope of the 'Ridge', between approximately 80m and 35m AOD. The slope gradually falls away into the clay vales of Wrestlingworth and Biggleswade. The slope reaches a low point of 35m AOD at Potton Brook and rises eastward to its approximate maximum of 80m AOD at Potton Wood. To the north-west, at Everton the plateau meets the steep scarp slope of the 'Ridge' where it drops steeply away into the Ouse valley.



2 Geology and Landscape Character definitions

To the east of Potton are Gault Clays; lime rich loamy and clayey soils with impeded drainage. These are overlaid by Boulder Clays. To the west, Potton lays over free draining sandy, slightly acid soils of the Lower Greensand. Following the course of Potton Brook, through the centre of the town is a narrow band of free draining alluvium, slightly acidic and loamy sandy soil in nature, with a high groundwater and peaty surface. See Map 1 Soils

Nationally these areas are defined as being within two Natural England Landscape Character Area classifications:

- Area 88 The Bedfordshire and Cambridgeshire Claylands, and
- Area 90 The Bedfordshire Greensand Ridge

See also Map 3 Potton and its position in relation to National Character Areas 88 & 90 and The Greensand Ridge NIA

Locally, the Central Bedfordshire Landscape Character Assessment classifies these areas as being within:

- Area 1C - Cockayne Hatley Clay Farmland;
- Area 5G - Dunton Clay Vale and
- Area 6C – Everton Heath Greensand Ridge.

Much of Potton also sits within the Greensand Ridge Nature Improvement Area¹, which was identified as being of high importance in terms of its existing biodiversity value (especially the habitats relating to the thin sandy soils) and its potential for habitat restoration at a landscape scale. The NIA has been recognised and endorsed by the Local Nature Partnerships in Bedfordshire, Cambridgeshire and Buckinghamshire, and is supported by policy within the CBC Local Plan. See also, section 4 Supporting National and Local Policies.

Potton is also part of the Greensand Country Partnership which is a Heritage Lottery funded project with the aim that by 2020 the Greensand Ridge will become a living and working landscape, cherished by present and future generations and will have reversed the gradual decline in the area's landscape character.

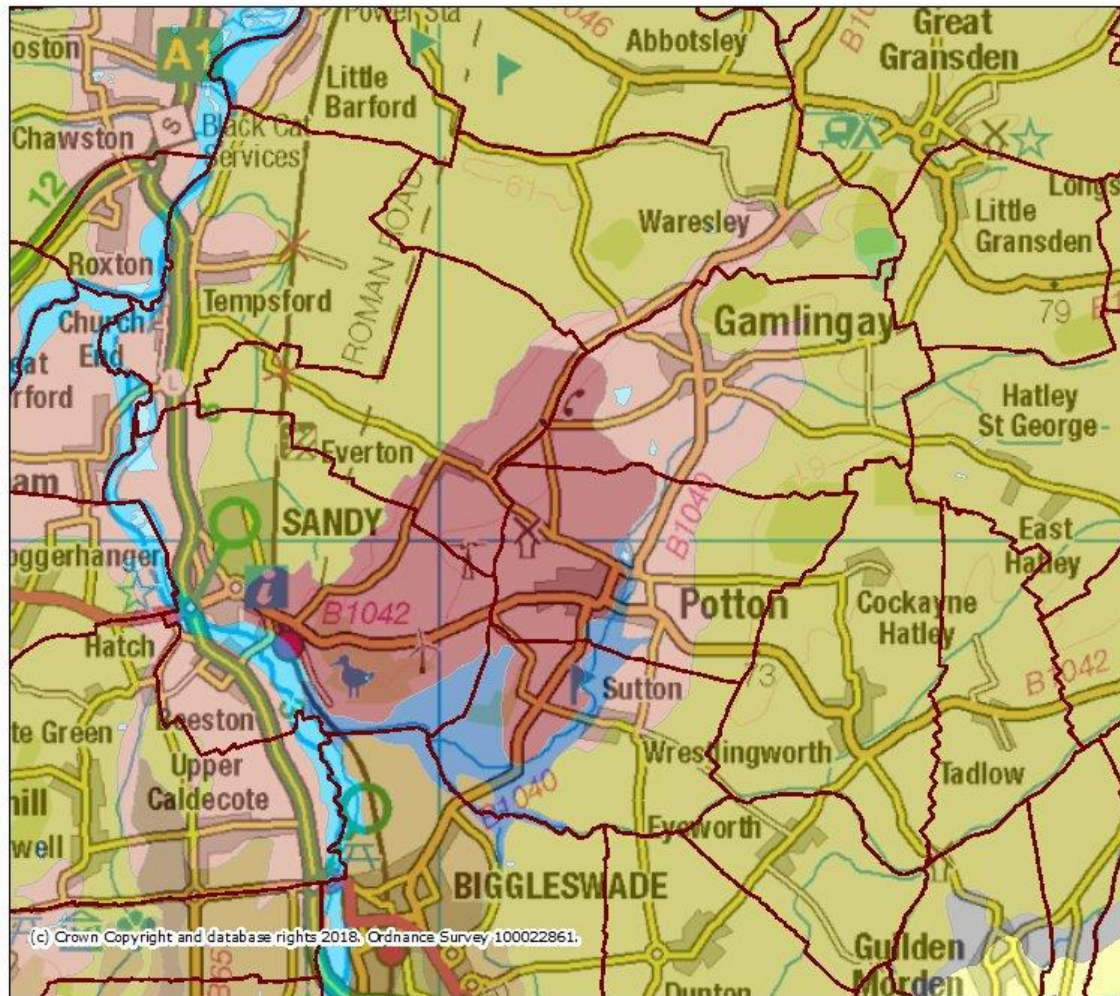
¹ <http://bedfordshirenaturally.com/downloads/guidance-for-developers/>



Map 1: Soils

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Soils - Potton



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3 Designated wildlife sites and Priority Habitat Designations

Historically, the characteristic semi-natural habitat types of the area would have been of acid dry pasture and acidic deciduous and coniferous woodland to the west, over the less fertile sands. While east of the town over the clays, they would have comprised base-rich pastures and chalky boulder clay woodlands, eg: Potton Wood with wetter areas of lime-rich flush vegetation predominantly parallel with the course of Potton Brook.

The following lists the Statutory Sites of Special Scientific Interest (SSSI's), County Wildlife Sites (CWS) and Road-verge Nature Reserves (RNR) within 5km to Potton. Further details of each site are described in Appendix 1 Description of local Statutory and Non-Statutory Designated Sites

3.1 Statutory designated sites

Potton Wood SSSI:

Potton Wood is the only SSSI (also a County Wildlife Site) within the parish. A former medieval deer park, Potton Wood is an 85.5ha of Ancient woodland owned and managed by the Forestry Commission.

Weaverley and Sand Woods SSSI and Gamlingay Wood SSSI:

These three Ancient woodlands are approximately 4km to the north and north east of Potton. Weaverley and Sand Woods cover an area of 76ha and lay over a complex mosaic of underlying geology. Gamlingay Wood is approximately 48ha and is managed by the local Wildlife Trust.

Sandy Warren SSSI:

Approximately 3.5km south west of Potton is Sandy Warren SSSI (also a County Wildlife Site), which is a 16.4ha site owned and managed by RSPB. This forms part of a larger 218ha nature reserve which extend eastward to meet the western Parish boundary of Potton.

3.2 Non-statutory designated sites

There are three County Wildlife Sites (CWS) within 1km of Potton and one Road-verge Nature Reserve (RNR), which do not have Statutory Designation, they are:

Carthagenia Bridleway CWS:



This linear site extends from Carthegena Road in the west, to the B1040 Biggleswade Road in the east. It covers an area of approximately 4ha, is 1km in length and forms a large portion of the southern parish boundary.

Sandy Disused Railway Line CWS:

This linear site of approximately 10.7ha, is 3.6km in length and follows a section of the former Sandy to Cambridge rail link. It starts in Sandy, just 1.3km south of Sandy Station and continues east to Potton. It is the final 400m that fall within the parish.

Sutton Fen and Woods CWS:

This 38.15ha, lays just south of Potton and west of Carthegena Road, parallel to which is a large part of the sites boundary.

Potton Church-Hatley Road RNR:

This is a grassy verge beneath the boundary wall of Potton Church on the Hatley Road.

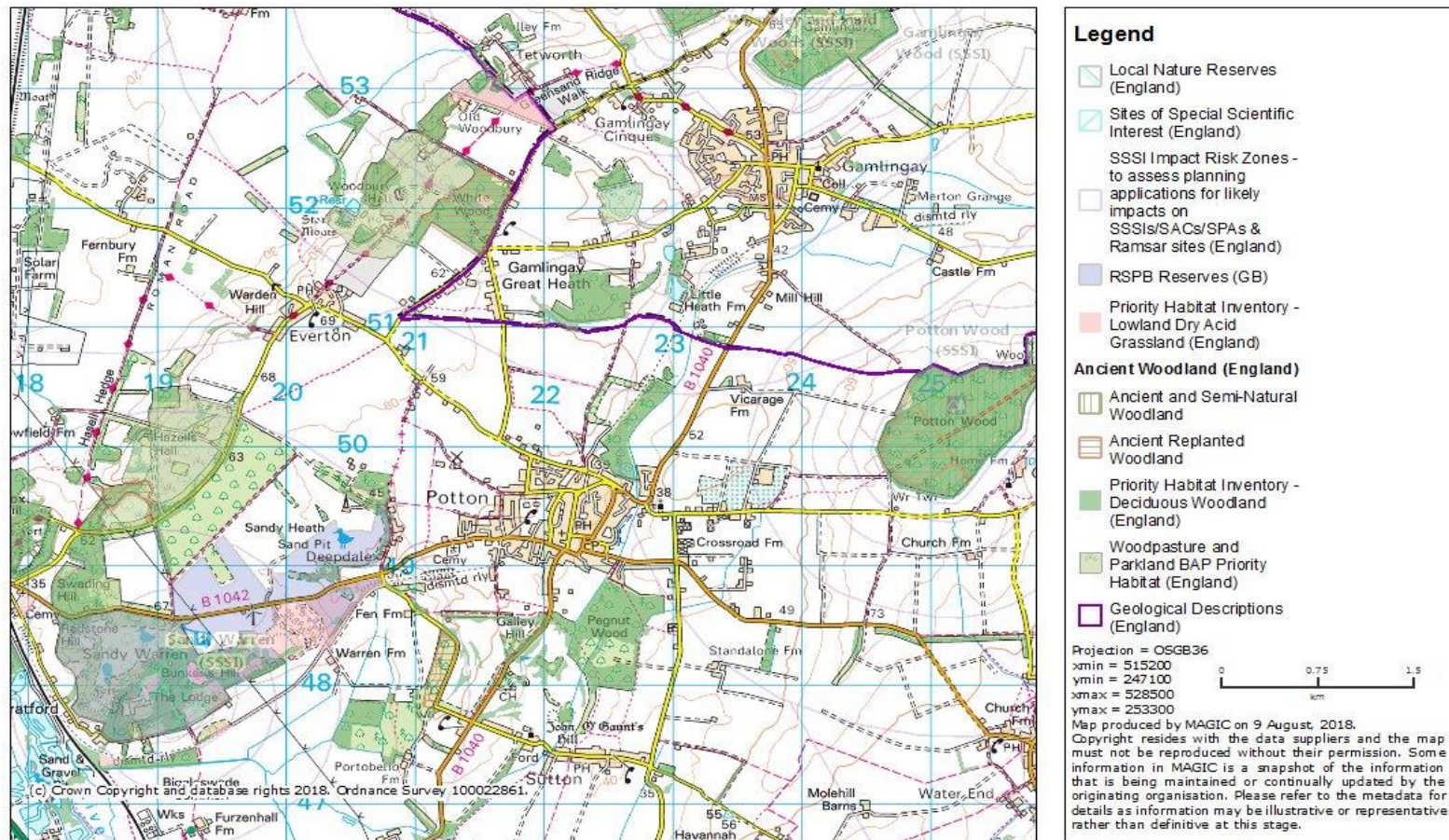
3.3 Priority Habitat Designations

In addition to designated sites, Potton has within and adjacent to its Parish, woodlands and acid grassland which meet the criteria to be listed on the Natural England Priority Habitat Inventory. See Map 2 SSSI and Priority Habitat Designations and Appendix 2 Description of local Priority Habitats.



Map 2: SSSI and Priority Habitat Designations

MAGiC SSSI & Priority Habitat Designations - Potton



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4 Supporting National and Local Policies

This document contributes at a local level to building on, meeting and supporting the aims, needs and objectives of:

4.1 The National Planning Policy Framework, 2018² – Chapter 15 Conserving and Enhancing the Natural Environment

- Paragraph 170 d: minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures
- Paragraph 174. To protect and enhance biodiversity and geodiversity, plans should:
 - a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation⁵⁷; and
 - b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.
- Paragraph 175d: development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

4.2 A Green Future: Our 25 Year Plan to Improve the Environment, 2018³ (The 25year Environment Plan)

- Embed an 'environmental net gain' principle for development, including housing and infrastructure.
- Improve the way we manage and incentivise land management, including designing and delivering a new environmental land management system.
- Develop a Nature Recovery Network to protect and restore wildlife, and provide opportunities to re-introduce species that we have lost from our countryside.

² <https://www.gov.uk/government/collections/revised-national-planning-policy-framework>

³ <https://www.gov.uk/government/publications/25-year-environment-plan>



- Help people improve their health and wellbeing by using green spaces, encourage children to be close to nature, in and out of school, 'Green' our towns and cities by creating green infrastructure ...

4.3 Central Bedfordshire Council Local Plan, 2018⁴ (as submitted)- Policy EE8: Greensand Ridge Nature Improvement Area Development within the NIA should:

- Demonstrate how a net gain in biodiversity will be delivered, specifically identifying how gains in the quality and connectivity of ecological networks within and linking to the development will be delivered.
- Enhance wildlife networks and increase ecological connectivity through buffering, extending and linking characteristic habitats both within and adjacent to developments.
- Demonstrate how provision is made for species recovery and resilience.
- Respect the topography and landscape of the NIA and be designed in such a way that it minimises visual impacts and protects local amenity.
- Provide opportunities for people to access and experience the NIA in a way that is sympathetic and sustainable towards existing habitats.

⁴ <http://www.centralbedfordshire.gov.uk/planning/policy/local-plan/submission.aspx>



4.4 A Nature Conservation Strategy for Central Bedfordshire, 2015⁵, produced on behalf of Central Bedfordshire Council by the Wildlife Trust for Bedfordshire, Cambridgeshire and Northampton, aims to:

- To identify and protect species and habitats across Central Bedfordshire and ensure their management is correct.
- To identify and promote opportunities for enhancing the wildlife resource of existing areas and for the provision of additional wildlife habitat.
- To protect and enhance the biodiversity network across the urban area including stepping stones and linear habitats.
- To identify and monitor Central Bedfordshire's natural resources and the policy background to nature conservation in a single subject document and to provide a framework for the activities of the Council, local groups and other organisations
- To generate interest in biodiversity and the environment and to encourage community involvement in the creation and management of sites. Also, to make areas of wildlife interest accessible to all people within Central Bedfordshire.

4.5 The Greensand Ridge Nature Improvement Area: The Ecological Evidence Base, 2014⁶ aims to ensure:

- There are good opportunities to deliver an ecological network at the landscape-scale.
- There is a shared vision from a partnership of local people, including statutory and voluntary sectors.
- Significant improvements can be made to the ecological network in terms of enlarging and enhancing existing wildlife sites and improving ecological connectivity between them.
- Opportunities exist to better integrate the surrounding land uses with the ecological network.
- People living in urban areas and communities can access the network.
- Multiple benefits can be derived from the establishment of the NIA, for example, contributing to a low-carbon economy or Water Framework Directive objectives.
- People can be inspired through a better experience of the natural world.

⁵ http://www.centralbedfordshire.gov.uk/Images/guidance_tcm3-5344.pdf

⁶ <http://www.eobiodiversity.org/pdfs/Developing%20the%20Ecological%20Evidence%20Base.pdf>



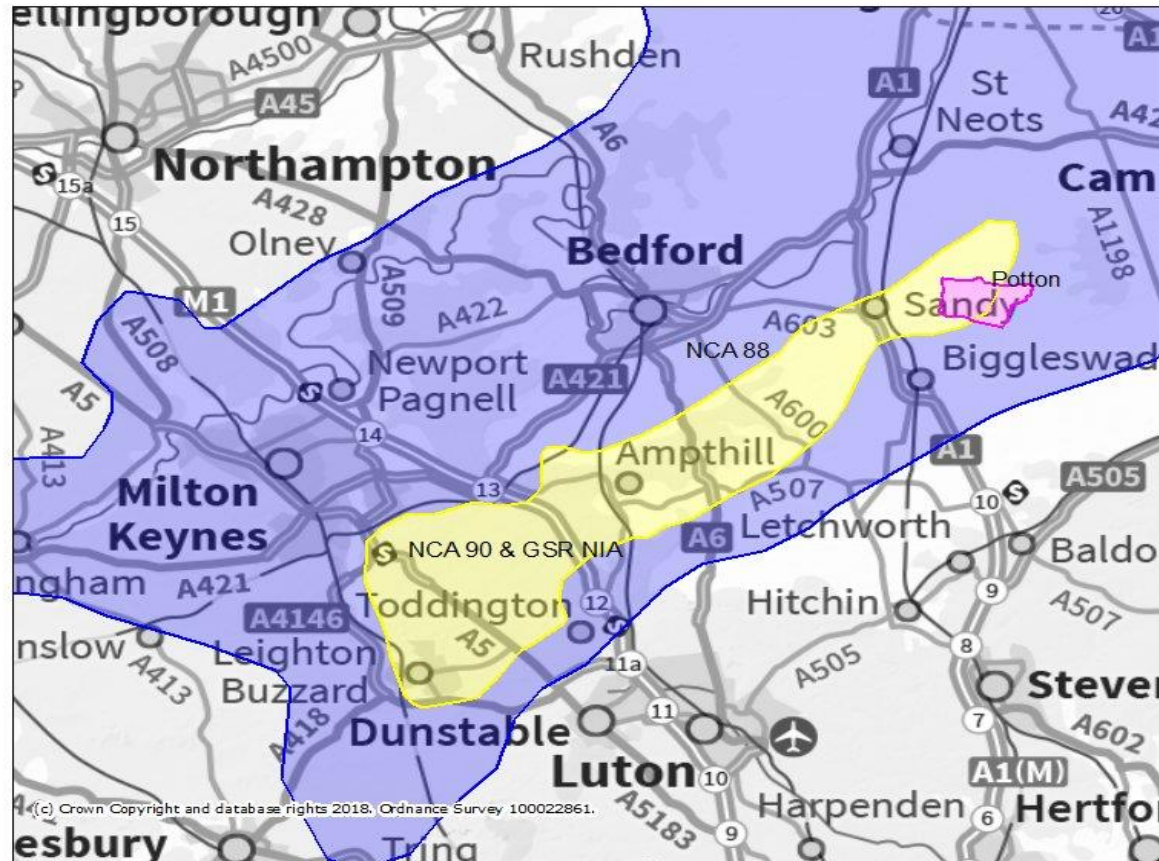
See also Map 3: Potton and its position in relation to National Character Areas 88 & 90 and The Greensand Ridge NIA and Appendix 3: Potton in the context of The Greensand Ridge NIA Ecological Evidence Base



Map 3: Potton and its position in relation to National Character Areas 88 & 90 and The Greensand Ridge NIA

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Potton in NCA 88, NCA 90 & GSR NIA



Projection = OSGB36
 xmin = 429100
 ymin = 207900
 xmax = 573700
 ymax = 273900
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5 Potential for ecological networks in Potton

The geology of Potton as described broadly influence local ecological opportunities and potential as described in Tables 1 to 3 below and as also illustrated in Map 4 Ecological Opportunities.

Table 1: Ecological opportunities and visions for Area 1 West of Potton Brook (see Map 4 for location)

Ecological Area and Current land use	Threats and Opportunities	Vision, Social and Wildlife benefits
<p>1. West of Potton Brook on the Greensands</p> <p>Disused quarry and landfill, small plots of uncultivated arable land and a network of horse paddocks.</p> <p>Larger areas of arable farmland with a network of hedges and occasional mature trees, mostly Oak <i>Quercus robur</i>.</p> <p>Agri-environment schemes until recently in operation for farmland NW of this area appear to have expired. <i>Source Magic.Gov</i></p>	<p>Threats: This area is possibly the most important biologically in Parish and the most threatened primarily due to development. It covers and approximate area of 320ha with between 20 – 30ha subject to approved new or proposed forthcoming development. Loss of Priority Habitat potential, distinctive hedge species, increased recreation adding pressure on adjacent sensitive Priority Habitat and loss of Priority Species due to the impact of domestic pets all pose threats to this area.</p> <p>Opportunities: Retain and where opportunity arises work with landowners and developers to enhance existing areas to the south of the B1042 Sandy Road and work with landowners and developers to create new areas of acid grassland north of the B1042 Sandy Road. This will contribute to form an almost continual acid grassland mosaic between the Priority Acid Grasslands habitat west of Potton (see Map 2) and the proposed heathland restoration from the sand quarrying to the north of Potton around Easting 22.</p> <p>Arable farming, field boundaries and horse paddocks provide added wildlife value associated with some of the Priority Species of Potton. Many of the field boundaries contain a considerable</p>	<p>Vision: An arable and acid grassland – scrub mosaic that retains existing field boundaries, paddocks and other locally distinctive features.</p> <p>Realise Priority Acid Grassland Habitat potential. Protect, enhance and expand existing landscape features. Protect and or mitigate for Priority Species by retaining and creating optimum habitat features and conditions. Provide interpretation and guidance for residents to reduce some of the perceived threats.</p> <p>Social benefits: Enhanced recreational opportunity, access to green space and improved connection to nature</p> <p>Wildlife benefits: Reduced pressure on adjacent sensitive habitats and their associated species. Improved landscape permeability for species. Retained and enhanced habitat for local Priority Species:</p>

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Ecological Area and Current land use	Threats and Opportunities	Vision, Social and Wildlife benefits
	<p>amount of elm <i>Ulmus sp</i> and cherry plum <i>Prunus cerasifera</i> in their composition and are a distinctive feature of the area.</p> <p>Look to fulfil some opportunities through any future revised post Brexit agri-environments schemes</p>	<p>Common Lizard <i>Zootoca vivipara</i>, White-letter hairstreak <i>Satyrrium w-album</i>, White spotted pinion <i>Cosmia diffinis</i>, corn bunting <i>Emberiza calandra</i>, grey partridge <i>Perdix perdix</i>, linnet <i>Carduelis cannabina</i>, skylark <i>Alauda arvensis</i>, yellow wagtail <i>Montacilla flava flavissima</i>. serotine bat <i>Eptesicus serotinus</i>. Other taxa groups to benefit include <i>Orthoptera</i> and <i>Hymenoptera</i></p>



Table 2: Ecological opportunities and visions for Area 2 East of Potton Brook (see Map 4 for location)

Ecological Area and Current land use	Threats and Opportunities	Vision, Social and Wildlife benefits
<p>2. East of Potton Brook on the Gault clays</p> <p>Primarily agricultural land with boundary hedges with occasional mature trees, mostly Oak <i>Quercus robur</i>. and drainage channels. There are also some small shelter belt plantations. Other land uses include a tree nursery, chicken farm and miscellaneous small holdings.</p> <p>Within this area is the 85.5ha Potton Wood, which is managed by the Forestry Commission.</p> <p>There are no known agri-environment schemes in operation for this area. <i>Source Magic.Gov</i></p>	<p>Threats: Much of the area is free from development pressure, save for two areas either side of the B1042 immediately east of the town. Other threats come from agricultural operations, typically from the use of chemicals and intensive hedgerow management – many in this area are fragmented with some sections having been partially or completely lost.</p> <p>Opportunities: Except for Potton Wood, to the east of the Parish and listed in the Woodland Priority Habitats Inventory, little is potentially known about the biological value for much of this area. However, there is some clear potential for landowners where willing, to make some improvements. Where opportunities arise retain, manage appropriately, enhance and where applicable reinstate hedges. Create a network of nectar rich margins using pollinator mixes which will buffer hedges and drainage channels. Look too for opportunities to create enhanced in channel wet features.</p> <p>Look to fulfil some opportunities through future revised post Brexit agri-environments schemes</p>	<p>Vision: Improved and enhanced existing landscape features of high value wildlife habitat. A reduction from the impacts of diffuse pollution on Potton Brook.</p> <p>Social benefits: By working with landowners promote better access through the existing rights of way network and by the creation of additional permissive paths. This will increase recreational value and better connection to nature.</p> <p>Wildlife benefits: Enable species to permeate more easily through the landscape using enhanced habitat links. Provision of diverse nectar mixes that encourage pollinating insects and provide them with sources of nectar. In-channel wet features can help trap and clean run-off while providing additional habitat opportunities.</p>



Table 3: Ecological opportunities and visions for Potton Brook (see Map 4 for location)

Ecological Area and Current land use	Threats and Opportunities	Vision, Social and Wildlife benefits
<p>3. Potton Brook Alluvial soils</p> <p>Largely woodland plantation and arable, with some relic areas of historic wet flush features.</p>	<p>Threats: Little remains of what would have been wet meadow habitat, save for two small parcels either side of the B1042 and immediately east of and parallel to Potton Brook. Both are the subject of current and potential future planning applications. Potton Brook suffers from up-stream water abstraction which exacerbates water quality.</p> <p>Opportunities: Of the remaining wetland habitat potential, that to the south of the B1042 retains most its potential, while that to the north is more degraded. Look to retain and enhance these features and restore them as a functioning component of the landscape, benefiting two Priority Species; water vole <i>Arvicola amphibious</i> and otter <i>Lutra lutra</i> which occur in the area. Measures might include bank reprofiling and the creation of back-streams to slow peak flows and create refugia for aquatic species. Similar work to benefit local biodiversity interests is proposed for a new area of public open space and community orchard under development alongside Potton Brook, opposite to the southern wetland feature. Areas further up-stream may also provide similar potential where, working with landowners and relevant statutory agencies, enhancement measures might be implemented. There is further opportunity for improved grassland management and enhancement and improvement to the riparian corridor in the area known as Henry Park, located opposite the northern wetland area.</p>	<p>Vision: An enhanced riparian corridor facilitating a natural dynamic wetland system that will diversify current wildlife interests</p> <p>Social benefits: Enhanced recreational opportunity, access to green space and improved connection to nature</p> <p>Wildlife benefits: Enhanced habitat for existing Priority Species of water vole and otter. Enhanced potential for colonisation of other Priority Species associated with the habitat. Improvement in water quality and benthic invertebrate communities.</p>



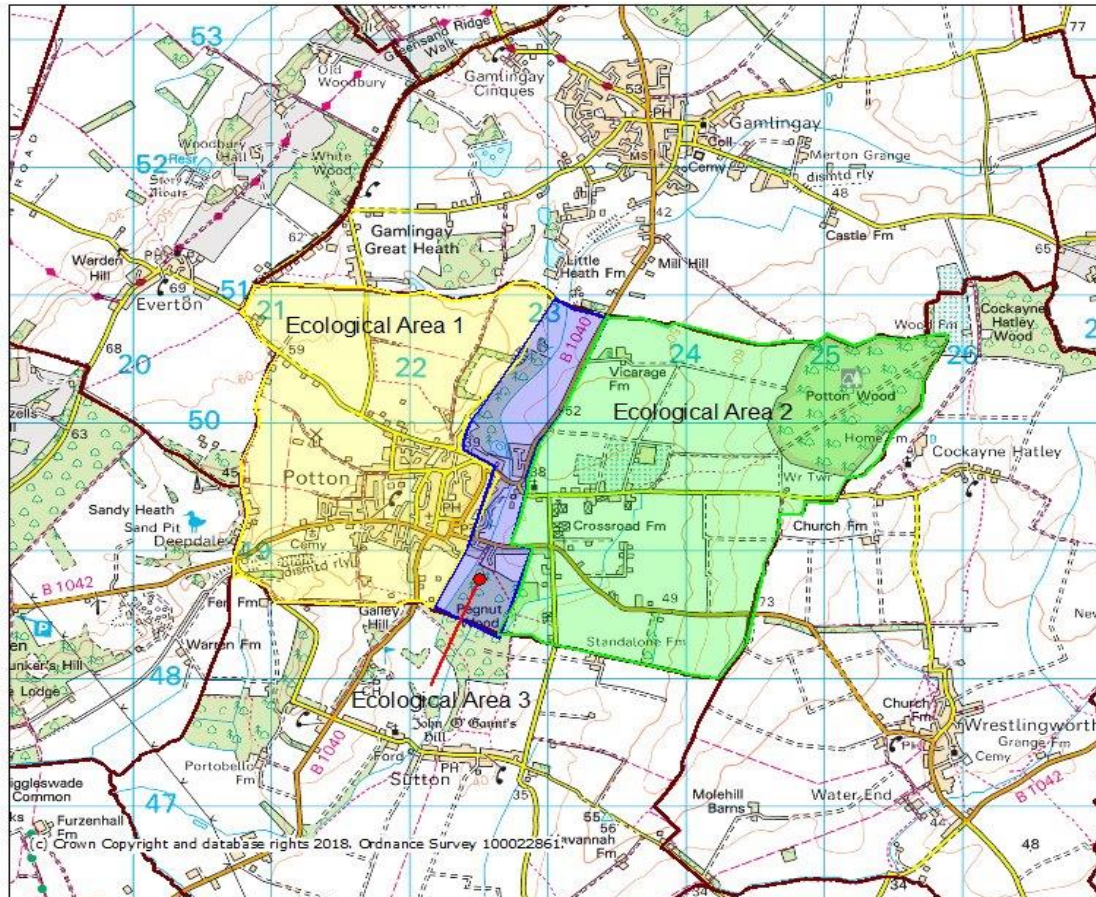
Ecological Area and Current land use	Threats and Opportunities	Vision, Social and Wildlife benefits
	<p>The two plantations, Sheepbridge Wood and Pegnut Wood, listed in the woodland Priority Habitat Inventory (see Map 2) have ironically been planted on what would have been wetland habitat. They are privately owned with limited permissive access. Both have expired unconditional felling licences, while Sheepbridge Wood also has an expired Woodland Grant Scheme 3 agreement. Future opportunities could present themselves here, perhaps in the creation of wet woodland or returning parts to an open wet grassland system.</p>	



Map 4: Ecological opportunities

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Areas of Ecological Opportunity - Potton



Legend

Parishes (GB)

Projection = OSGB36

xmin = 516400

ymin = 246700

xmax = 529800

ymax = 252900

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6 Appendix 1: Description of local Statutory and Non-Statutory Designated Sites

6.1 Statutory Designated Sites

6.1.1 Potton Wood

Located on the site of a former medieval deer park, Potton Wood, owned and managed by the Forestry Commission, is 85.5ha of Ancient woodland of the wet Ash-Maple vegetation community, a type largely restricted to areas of heavy wet boulder clay soils in lowland Britain. Most of the wood is primary woodland with some very old secondary woodland established on old ridge and furrow field systems. Parts of the wood have been modified by forestry, elsewhere, the wood is typically coppiced hazel *Corylus avellana*, ash *Fraxinus excelsior* and field maple *Acer campestre* with pedunculate oak *Quercus robur* and ash standards.

The shrub layer and associated ground flora are varied and typical of Ancient woodlands and also include a colony of oxlip *Primula elatior*, a national rarity, occurring on the extreme edge of its European range. Other locally uncommon species include herb Paris *Paris quadrifolia*, birds-nest orchid *Neottia nidus-avis* and nettle-leaved bellflower *Campanula trachelium*

Some rides are of value for their neutral grassland flora which can vary in composition depending on the level of waterlogging. Notable local species include great butterfly orchid *Platanthera chlorantha*, lesser butterfly orchid *Platanthera bifolia*, common spotted orchid *Dactylorhiza fuchsii*, lesser centaury *Centaureum pulchellum* and narrow-leaved everlasting pea *Lathyrus sylvestris*. It is noted too for several locally important butterfly species including silver-washed fritillary *Argynnis paphia*, purple emperor *Apatura iris* and purple hairstreak *Neozephyrus quercus*. Of its woodland bird community, the marsh tit *Poecile palustris* is of note.

6.1.2 Waverley and Sand Woods SSSI

These two 76ha Ancient woodlands are of the ash-maple type which is restricted to lowland England and is a declining habitat. The site is of additional interest for the influence and range of the underlying geology. It straddles several geological formations from ill-drained boulder clay and Jurassic clays to free-draining Lower Greensand. Few other ancient woods in Cambridgeshire possess this variation in terms of geology.

The woods are a mixture of coppiced ash *Fraxinus excelsior*, coppiced field maple *Acer campestre* with pedunculate oak *Quercus robur* standards and hazel *Corylus avellana* predominant in the shrub layer. Elm *Ulmus spp.* has also invaded parts of the wood.



The ground flora is typically of dog's mercury *Mercurialis perennis* and bluebell *Hyacinthoides non-scripta* with early-purple orchid *Orchis mascula*. Rides and clearings in the wood support their own characteristic flora which includes plants such as the common spotted-orchid *Dactylorhiza fuchsii* and adder's-tongue fern *Ophioglossum vulgatum*. Some uncommon species are present in the wood including herb-Paris *Paris quadrifolia*, butterfly orchid *Platanthera chlorantha* and pignut *Conopodium major*.

6.1.3 Gamlingay Wood SSSI

This 48ha Ancient woodland supports a well-developed plant and animal community. It is of the ash-maple woodland type and represents a habitat which has now become relatively scarce throughout its natural range over lowland England.

In a Cambridgeshire context, the site is additionally noted for its part location on a sandy loam soil type, unusual for this county, which is reflected in the vegetation.

Most of the wood is mixed coppice of oak *Quercus robur*, ash *Fraxinus excelsior*, hazel *Corylus avellana* and field maple *Acer campestre*. Where the soil is of the calcareous marl type overlying Boulder Clay on Gault, the nationally restricted oxlip *Primula elatior* is a key component of the ground flora, together with dog's mercury *Mercurialis perennis*, bluebell *Hyacinthoides non-scripta*, yellow archangel *Galeobdolon luteum* and wood anemone *Anemone nemorosa*.

On the sandy loam which overlays Boulder Clay on Greensand, oak is more abundant with ash being replaced by birch *Betula spp.* The ground flora here holds bracken *Pteridium aquilinum*, together with creeping soft-grass *Holcus mollis*. This type of vegetation is characteristic of dry oak woods on acid soils and extremely rare in the county.

Parts of the wood have been modified by plantation, but elements of the natural vegetation still persist and retain potential for enhancement through sympathetic management.

6.1.4 Sandy Warren SSSI

Sandy Warren SSSI (also a County Wildlife Site - see below), which is a 16.4ha site owned and managed by RSPB. It forms part of a larger 218ha nature reserve which extend eastward to meet the western Parish boundary of Potton.

It is noted as being a national and locally rare heathland and one of the few remaining examples in the county. It has a typical heathland heather flora, scattered areas of acid grassland and birch-oak woodland over heath. It is of particular note for its fungi and invertebrate faunas.



6.2 Non-Statutory designated sites

6.2.1 Carthagea Bridleway CWS:

This linear site primarily extends from Carthagea Road in the west, to the B1040 Biggleswade Road in the east. It covers an area of approximately 4ha and 1km in length. It forms a large portion of the southern parish boundary.

It was notified in 2017 primarily for two species of nationally rare lepidoptera; the white-spotted Pinion (moth), *Cosmia diffinis* and White Letter Hairstreak (butterfly), *Satyrus w-album*. The site contains probably one of the densest and most intact lengths of relic Elm, *Ulmus spp* in Potton which is the food plant for the larvae of the two species. Abundant clumps of bramble are also an important component of the scrub community at the site, providing a valued source of nectar for the butterflies and other pollinating insects.

This is also a known site for the nationally important Roman snail, *Helix pomatia*, along with Common or Viviparous lizard *Zootoca vivipara*. A number of significant oaks grow at the site, many exhibiting features of antiquity, with dead or decaying limbs, holes, hollow and loose bark. While the constant cycle of dead and decaying elm, caused by Dutch elm disease, also provides a constant supply of deadwood habitat for a saproxylic invertebrate fauna.

6.2.2 Sandy Disused Railway CWS:

This linear site of approximately 10.7ha, is 3.6km in length and follows a section of the former Sandy to Cambridge rail link. It starts in Sandy, just 1.3km south of Sandy Station at approximately TL182476. It continues east before terminating in Potton at TL211489. It is the final 400m that fall within the parish.

It was notified in 1990 as a CWS, primarily for its mosaic of habitats, containing acid and neutral grassland, ruderal vegetation, mature trees, secondary woodland, scrub, hedgerows, marshy grassland, swamp and open water.

There is one species of plant of note, proliferous pink *Petrorhagia prolifera* on the site. It was not recorded during the 1998 survey, but comment was made that 'an extant colony exists beyond the easternmost boundary of the site on the quarry bank and on the railway line further east.' The plant was last recorded in 2004. It has not been recorded since probably due to changes in vegetation structure. This plant is a nationally endangered species and in 1998 was accepted as a possible native to Bedfordshire.

6.2.3 Sutton Fen and Woods CWS:

This 38.15ha site is located at TL208477, south of Potton and west of Carthagea Road. It was notified in 1990 for its Ancient semi-natural woodland (8ha) and wet woodland, both UK Habitats of Priority Importance. It is also noted for its ponds, ditches, mire, swamp or carr habitat of peaty soils on the Greensand Ridge.



It supports 40 woodland plants, including one ancient woodland indicator, qualifying it for selection, falling just short in the qualifying number of acid grassland indicator species. The number of wetland indicator species exceeds the CWS selection criteria. While meeting the woodland criteria, the site fails the fens, marshes and swamps criteria.

In late 2013, the boundary was modified to include an additional 0.28ha of the W10 woodland vegetation community adjacent to the existing site. Simultaneously, the Fen, marsh and swamp criteria were removed as a qualifying reason for CWS recognition.

6.2.4 Potton Church-Hatley Road RNR

This is a grassy verge beneath the boundary wall of St Mary's Church, Potton on the Hatley Road. It has been notified due to it containing a diverse flora of species characteristic on the sandy soils of the greensand ridge. The verge also contains an extant population – one of only three in Britain, of the rare cylindrical whorl snail *Truncatellina Cylindrica*.

Within the church grounds, the grassland is of botanical importance and particularly noted for the presence of the Nationally Rare Wild clary *Salvia verbenaca*. It is a Red Data book species and also listed under Section 41 of the Natural Environment and Rural Communities Act (NERC) 2006. In 2017, a revised extensive mowing specification was instigated to protect this species and encourage other flora to benefit.



7 Appendix 2: Description of local Priority Habitats

7.1 Sheepbridge Wood

This is 9ha linear block of mixed woodland planted between the bed of the dismantled rail line and Potton Brook. It has been in a Woodland Grant Scheme contracted to Myers Farm and which has now expired. Part of the agreement included an unconditional felling licence for selective felling and thinning. There is a varied mix of trees but of note are the number of cherries – popular for some casual summer harvesting.

Directly adjoining this area of woodland is an approximate 5.6ha block of mature woodland and a lake at the site of the former Potton Manor. The trees within the site are protected under tree preservation order.

7.2 Pegnut Wood

This is a derelict Poplar *Populus spp*, plantation of approximately 43ha, half of which is outside the southern boundary of the parish. It was planted by the Co-op Wholesale Society, between 1993 and 1995, primarily for producing timber.

It has two expired land based schemes, an Entry Level Higher Stewardship Scheme which it entered in 2007 and an unconditional felling licence to selectively fell and thin. There have been two phases of thinning in 2003-04 and 2010-11.

The wood lies on the heavy boulder clay and is typically wet. As the principle crop of poplar begin to decline and decay, natural succession is giving way to oak-birch (*Quercus-Betula*) woodland, with holly, *Ilex aquifolium*, elder, *Sambucus nigra* and extensive bramble, *Rubus* understory. It is bisected by power lines the wayleave for which add structural diversity of benefit to wildlife. **A number of priority bird and bat species use the wood to breed and or forage in.**

Fields to the east of the wood were planted in 2010-11 with a mix of native broadleaves which extends the site by an approximate additional 11ha.

The wood is dissected by a network of permissive paths and is well used particularly by dog walkers and joggers. The only designated footpath through the wood is a well-used route to the nearby village of Sutton.

Access from Potton is primarily on foot via Biggleswade Road and Sheepwalk Close. There is also a small car park situated on the Sutton Road east of the wood with a path leading to the wood, through the recent planting extension.

7.3 RSPB Lodge Nature Reserve – Acid Grassland component

Mostly as an agreement with a quarry restoration north of B1042, the reserve has in recent years expanded east and now abuts the Parish of Potton. South of this road the expansion, not on quarried land, has been included within the Natural England



lowland dry acid grassland inventory. A small linear length of this, not in the reserve, also extends part into Potton along the Sandy Disused Railway CWS.



8 Appendix 3: Potton in the context of The Greensand Ridge NIA Ecological Evidence Base

The following extracts from the document '*The Greensand Ridge NIA – The Ecological Evidence Base*' highlight the key points in context and relevance to the ecological opportunities available in Potton.

The Greensand Ridge covers 19% of Bedfordshire but contains 41%, by area, of the county's County Wildlife Sites (CWS). Through the sustainable use of natural resources, restoring and creating wildlife habitats, connecting local sites and joining up local action on a landscape-scale, NIAs (such as the Greensand Ridge) will bring about multiple benefits for wildlife and people.

There is a need to allow species to move across the landscape so that they can find new places where there are the correct conditions for them to flourish. As a Nature Improvement Area, the Greensand Ridge aims to enhance the landscape and facilitate this to happen. The area still has rich wildlife sites with many opportunities to expand, buffer and connect them across the landscape.

Many areas along the 'Ridge' face severe pressure from insensitive housing and commercial developments. Badly sited or designed developments have potential to increase fragmentation to the ecological network or reduce the quality of core areas. Creating a functional ecological network and tackling these threats has benefits beyond those for wildlife. Biodiversity and the ecosystems that it makes up are critical to our social health, well-being and economic prosperity.

Some of the habitats of "principal importance" included in Section 41 of the NERC Act are found along the Greensand Ridge. Many of these are still of note, illustrating the ecological richness of the area and potential to create a functioning network. There remain however, spaces between core areas which represent barriers for many species of wildlife.

In addition to listing habitats, Section 41 (S41) of the NERC Act 2006 contains a list of species considered to be of Principal Importance for conserving biodiversity. From this list 141 species have been recorded from within the Greensand Ridge NIA. A further 22 additional species have been found within 5km of the NIA. There are several biodiverse hotspots on the Greensand Ridge, including Potton and its environs with a density of 33.5 Species of Principle Importance/km². There have been a total of 92 S41 species recorded in the Parish and an additional 45 species within a 3km radius. Furthermore, several nationally rare Red Data Book species, not listed under S41 have also been recorded in Potton.

Some of the most relevant links to the Greensand Ridge NIA are the Sandy to Potton Ridge where sandy soils give major opportunities for heathland and acid grassland creation and woods on the Ridge sloping down to important spring lines at the junction with clay soils. The ecology of this area is varied and complex and part of the area is listed as of national importance for fungi. The major initiative by the RSPB and



Lafarge to create heathland in the core of this zone at Sandy Heath Quarry has scope to expand to link together a whole series of isolated sites.

The biodiversity/ecological network contains many key features. The first of these are the core areas which already contain rich habitats and support a range of species, often within designated sites. The concept of the biodiversity network is to expand and enhance these areas, along with smaller wildlife rich fragments, to encourage larger, more robust wildlife populations. Although the Greensand Ridge already contains some core areas, the creation of restoration areas where new habitats could be created will, given time, become core areas making the network more robust. These core areas and restoration areas will be connected across the NIA using corridors and stepping stones allowing wildlife to move between them. Buffer zones are another key feature of the biodiversity network. These surround the core areas reducing the pressure on them and diluting the impact of negative influences.

8.1 Heathland and Acid Grassland

These are two of the most characteristic habitats of the Greensand Ridge. Now reduced to small fragments they would have been much more widespread and connected in the past. Promoting the recovery of existing sites, as well as connecting them through creating new sites, corridors and stepping stones is a high priority within the NIA.

8.1.1 Corridors and Stepping Stones

Connecting the core areas and restoration areas is a key feature of the NIA. The historic land use and geology of the Ridge means key sites are not too distant from each other and many features already exist which could become wildlife corridors or stepping stones. The river valleys and their tributaries such as Potton Brook, provide ideal opportunities to link sites together along watercourse corridors. Key features of corridors along these watercourses would be establishing suitable edge habitats, improving the channel morphology and enhancing water quality.

8.1.2 Road verge connections

The area's road network has many roadside verges, providing ideal opportunity to create wildlife corridors and stepping stones between core biodiversity areas. Some of verges have been designated as Roadside Nature Reserves, such as at St Mary's Church, Potton. Enhancements which could be made include ensuring Roadside Nature Reserves are managed correctly and considering the management regimes of the wider verges to create floral or woodland corridors for wildlife.

Buffering existing key sites and maintaining links between them can be threatened by development pressures. Influencing the selection of new development sites through the Local Plan is important in preserving the ecological network. New developments can also play a part in the creation of the network if they are designed sensitively. Being aware of the surrounding ecological assets is a good start from which networks across the development can be built up. Preserving existing corridor



features like hedgerows and creating wildlife stepping stones are also important. A vital component to the future usefulness of these networks is space. Although many multi-functional areas work well, where space is limited corridors can easily lose their ecological function and never achieve the aim for which they were created. Green infrastructure, including ecological networks, has been embedded in the Local Plan, supported by the National Planning Policy Framework, to emphasise the need for developments to adequately consider these issues.

8.1.3 Opportunities on mineral extraction sites

The geology of the Greensand Ridge provides opportunities for the quarrying industries to restore these sites to benefit the Ridge's ecological network. They can be used to create new core areas for the future or to provide buffers, corridors and stepping stones between existing core sites to promote biodiversity. In addition to the partnership project between RSPB and Lafarge to restore the quarry west of Potton, a similar quarry restoration north of Potton has also been submitted to planning.

8.1.4 Horse Pasture Management for Wildlife

In some areas of the Greensand Ridge there are an abundance of horse pastures, some of which have been designated as CWS. Many horse owners enjoy the countryside and landscape within the NIA and are keen to improve the pastures that their horses use for wildlife, especially when it can also benefit the health of their animals. It has been identified that an event publicising how horse pastures can become wildlife friendly and promote the health of the horses grazing them would be useful. A similar event has been held in the past in the south of the County and proved to be very popular. The event included tips on how to create a diverse, flower rich sward in the field and the veterinary reasons for doing so. Boundary features, such as hedges and walls, can also be useful wildlife corridors if managed appropriately and provide valuable shelter within the field.

8.1.5 Rebuilding Biodiversity

Shallow river valleys from Biggleswade to Potton could provide a network of lowland meadows, marshy grasslands, streams and wet woodland. Careful management of water quantities and quality could make some areas wetter whilst others need secure sensitive management regimes to conserve, restore and expand small grasslands. Otter and water vole populations are important here and large networks of sensitively managed habitat are important for their survival.

In the rolling arable farmland east of Biggleswade and into Cambridgeshire species of open arable farmland are important. This area forms a western extension of an area of farmland stretching northeast through Cambridgeshire which is of national significance for farmland bird populations. Emphasis here should be on the networks of habitats within an arable farmland landscape which can support strong populations of open farmland species.