Edwardstone Neighbourhood Plan

Green corridors and spaces assessment 2023

September 2023

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Prepared by	***Checked and approved by***	
Jill Wyllie BSc Hons ACIEEM	Johanna Green BSc Hons, PG Cert, CSci, MCIEEM	

Wilder Ecology
Part of SWT Trading Ltd

Prepared by:
SWT Trading Ltd: Wilder Ecology
Brooke House
Ashbocking
Ipswich
Suffolk
IP6 9 JY

Prepared for:
Edwardstone Parish Council

A company limited by guarantee no. 2221844 (Calibri 9)
VAT registration no. 496 8108 03

DISCLAIMER

This report has been compiled in accordance with BS 42020:2013 Biodiversity - Code of practice for planning and development, as has the survey work to which it relates.

The information, data, advice and opinions which have been prepared are true, and have been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

This survey was carried out and an assessment made of the site at a particular time. Every effort has been made to date to provide an accurate assessment of the current situation, but no liability can be assumed for omissions or changes after the surveys have taken place.

It is our policy to submit any biological records to the Suffolk Biodiversity Information Service, in accordance with BS42020 (6.4.7). We will do this 3 months after the submission of this report. If you wish to discuss this, please contact us within this time period.

Executive Summary

Wilder Ecology, a part of SWT Trading Ltd, the consultancy of Suffolk Wildlife Trust, was instructed by Edwardstone Parish Council to undertake an assessment of green corridors and spaces in the parish as part of their new Neighbourhood Plan. Wilder Ecology, a part of SWT Trading Ltd and the ecological consultancy of Suffolk Wildlife Trust, was commissioned by Edwardstone Parish Council to undertake an assessment of green corridors and spaces in the parish as part of their new Neighbourhood Plan. This document seeks to provide the Neighbourhood Plan Working Group with an evaluation of the green spaces and ecological networks as a rich source of biodiversity.

Edwardstone Woods and Milden Thicks are designated as Sites of Special Scientific Interest (SSSI). There are also two non-statutorily designated sites within the parish: Sherbourne Meadow and Round Maple. Eight Priority Habitats have been identified within the Parish, including hedgerows, mixed deciduous woodland, ponds, coastal and floodplain grazing marsh, lowland meadows, wood pasture and parkland, traditional orchards, and rivers and streams. Across the Parish, 16 UK and Suffolk Priority Species have been recorded, as well as Suffolk Rare Plant species which complement and help define the biodiversity value of the locality.

The principal ecological network throughout the parish is associated with the hedgerows and water courses, including the River Box and its associated habitat. There is direct connectivity between woodland parcels via ditches and hedgerows and some stepping stone habitat is also present in the form of small fenced copses within large field enclosures.

Example management advice has been provided to enhance the hedgerow network, restore ponds and improve the condition of two blocks of non-Priority woodland, using Defra Metric 4.0 Condition Assessments, thus resulting in a potential net gain of 10.91 Biodiversity Units, 19.5% more than is currently present.

Development Management guidance for any new developments within the area covered by this Neighbourhood Plan should seek to protect existing landscape and ecological assets and restore, enhance and reconnect the ecological network.

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1 INTRODUCTION

1.1 General introduction

Wilder Ecology; SWT Trading Ltd, the wholly-owned consultancy of Suffolk Wildlife Trust, was instructed by Edwardstone Parish Council on 11th September 2023 to undertake an assessment of the green corridors and spaces within Edwardstone Parish as part of their Neighbourhood Plan that is currently being compiled.

The Civil Parish of Edwardstone, within its formal parish boundary is the 'Neighbourhood Area' for the purposes of the plan.

This document seeks to provide the Neighbourhood Plan Working Group with a consideration of landscape character and highlight green space habitats and associated ecological networks as a rich source of biodiversity.

This report should be read in conjunction with the associated Defra Metric 4.0 Calculation spreadsheet and Condition Assessments.

1.2 Parish location and statistics

Edwardstone is a civil parish located in the Babergh District of Suffolk (now linked with Mid Suffolk District through the Councils' 'Working Together' scheme), located approximately midway between the towns of Hadleigh and Sudbury. It covers around 756 hectares and its central point grid reference is close to TL 9465 4237. The parish shares boundaries with the parishes of Boxford, Great Waldingfield, Little Waldingfield, Groton, Milden and Newton.

Data from the 2021 UK Census indicate that Edwardstone is a village with a population of around 375 inhabitants. The Parish includes the hamlets of Edwardstone, Mill Green, Priory Green, Round Maple and Sherbourne Street. Built up areas represent about 10% of the parish, concentrated around the small villages, but also includes some moderate farm steadings and large houses with parkland.

Outside of the roads network, buildings and gardens the majority of the land is used for arable cropping with some horse pasture and ancient woodland. Along the river valley, it is mainly cattle grazed. The Parish contains a large number of ponds, mainly associated with the dwellings and woodlands.

2 METHODOLOGY

2.1 Field survey

A parish walkover was undertaken on 22nd September 2023 by Jill Wyllie under optimal weather conditions with bright sunshine, approximately 30% cloud, no rain and c. 18°C. The objectives of the field survey was to investigate and record wildlife corridors and green spaces and take digital images to illustrate these features. Using public highways, bridleways and footpaths it was possible to view and comment upon a connected habitat network throughout the parish. The survey of habitats was undertaken following the recommendations of the UK Habitat Classification Working Group (2018, 2020 and 2023) and evaluated using Biodiversity Metric 4.0 Condition Assessment Sheets appropriate to the habitats recorded.

2.2 Desktop survey

A variety of existing source material was consulted including (but not limited to):

- Suffolk Biodiversity Information Service website and databases
- The MAGIC website (provides geographic information about the natural environment from across a range of government sources)
- Suffolk Wildlife Trust databases
- Suffolk Hedgerow Survey – County Report

2.3 Competence

Jill Wyllie BSc Hons, ACIEEM is highly experienced in landscape evaluation and habitat assessment using UK Habitat Classification and Phase 1, and protected species surveys with a specialist interest in water voles and holds a Natural England Survey licence for great crested newts and a Class licence for water vole displacement. She has extensive experience of implementing mitigation schemes for water vole and badger. Jill also undertakes GIS mapping and holds a CSCS card.

2.4 Constraints

This survey was designed to provide a preliminary assessment of the site's wildlife value. The wildlife and habitats present in any area are subject to change over time. All single-visit surveys of this kind can only record the situation as it is at the time, rather than providing a comprehensive analysis of the site's ecology.

Timing and access constraints meant that not all areas or features of the parish were surveyed, however, this report is designed to give an overview of the parish and its ecological connectivity networks so a lack of full access is not considered to be a material constraint.

3 BIODIVERSITY NET GAIN

The Environment Act 2021, which received Royal Assent on 9 November 2021, mandates biodiversity net gain and is likely to become law in early 2024. The Environment Act 2021 set out an approach to biodiversity net gain which includes:

- Minimum 10% net gain required for planning applications
- Habitat secured for a minimum 30 years
- The mitigation hierarchy of avoidance, mitigation and compensation still applies

- Net gain must be measurable using the Biodiversity Metric (4.0 being the latest version) designed by Natural England

Defra is currently consulting on the details of biodiversity net gain regulation and implementation in order to determine how net gain will work in practice.

Net gain in planning terms describes an approach to development that leaves the natural environment in a measurably better state than it was beforehand. Where losses cannot be compensated within the development footprint then biodiversity losses may be offset by delivery of gains elsewhere. As a very minimum a target of 10% net gain should be sought and it should be noted that impacts on irreplaceable habitat cannot be offset to achieve no net loss or net gain.

A key part of the process is demonstrating measurability and The Biodiversity Metric 4.0 designed by Natural England (often termed the 'Defra Metric'). This metric provides the means to account for the ecological value of a site and how changes arising from development or management will impact on this value over time.

Achieving the best outcomes for biodiversity requires credible evidence derived from ground-truthing and justifiable choices based on ecological knowledge. In addition, the delivery of net gain is dependent upon the financial means to undertake the necessary habitat management, in order to secure a long-term biodiversity benefit.

4 EVALUATION OF WILDLIFE ASSETS

4.1 Ecological networks and connectivity

4.1.1 The significance of ecological networks and connectivity

Maintaining and improving connectivity between habitats is important in ensuring the longer-term survival of biodiversity in an increasingly fragmented landscape and with a changing climate.

An ecological network is the basic natural infrastructure that enables biodiversity assets (both habitats and species) to become re-established if damaged or in decline and become resilient to the impacts of climate change. Integrated with the natural cycling of water, soil and nutrients, biodiversity provides what are increasingly recognised as vital 'ecosystem services'. These services are not only of intrinsic of social and economic value but will create social and economic problems if they fall too far into deficit.

The major components of an ecological network can be identified as:

- Core Areas: existing areas/features/resources of importance for biodiversity
- Corridors: existing linear features providing structural connectivity between Core Areas and into the wider landscape
- Stepping Stones: existing habitat patches providing functional connectivity between Core Areas and into the wider landscape
- Restoration Areas: areas/features/resources with the potential to become future Core Areas, or to improve connectivity, if they are enhanced or restored
- Buffer zones: can be included around all these elements to lessen the likelihood of direct or indirect impacts upon them

The National Planning Policy Framework (NPPF) 2019 states that Plans should take a strategic

approach to biodiversity. It includes a range of requirements to conserve and enhance the natural environment, among them requiring Local Plans (and by association Neighbourhood Plans) to: '…promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species.' Consequently, it is essential that decision makers have access to high quality ecological advice in order to meet these requirements.

In addition, Biodiversity 2020: A strategy for England's wildlife and ecosystems services also features a number of Priority Actions, including to 'establish more coherent and resilient ecological networks on land that safeguards ecosystem services for the benefit of wildlife and people'.

4.1.2 Ecological networks in Edwardstone

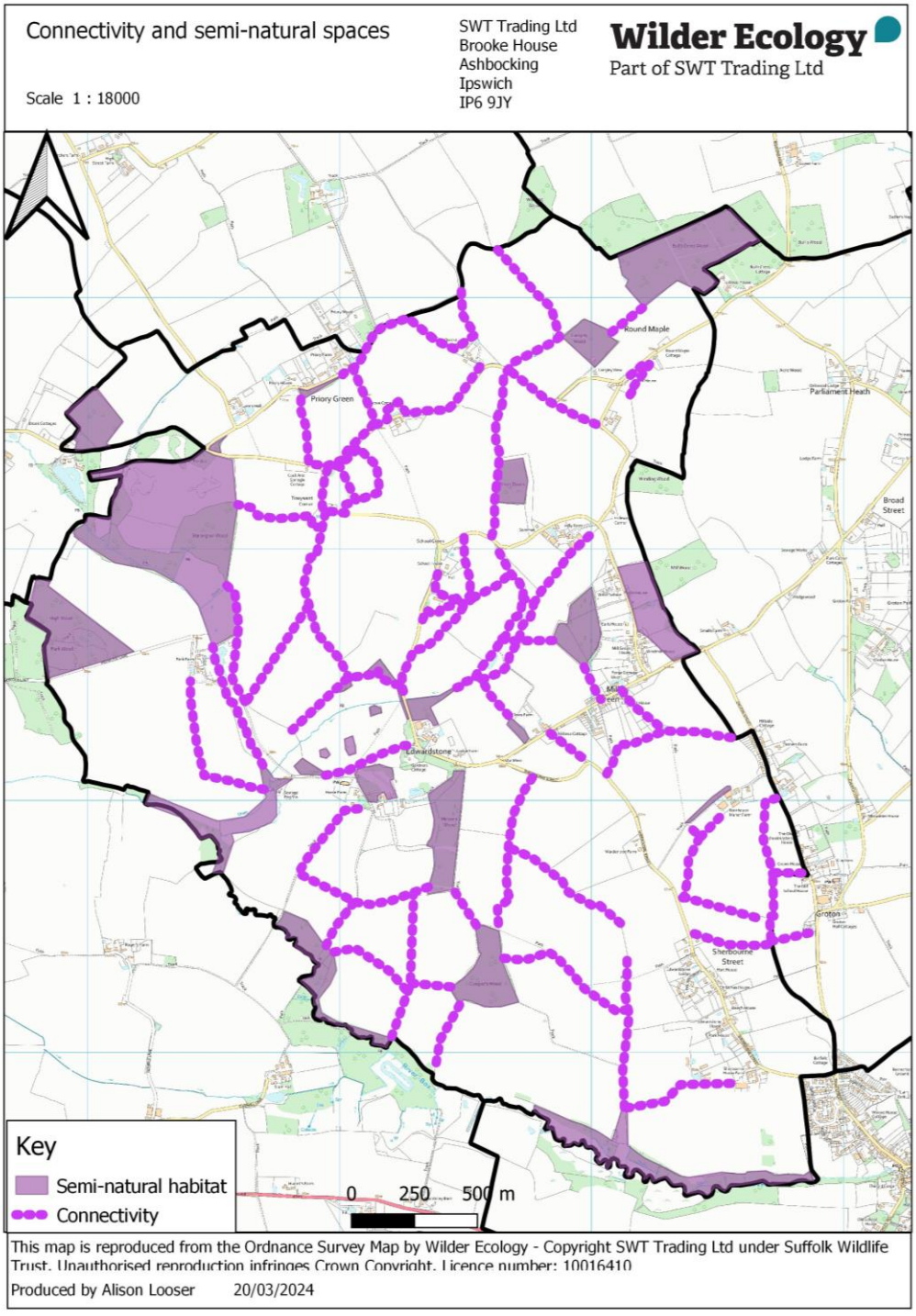

Figure 1. Connectivity and semi-natural spaces

The principal ecological network throughout the parish is associated with the hedgerows and ditches which bound arable fields, connecting blocks of woodland and other areas of semi-natural habitat. The extensive footpath network and roads connecting the settlements within the parish are often lined with hedgerows. The significant number of manor houses associated with extensive gardens also contribute to connectivity, both within the Parish and with the adjacent Parishes. Within one of the larger grazed fields within the centre of the parish, a number of pocket woodland copses have been created and fenced, which offer stepping stone habitat. The River Box marks the southern boundary of the parish, and this has continuous riparian habitat; some of the field boundaries are also marked by ditches, which are typical of ancient hedgerows.

Figure 1 above shows the network of connectivity between important green spaces within the parish.

4.2 Statutorily designated sites for biodiversity

The quality of the natural environment in Suffolk is reflected by the extent of its land area with statutory protection for its wildlife. 8% of the county has national designation as Sites of Special Scientific Interest (SSSI), reflecting the importance of habitats and species found here. Many of these areas are also of European or international importance, with designations as Special Areas for Conservation (SAC), Special Protection Areas (SPA) and Ramsar Site. Large areas of the estuaries and coastline are protected in this way.

4.2.1 Sites of European and International importance

There are no sites of European and International Importance within Edwardstone Parish.

4.2.2 Sites of Special Scientific Interest in Edwardstone

There is one Site of Special Scientific Interest within Edwardstone Parish, Edwardstone Woods, which is split into three areas, and Milden Thicks SSSI overlaps the north-eastern boundary. The Edwardstone Woods SSSI are an inter-related group of ancient woods containing a diversity of stand types. These form a transition from mainly ash-maple-hazel woods of mid Suffolk to the lime of south Suffolk. Substantial areas of hornbeam are also present. The woodland structure is predominantly coppice-with-standards, with the rides and woodland margins supporting a diverse ground flora typical of Suffolk boulder-clay soils.

Milden Thicks SSSI is also a combination of woodlands, of which Bull's Cross Wood is present on the north-eastern boundary of Edwardstone. It has the most elaborately complex patchwork of different types of woodland in Suffolk, with an oak, ash, field maple, hornbeam, lime, aspen, wild cherry, birch and elm canopy and a coppice understorey of largely hazel with hawthorn. The ground flora also contains indicators of ancient woodland, such as sanicle, twayblade and violets.

4.3 Non-statutorily designated sites: County Wildlife Sites

County Wildlife Sites (CWSs) are areas known to be of county or regional importance for wildlife. They have a key role in the conservation of Suffolk's biodiversity and are important links in Suffolk's 'Living Landscape', as described on the Suffolk Wildlife Trust website. CWS designation is non-statutory but is recognition of a site's high value for biodiversity. Suffolk currently has over 900 County Wildlife Sites representing approximately 2.6% of the county's land area.

CWSs have been identified throughout Suffolk and range from small meadows, green lanes, dykes

and hedges through to much larger areas of ancient woodlands, heathland, greens, commons and marsh. Outside of areas with statutory protection (such as SSSSIs, Local and National Nature Reserves), CWSs are therefore the most important areas for wildlife in Suffolk and can support both locally and nationally threatened wildlife species and habitats.

Many County Wildlife Sites support UK Priority Habitats and Species (see 5.3 and 5.4 below). They complement the statutory protected areas and nature reserves by helping to buffer and maintain habitat links between these sites.

It is important to note that the designation of a site as a CWS does not confer any new rights of access either to the general public or conservation organisations.

Suffolk Wildlife Trust, Suffolk County Council, Suffolk Biodiversity Information Service and Natural England manage the Suffolk County Wildlife Site system in partnership. This CWS system involves:

- Maintaining an up to date database of CWSs in Suffolk. Partners and local authorities have copies of the database
- Designating new CWSs, extending existing CWSs and modifying information held on existing sites when changes occur. New sites and site extensions are notified in accordance with selection criteria.
- Supplying information on wildlife interest of CWSs to landowners and other organisations whose work may affect CWSs. The importance of CWSs is recognised by local authorities in Suffolk and they have all developed policies that give CWSs some protection in line with national planning policy. If a CWS is likely to be affected by development the views of the CWS partners is normally sought as part of the consultation process.

CWSs are implicitly recognised by the NPPF as having a fundamental role to play in meeting overall national biodiversity targets. In the NPPF 2019 they are described as 'Locally Designated Sites'. CWS are not protected by legislation, but their importance is recognised by local authorities when considering planning applications. Under current planning policy there is a presumption against granting permission for development that would have an adverse impact on a CWS.

Suffolk Wildlife Trust monitors planning applications for potential impacts on County Wildlife Sites. The high wildlife value of many CWSs has developed through land management practices that have allowed wildlife to thrive, for example traditional and historical management such as rotational coppicing of woodland, hay cutting or grazing of grasslands. Ensuring the continuation of such appropriate management is vital to maintain the wildlife value of a site. Establishing and maintaining good working relationships with landowners and managers is therefore essential.

The CWS partnership appreciates the difficulties that achieving the conservation management of CWSs can present and is therefore happy to offer advice on management and on potential sources of funding. Free advice is available from Suffolk Wildlife Trust to CWS owners and managers and includes:

- Information on the wildlife and nature conservation interest of the site;
- Advice and site visits can be made to establish the best management to maintain and enhance wildlife value.

4.3.1 County Wildlife Sites in Edwardstone

There are two County Wildlife Sites associated with Edwardstone, with a further three on the parish boundary. Sherbourne House Meadows and Round Maple lie within the boundary; The Goodlands is on the southern boundary and Winding Wood and Mill Wood lie directly to the east.

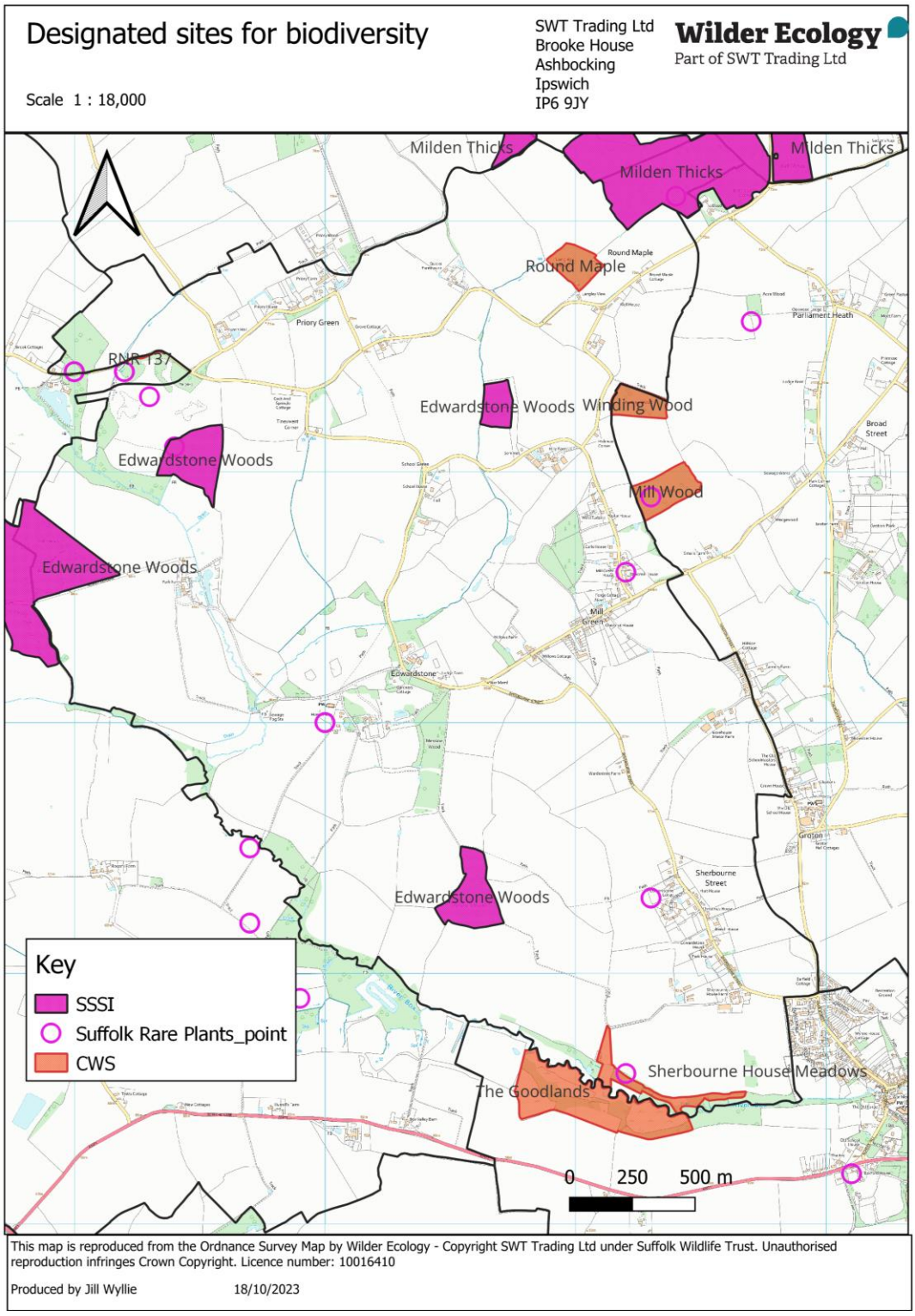

Figure 2: Location of designated sites for biodiversity

Extracts from the citations of the CWSs within the parish are as follows:

Sherbourne House Meadows – Babergh 49: TL 955 406
2.59 ha: Partially Coastal Floodplain and Grazing Marsh Priority habitat
This site consists of a number of botanically interesting meadows, two of which supporting wetland flora and one planted with cricket bat willow, with a tall fen vegetation ground flora. The meadows also have an ornithological interest.

Round Maple – Babergh 48: TL 950 438
2.32ha: Ancient Woodland
Listed in English Nature's Inventory of Ancient Woodland as Langleys Wood. The northern area is dominated by mature small-leaved lime coppice with cherry standards with the south more ash and maple coppice. Ground flora typical of ancient woodland has been identified, such as bluebell, wood anemone and wood melick.

4.4 Biodiversity Action Plans and Priority habitats

The UK Biodiversity Action Plan (UK BAP, 1994) was the UK Government response to the 1992 International Convention on Biological Diversity. The UK BAP listed a range of habitats, plus a number of birds and species from other taxa of conservation interest. National targets and priorities were set in order to address the particular needs of those species. The list was amended in August 2007 to include additional species and habitats to reflect concerns over continuing declines. Much of the work previously carried out under the UK BAP is now focused through from country level down to local level through the creation of local biodiversity strategies. However, the UK BAP lists of priority species and habitats remain important and valuable reference sources.
In addition, Section 40 of the 2006 Natural Environment and Rural Communities Act states that 'Every public body must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity'. UK Priority habitats and species, listed within Section 41 of the Act, are normally taken as a good benchmark for demonstrating biodiversity duty.

In January 2014, Suffolk Biodiversity Partnership (SBP) - a consortium of over 20 organisations working for wildlife within the county - published revised statutory lists of Priority Habitats and Species occurring in Suffolk, and these have been subsequently updated and amended. In a small number of cases where previously no national BAP existed, certain species are described as Suffolk Character Species to reflect their particular importance within the county.

The following section deals with the Priority Habitats that are present in Edwardstone, identified using Defra's 'MAGIC' maps and other sources such as the Suffolk Hedgerow Survey. In most cases the habitat descriptions include Priority Species and other notable species as supporting evidence. For the majority of species, they are only referenced if they were noted during the field survey or are recent records (post 2000) held by Suffolk Biodiversity Information Service.

4.5 Suffolk Priority habitats in Edwardstone

Of the 24 Suffolk Priority habitats, eight are known to be present in Edwardstone parish:

- Hedgerows
- Mixed deciduous woodland

- Ponds
- Coastal and Floodplain Grazing Marsh
- Wood Pasture and Parkland
- Traditional Orchards
- Rivers and Streams
- Lowland fen

The Priority Habitats are described in more detail below to highlight the significance of these ecological assets within the parish. The format is in three parts:

1. General descriptions of the habitats as they relate to Suffolk
2. These are followed by descriptions of the Priority habitat as found in Edwardstone during the field survey, noting any associated UK and Suffolk Priority species
3. Finally, reference is made from the Suffolk BAPs (or other sources) to those development activities that are most likely to affect the Priority habitat as it exists in Edwardstone.

4.5.1 Hedgerows

General description of this Priority habitat in the context of Suffolk

Hedgerows are boundary lines of trees and/or shrubs, sometimes associated with banks, ditches and grass verges. Those considered ancient or species-rich or both are an important reservoir of biodiversity in the farmed landscape as well as being of cultural, historical and landscape importance. Hedges act as wildlife corridors, linking habitats of high biodiversity value such as woodland and wetland, thus enabling bats, other small mammals and invertebrates to move around under cover from predators.

Ancient hedgerows, which support a greater diversity of plants and animals than subsequent hedges, may be defined as those that were in existence before the Enclosure Acts, passed roughly between 1750 and 1850.

Species-rich hedgerows contain five or more native woody species on average in a 30 metre length. Those which contain fewer woody species, but a rich basal flora may also be considered as important. The Hedgerow Regulations 1997 define 'important' hedgerows as those with seven woody species, or six woody species in a 30m length, plus other defined features.

Key Priority species in Suffolk which use hedges and associated grassy verges include: brown hare, grey partridge, song thrush, linnet, turtle dove, corn bunting, tree sparrow, bullfinch and various species of bats. Hibernating reptiles and amphibians and invertebrates such as white-letter hairstreak butterfly on elm hedges also all make use of this Priority Habitat.

Hedgerows in Edwardstone

During the walkover survey, it was noted that many of the hedgerows associated with field boundaries, and roadsides are dense but relatively low. Many of these hedgerows are associated with ditches and banks, indicating their ancient pattern.

Hedgerows are important for a number of bird Priority Species and the Suffolk Bird Atlas 2007-11.

Edwardstone was one of the many parishes covered by the Suffolk Hedgerow Survey, 1998-2012. The 2012 report on this project shows that, although access was not granted to some landholdings, out of the 78 hedges surveyed for woody species:

- 8 contained 5, 6 or 7 species
- 70 contained 8 species or more

Therefore 100% of the sampled hedgerow resource within the parish can be deemed species-rich.

It must be noted that this summary is based on data collected in the early stages of the Suffolk Hedgerow Survey (2004) and that changes will have occurred since that time, both positive and negative. However, it remains broadly true that the hedgerows in the parish are an important reservoir for wildlife.

During the site walkover, the hedges were noted to contain a mix of blackthorn, field maple, hazel, hawthorn, dogwood, elm, dog rose, bramble, elder, ivy and clematis. Some ash, cherry and oak standards are present across some of the hedgerows. For the most part, hedgerows were higher and wider than 1.5m in average along their lengths, with no significant gaps (>0.5m) in the base or canopy. Undisturbed ground flora was variable, with some field margins narrower than others, but where present, undesirable species such as nettle are present but do not dominate. No invasive species were recorded and there was no evidence of any damage or disturbance through human intervention. Where present, oak standards were generally in good health, however some ash trees are exhibiting symptoms of die-back. This general assessment concludes that for the most part, the hedgerows are in good condition with no more than 1 failure across the criteria in total.

Hedgerow with standards typical of the road verges

Activities and developments most likely to affect Hedgerow Priority habitat in Edwardstone

- Removal to facilitate development, subsequent fragmentation of the hedgerow network arising from development;
- Under-management and neglect of hedges leads to a reduction of their biodiversity value and structural coherence (and occasionally leads to their complete disappearance);
- Too-frequent flailing can lead to structural incoherence and – if carried out in successive years - loss of hedgerow fruit in autumn, as flowering and fruiting normally takes place on second year growth;
- Mature hedges with a minimum grass strip separating them from arable land may suffer damage to tree and shrub roots through ploughing;
- Fertilizer and other agro-chemical drift may degrade plant and invertebrate populations, especially where a crop extends to the hedge base;
- Losses of veteran trees that may not be replaced by new plantings.

In order to improve the condition of the hedgerows, encouragement could be given to farmers and landowners to plug gaps in the hedgerows with native species of local provenance. A field margin of more than 1m to act as a buffer should generally be left untouched either side of a hedgerow, which, for the most-part is already the case. Although the ash trees present are showing some signs of die-back, they are still generally in good health, but this should potentially be monitored going forwards, particularly on public footpaths and highways for health and safety reasons.

4.5.2 Mixed deciduous woodland

General description of this Priority habitat in the context of Suffolk

This Priority habitat includes all broadleaved stands and mixed broadleaved and coniferous stands which have more than 80% of their cover made up of broadleaved species. It also includes patches of scrub of above 0.25 hectares forming a continuous canopy, areas of recently felled woodland and other successional types, along with the other integral features of woodland such as glades and rides.

These woodlands may be ancient (where cover existed before c 1600) or recent (where cover has been created since c 1600). Both these age designations may have semi-natural cover or plantation cover, depending on past management. Management can vary from coppice or coppice with standards to wood-pasture, high forest or minimum intervention. The latter, when found in ancient semi-natural woodland, contains some of the most important wildlife assemblages of any habitat.

Mixed deciduous woodland in Edwardstone

There are several blocks of this habitat throughout the Parish of Edwardstone, some of which are described in 4.2.2 and 4.3.1 (Edwardstone Woods SSSI, Milden Thicks SSSI and Round Maple CWS). Although not designated as Priority habitats, another named woodland block, Messine Wood, is present to the south of Edwardstone residential area and there are also a number of un-named woodland blocks throughout the parish; along the River Box in the south-west, associated with larger residential properties throughout the parish and small blocks on field corners.

Linear stretch of woodland to north of Temple Bar residential area (TL 94325 42360)

Messine Wood is comprised of two blocks of woodland connected by a hedgerow. There are two woodland ponds also associated with this woodland. Species present include mature sweet chestnut, lime, ash and oak with a sub-canopy of hazel, hawthorn, field maple, guelder rose and ash. Ground flora includes bramble, dock, nettle and false wood brome. Nettles were dominant in some areas, but it was a sub-optimal time of year for recording other woodland ground flora. There are three age classes of tree present with notable new growth, a good vertical structure and relatively little browsing damage. No veteran trees were recorded, but all species are native with no sign of invasive species. Some areas have been opened up for footpaths creating sunny glades and trees appear generally healthy, with the exception of ash, which is suffering from die-back. Deadwood has been left standing or where it has fallen in the woodland. This indicates that this woodland is in moderate condition, but for the purposes of the metric will be classed as 'fairly good' due to its high scoring within the moderate bracket.

Another linear block of woodland to the north of Temple Bar residential area was similarly assessed. This section of woodland was largely hornbeam with some mature oak and sweet chestnut. Blackthorn, hawthorn, elder and apple were present in the sub-canopy but only two age classes present across the two storeys present in the woodland, with no veteran trees. There is some evidence of browsing and nutrient enrichment, but all species are healthy and native with no invasive species present. Browsing has limited any regeneration, yet there is little open space other than the footpath. No significant deadwood was recorded. This indicates that this woodland is in moderate condition, however, it is close to being in poor condition.

Activities and developments most likely to affect the Mixed deciduous woodland Priority habitat in Edwardstone

- Further fragmentation of and within the existing woodland areas;
- Further loss of small copses of woodland within built-up areas;
- Overgrazing and over-browsing by expanding deer populations changes woodland structure through reduced regeneration;
- Lack of canopy management leading to over-shading and decrease in quality of understorey and ground flora;
- Intensification of management between woodland fragments reduces the ecological value; of edge habitats and the connectivity between woodland blocks in the landscape.

In order to improve the condition of the two woodlands described above, small glades could be created to allow better light penetration at ground level. These glades could be temporarily fenced to allow sapling and flora regeneration, protecting it from browsing. The linear stretch of woodland in particular would benefit from selective thinning of the hornbeam, leaving the felled wood in-situ or creating habitat piles with the cut wood to provide habitat for birds, small mammals and invertebrates and providing a substrate for growth of fungi. These measures could improve the condition of both areas of woodland from moderate/fairly good to good.

Biodiversity Net Gain assessment

The following tables show the Baseline Biodiversity Units (BU) (Table 1) and the potential for Biodiversity Uplift (Table 2) of selected areas surveyed within the parish. The recommendations provide a total net change of 10.91 BU, which equates to a 19.6% biodiversity net gain.

Table 1: Preconstruction ground-truthed baseline

Name	**Grid ref.**	**UK Hab Type**	**Distinctiveness Score**	**Condition Score**	**Area of habitat (ha)**	**Baseline BU**
Messine Wood	TL 94412 41729	Other woodland; broad-leaved	4	2.5	4.71	47.10
Linear wood north of Temple Bar	TL 94325 42360	Other woodland; broad-leaved	4	2	1.07	8.64
Total					**5.78**	**55.74**

Table 2: Post-construction BU Recommendation

Name	**Grid ref.**	**UK Hab Type**	**Distinctiveness Score**	**Condition Score**	**Area of Habitat (ha)**	**Uplifted BU**
Messine Wood	TL 94412 41729	Other woodland; broad-leaved	4	3	4.71	54.98
Linear wood north of Temple Bar	TL 94325 42360	Other woodland; broad-leaved	4	3	1.08	11.67
Total					**5.78**	**66.65**

4.5.3 Ponds

General description of this Priority habitat in the context of Suffolk

For the purposes of classifying this Priority Habitat, ponds are defined as permanent or seasonal standing water bodies up to 2 hectares in extent which meet one or more of the following criteria:

- Habitats of international importance
- Species of high conservation importance, for example ponds supporting Priority Species
- Ponds of high ecological quality, as determined by standard survey techniques

Ponds in Edwardstone

Information provided by Suffolk Biodiversity Information Service and from aerial photographs indicate that there are approximately 43 ponds spread throughout the Parish of Edwardstone. This may be an underestimate as this does not include all ponds within individual gardens.

A density of 0.6 ponds per km^2 shows that Edwardstone contains less than the average of 4.5 ponds/km^2 throughout the rest of the Babergh District. The majority of the ponds are associated with the settlements and large dwellings throughout the parish but ponds on the boundaries of woodlands are also common in the parish.

As access was limited it was only possible to visit very few of these ponds during the walkover survey, but reference to Google Earth imaging suggests that the majority still exist. There may also be an additional network of garden ponds, which it was not possible to identify during the field survey.

Pond on the edge of Messine Wood

Pond to the south of Millenium Green - Private

The pond on the edge of the northern section of Messine Wood has been cleared of vegetation on the south bank, allowing good light penetration with very little overshading. There were no obvious signs of pollution, although the water could not be fully assessed due to steep banks and dense cover of duckweed (approximately 95% cover). The pond is surrounded on its eastern, northern and western banks by semi-natural woodland habitat but there are no emergent aquatic macrophytes present. There are also no observed or known invasive species present, although New Zealand pygmyweed has been recorded in the parish, which is listed on Schedule 9 of the Wildlife and Countryside Act (1981). The pond appears naturalised with no artificial banks, dams or water control measures, is not connected to any ditches or drains and is not stocked with fish. As this pond is not entirely surrounded by woodland, it is not classed as a woodland pond and it

likely holds water all year round. This pond scores as being in moderate condition using the Defra Metric 4.0 Condition Assessment criteria.

Activities and developments that could affect the Ponds Priority habitat in Edwardstone

Ponds are dynamic systems, being both lost and created over time. However, loss or degradation of ponds - even if they are at low densities within a landscape network - may lead to a reduced diversity of wildlife as ponds become more isolated from one another, compromising species that may rely on a network of ponds for their survival. Examples of how such changes may occur include:

- Complete infilling due to loss of economic value or new development;
- Loss of terrestrial buffer zones in areas of intensive land use;
- Diffuse or point source pollution from nutrients or other chemicals;
- Inadvertent or deliberate introduction of non-native species such as New Zealand pygmyweed (Australian swamp stonecrop), least duckweed or ornamental fish;
- Neglect and/or lack of management resulting in heavy shading and drying out.

It should be noted that some apparently neglected ponds and many ephemeral ponds are of great interest for biodiversity and that a pond survey based on a standard procedure can do much to inform management decisions.

In the case of the Messine Wood pond assessed above, the cover of duckweed and lack of emergent vegetation are the criteria which the pond is marked as lower condition for. Duckweed may be present due to high nutrient content in the water, this could be from accumulated leaf litter and dredging the sediment in the pond may help restore the condition of the pond. High nutrient levels will also reduce the potential for the establishment of emergent macrophytes, so dredging would likely allow natural regeneration of this group. In turn, macrophytes will encourage invertebrate life which will all in turn contribute to maintaining the pond health once it has been restored.

4.5.4 Coastal and floodplain grazing marsh

General description of this Priority habitat in the context of Suffolk

This type of grassland is found on low-lying alluvium along the floodplains of rivers and adjacent to the Suffolk coast. It is characterised by a water table at or above ground level for some part of the year. Grazing marsh is defined as periodically inundated pasture or meadow, with ditches to maintain the water levels. Almost all areas are grazed, and some are cut for hay or silage. Sites may contain seasonal ponds with emergent swamp communities, but not extensive areas of tall fen species like reeds. However, grazing marsh may merge with fen and reed swamp communities. The mosaic of habitats within these sites provides a diverse environment, which support a wide range of plants, invertebrates, birds and animals.

These areas of flat, grazed land can be especially important for breeding, roosting and feeding waders and wildfowl. Ditches are especially rich in plants and invertebrates. Large losses of this habitat have occurred throughout the UK in the last century.

The seasonal inundation of water gives the vegetation a distinct composition, with species such as orange foxtail, creeping bent-grass, southern marsh orchid and lesser spearwort.

Important components of the grazing marsh ecosystem are the ditches that often form the field boundaries. These can support a variety of marginal and aquatic plant species, including water soldier, arrowhead, water-violet and frogbit. These ditches also support a variety of animals

including water vole and invertebrates such as the Norfolk hawker dragonfly.

Coastal and floodplain grazing marsh in Edwardstone

This habitat type is represented by the small area of low-lying grassland within the valley of the River Box, on Sherbourne Meadows CWS in the south of the parish. This area was not assessed as part of the walkover survey due to a lack of public access, however, it is connected to the wider parish via the ecological network of hedgerows and the surrounding environment via the River Box.

Activities and developments most likely to affect Coastal floodplain and grazing marsh Priority habitat in Edwardstone

- Agricultural intensification, including over grazing, 'over-efficient' dredging of dykes, maintenance of low water levels and spray drift from surrounding agricultural land;
- Neglect through decline in levels and extent of traditional grazing, including grazing of marginal vegetation ;
- Impacts of drought and ground water abstraction;
- Ecologically insensitive flood defence.

4.5.5 Wood pasture and parkland

General description of this Priority habitat in the context of Suffolk

Lowland wood pastures and parkland are the products of historical land management systems and represent a vegetation structure rather than being a particular plant community. Typically, this structure is one of large open-grown or high forest trees (often pollarded) at various densities, in a matrix of grazed grassland, heathland and/or woodland floras. It can include non-native species introduced as part of a designed landscaping scheme.

Historic landscapes can provide a wealth of habitats and niches for wildlife, especially fungi, invertebrates, bats and woodland birds.

Wood pasture and parkland in Edwardstone

There are two areas of Wood Pasture and Parkland Priority Habitat listed on Natural England's Priority Habitat Inventory on MAGIC: Area surrounding Home Farm and Gardners Cottage, to the east of the Church and a small area on the north-western boundary which is part of a much larger area of semi-natural habitat. The latter was not accessible during the survey and the former was viewed from the roadside only as it forms part of private grounds. Part of this parkland however, has a public footpath running through and in this a veteran oak with stag-horned branches and crevices stands, with a row of mature horse chestnuts.

Parkland and wood pasture associated with Home Farm and Gardners Cottage

Mature oak in parkland to south of Home Farm

Activities and developments most likely to affect Wood pasture and parkland Priority habitat in Edwardstone

- Reduction in structural and age diversity of woody species, including lack of replanting to replace lost mature/veteran trees or damage to young trees by cattle;
- Unsympathetic tree surgery including removal of fallen deadwood or standing deadwood (unless required for safety reasons);
- Cessation of grazing by cattle or sheep leading to changes to grassland habitat.

4.5.6 Traditional orchards

General description of this Priority habitat in the context of Suffolk

Traditional orchards are structurally and ecologically similar to wood pasture and parkland, with open-grown trees set in herbaceous vegetation. However, they are set apart by a number of factors as follows:

- Species composition - trees grown for fruit or nut production, such as apple, pear, plum, damson, walnut, cherry and cobnut;
- Management – low intensity grafting and pruning with little or no use of chemicals;
- Spacing – denser arrangement with good ground flora structure;
- Scale – small individual habitat patches;
- Dispersion and frequency – wider and greater occurrence in the countryside.

Traditional orchards are hotspots for biodiversity supporting a range of wildlife, particularly when associated with other features such as ponds, hedgerows, scrub, fallen deadwood and streams. The minimum size of a traditional orchard is defined as five trees with crown edges less than 20m apart.

Traditional orchards are not to be confused with commercial orchards which tend to be much larger in size, have more of a monoculture and are much more intensively managed.

Traditional orchards in Edwardstone

There is one traditional orchard listed on Natural England's Priority Habitat Inventory on MAGIC,

one associated with the gardens of a large house (School House) within the hamlet of School Green, which was not visited due to lack of access.

Activities and developments most likely to affect Traditional orchards Priority habitat in Edwardstone

- Inappropriate management;
- Use of pesticides;
- Pressure from land development;
- Neglect;
- Intensification of agriculture.

4.5.7 Rivers and streams

General description of this Priority habitat in the context of Suffolk

During a 2007 national review of BAP Habitats and species by Joint Nature Conservation Committee (JNCC) it was considered appropriate to create a new BAP specifically for rivers. The criteria for a Rivers BAP were published by JNCC in July 2010 and include:

- Headwater reaches;
- Presence of specific vegetation communities;
- Chalk rivers;
- Active shingle rivers;
- Sites of Special Scientific Interest designated for riverine features or species;
- Presence of priority BAP (Priority) Species or other indicator species.

Suffolk Biodiversity Partnership is currently in the process of drawing up a rationale, criteria and management prescriptions for rivers in Suffolk identified as Priority Habitat.

Rivers and streams in Edwardstone

The rivers and ditches throughout the Parish are an important feature of the landscape. The River Box runs along the south-western and southern boundaries, with several tributaries running through the parish from north to south.

Although the first five criteria above do not apply to these water courses, the list of Suffolk Priority Species and records for Edwardstone held by Suffolk Biodiversity Information Service shows the presence of otter and water vole recorded along the channels. Various bat species will most likely feed along the wooded margins of the river channel, particularly the species which tend to be associated with river valleys such as Daubenton's bat and soprano pipistrelle. The smaller tributaries and ditches also form part of the ecological connectivity network throughout the parish.

Activities and developments that could affect the Rivers and streams Priority habitat in Edwardstone

Inappropriate management of and adverse events within the river channel would include:

- Extensive dredging or channel re-alignment;
- Passage of major infrastructure schemes without mitigation of effects;
- Extensive removal of bankside trees;
- Severe point source pollution events.

4.5.8 Lowland fen

General description of this Priority habitat in the context of Suffolk

Fen habitats support a diversity of plant and animal communities. Some can contain up to 550 species of higher plants, a third of our native plant species, as well as up to and occasionally more than half the UK's species of dragonflies and several thousand other insect species. Most fens in Suffolk are designated as SSSIs.

Lowland fen in Edwardstone

A small area of Lowland Fen along the River Box corridor, close to Sherbourne Meadow CWS is listed on Natural England's Priority Habitat Inventory on MAGIC, however access was not obtained to the site so this could not be confirmed.

Activities and developments that could affect the Lowland fen Priority habitats in Edwardstone

- Agricultural improvement through ploughing, drainage, reseeding, fertiliser treatment and application of herbicides;
- Declining agricultural value of species-rich hay;
- Changes in plant communities through inappropriate grazing/cutting regimes;
- Reduction in the availability of the appropriate type and size of farm machinery for traditional hay making;
- Abandonment leading to rank overgrowth and scrub encroachment.

4.6 Suffolk Priority species in Edwardstone

Suffolk Biodiversity Information Service has provided records of species within the Parish. Those that are listed as protected or Priority species are as follows:

Mammals: Bats have been recorded in the churchyard, but species is unknown. There are hedgehog records for the more residential areas; water vole and otter have been recorded in association with the rivers and water courses throughout the Parish. N.B. Badger is also recorded and whilst is not a Priority species, it is protected under its own specific legislation.

Birds: A number of Red List and Amber List Birds of Conservation Concern (BoCC[5]) have been recorded, most of which are also Priority Species. The species associated with settlements include starling, song thrush, house sparrow, mistle thrush and dunnock.

Swift and barn owl are also recorded and are Suffolk Priority Species. Swift is classed as Endangered as a GB breeding bird according to International Union for Conservation of Nature (IUCN) criteria. Barn owl is listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).

Invertebrates: Small heath butterfly has been recorded.

Two amphibian and reptile species have been recorded in the parish: great crested newt and grass snake.

Trout and European eel have also been recorded in association with the River Box.

A number of Suffolk Rare Plant species have been recorded throughout the parish, indicated on Figure 2. These include; bee orchid, common valerian, early purple orchid, bluebell, shepherd's needle, grape hyacinth, sulphur clover, heath speedwell and wild strawberry. Orchard toothcrust, a mushroom which grows mainly on wood, has also been recorded.

There are also records of New Zealand pygmyweed and Japanese knotweed, which are listed as invasive on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

We note that this is a relatively low number of species records and is likely due to under-recording rather than an absence of species. Community activities such as organising a 'Bioblitz', utilizing local skills and seeking expert advice could help better represent the species present in the parish.

4.7 Built environment and associated Habitats

General description of this habitat in the context of Suffolk

This habitat refers broadly to the wide range of structures, materials and microhabitats found in the built environment, including (though not exclusively) farm buildings, houses, gardens, allotments and waste land. These built-up areas, gardens and associated spaces can form a significant proportion of the land use within a settlement, but still provide a wide range of habitats with significant biodiversity value. All provide opportunities and in some case refuges for a wide range of species to complete their life cycles.

The conservation importance of the built environment and its associated habitats also lies as much in the opportunities they provide for people to have close contact with wildlife as in the protection of common and scarcer species. Becoming familiar with the wildlife in a garden often stimulates interest in species and habitats within the wider countryside.

Built environment in Edwardstone

Edwardstone was listed in the Domesday Book as 'Eduardestuna' in the 12th century. It contains 31 Listed buildings including the Parish church, St Mary's, with the rest spread across the settlements of Mill Green, Priory Green and Round Maple.

There are a number of green spaces amongst the areas of housing. There are large mature gardens associated with many of the Listed buildings and dwellings, and there is a substantial community space to the east of Mill Green called Millenium Green.

St Mary's church and graveyard, with the Nationally Rare plant, Grape-hyacinth

Millenium Green community space

Millenium Green is community managed and contains a mosaic of habitats. The grassland here is comprised of a range of species typical of neutral sward including field scabious, lady's bedstraw, autumn hawkbit, common knapweed, wild carrot and hedge bedstraw along with species more

commonly associated with short-mown grassland such as daisy, dandelion, yarrow and white clover amongst Yorkshire fog, red fescue, cock's foot, perennial rye and meadow grasses. The meadow is mown in a central area where events are held, but this is surrounded by areas of longer sward with scattered scrub and trees including silver birch, oak, hazel, goat willow and horse chestnut.

Leaving a longer sward throughout the year is highly valuable for wildlife as it offers over-wintering habitat for invertebrates and small mammals, as well as offering winter seed heads as forage for birds. The existing management regime for this site appears to be delivering the best ecological outcomes and should be continued in the same manner.

On the western side of Mill Green there is an area of extensive scrub which could only be viewed from the road. Scrub is a highly valuable habitat, particularly for birds such as nightingale, linnet, white throat and turtle dove.

Activities and developments that could affect this habitat in Edwardstone

Rather than note adverse actions, there is a wide range of information and websites generally available on wildlife gardening. Some of the positive actions than individual gardeners can consider include:

- Creating ponds and mini wildflower meadows;
- Putting up swift boxes on buildings;
- Creating hedgehog highways between gardens;
- Composting and creating deadwood areas;
- Harvesting rainwater;
- Avoiding use of garden chemicals.

6 CONCLUSION

In conclusion, Edwardstone Parish has excellent connectivity throughout the parish, with hedgerows and ditches connecting the blocks of ancient woodland and the riparian corridor along the River Box. The parish contains eight Priority Habitats including hedgerows, mixed deciduous woodland, ponds, coastal and floodplain grazing marsh, lowland meadows, wood pasture and parkland, traditional orchards, and rivers and streams.

Although the majority of these habitats are in good condition, some opportunities for improvement have been highlighted, such as gapping up hedgerows throughout the arable landscape, some woodland management within the non-Priority woodlands and pond restoration in the woodland pond. Using the criteria set out in the Defra Metric 4.0 Condition Assessments, two blocks of woodland currently in 'moderate' condition could be improved to 'good' condition, thus resulting in a potential net gain of 10.91 Biodiversity Units, which is gives a 19.5% Net Gain.

Development Management guidance for any new developments within the area covered by this Neighbourhood Plan should seek to protect existing landscape and ecological assets and restore, enhance and reconnect the ecological network.

5 REFERENCES

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