



EARLS COLNE BIODIVERSITY AUDIT

April 2023

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Title of Report	Earls Colne Biodiversity Audit
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EARLS COLNE BIODIVERSITY AUDIT

Introduction

This report has been prepared by Essex Ecology, the ecological consultancy of Essex Wildlife Trust, for Earls Colne Parish Council. It comprises a desk-based biodiversity audit of Earls Colne parish, including a summary of notable habitats and designated sites, an assessment of ecological connectivity and reference to the area's importance for certain notable species.

Earls Colne is located approximately 12 kilometres north west of the city of Colchester, in north east Essex. The parish covers 1,197 hectares, containing the village of Earls Colne and bordering on the surrounding parishes of Coggeshall, Halstead & Greenstead Green Rural, Colne Engaine, White Colne and Great Tey.

Land use and habitats within the parish include ancient woodland, plantation woodland, parkland, grassland, amenity habitat (including two golf courses), land under arable cultivation and a stretch of the River Colne.

Objectives

The purpose of this audit is to highlight important biodiversity features within Earls Colne parish which are worthy of conservation, both within and outside of the planning system. It can also be used to highlight where important information is lacking or deficient, so that this can be addressed.

The Natural Environment and Rural Communities Act 2006 (NERC Act) imposes an obligation on all public bodies, including local authorities, to have regard to the conservation of biodiversity, particularly of those species and habitats identified as being of primary importance. Section 41 of the Act requires a list to be published that identifies such species and habitats, and for England these are now referred to as Species of Principal Importance in England and Habitats of Principal Importance in England (hereafter referred to in this report as SPIE and HPIE).

The Localism Act 2011 changed the powers of local government in England, with the aim of shifting the balance of decision-making powers from central government control to individuals and communities, including parish councils. This Act creates the opportunity for parish councils to develop Neighbourhood Plans, determined through consultation with the local community and guided, but not totally controlled by the local planning authority. It is intended as a means by which local communities can have more say in how their locality is developed, covering the provision of new homes and business opportunities, influencing landscape conservation and protection of the environment.

This audit is limited to ecological issues and does not consider aspects such as archaeology or landscape.

Methodology

Data on statutory designations, such as Sites of Special Scientific Interest, have been gained from the government website, www.magic.gov.uk. Data on non-statutory designated sites (Local Wildlife Sites) was sourced from records held by Essex Ecology.

Interpretation of habitat types and connectivity are based on a study of satellite imagery (including Google Earth) and Ordnance Survey maps, including historical (19th century) maps. The resultant habitat and connectivity data was mapped using QGIS 3.22.12.

Information on the presence of legally protected and otherwise notable species was gained through consultation with local natural history and nature conservation organisations. A search of data held by Essex Field Club was not commissioned as part of this study.

The audit was carried out by Colin Austin and Annie Northfield. Colin has worked for Essex Ecology for fifteen years and has experience in a wide range of ecological survey work, including legally protected species surveys and Preliminary Ecological Appraisals. He has been involved in numerous habitat surveys and Local Wildlife Site reviews. Annie is an Assistant Ecologist at Essex Ecology and holds a BSc in Zoology with Herpetology and an MScRes in Biological Sciences. She has undertaken reptile and amphibian surveys, reptile translocations, bat and invertebrate surveys, and has a particular interest in entomology.

Designated Sites

No habitat type receives blanket legal protection in itself, but specific areas of land that support such habitats, protected species or notable species assemblages can receive such protection. In these cases, the relevant land might be designated as a Site of Special Scientific Interest (SSSI), National Nature Reserve (NNR), Local Nature Reserve (LNR), Special Protection Area (SPA), Ramsar site or Special Area of Conservation (SAC). At a more local level, individual planning authorities are required by government policy to identify areas of substantive nature conservation interest and, in Essex, these are termed Local Wildlife Sites (LoWS).

There are eight designated sites, including LoWS, within Earls Colne parish.

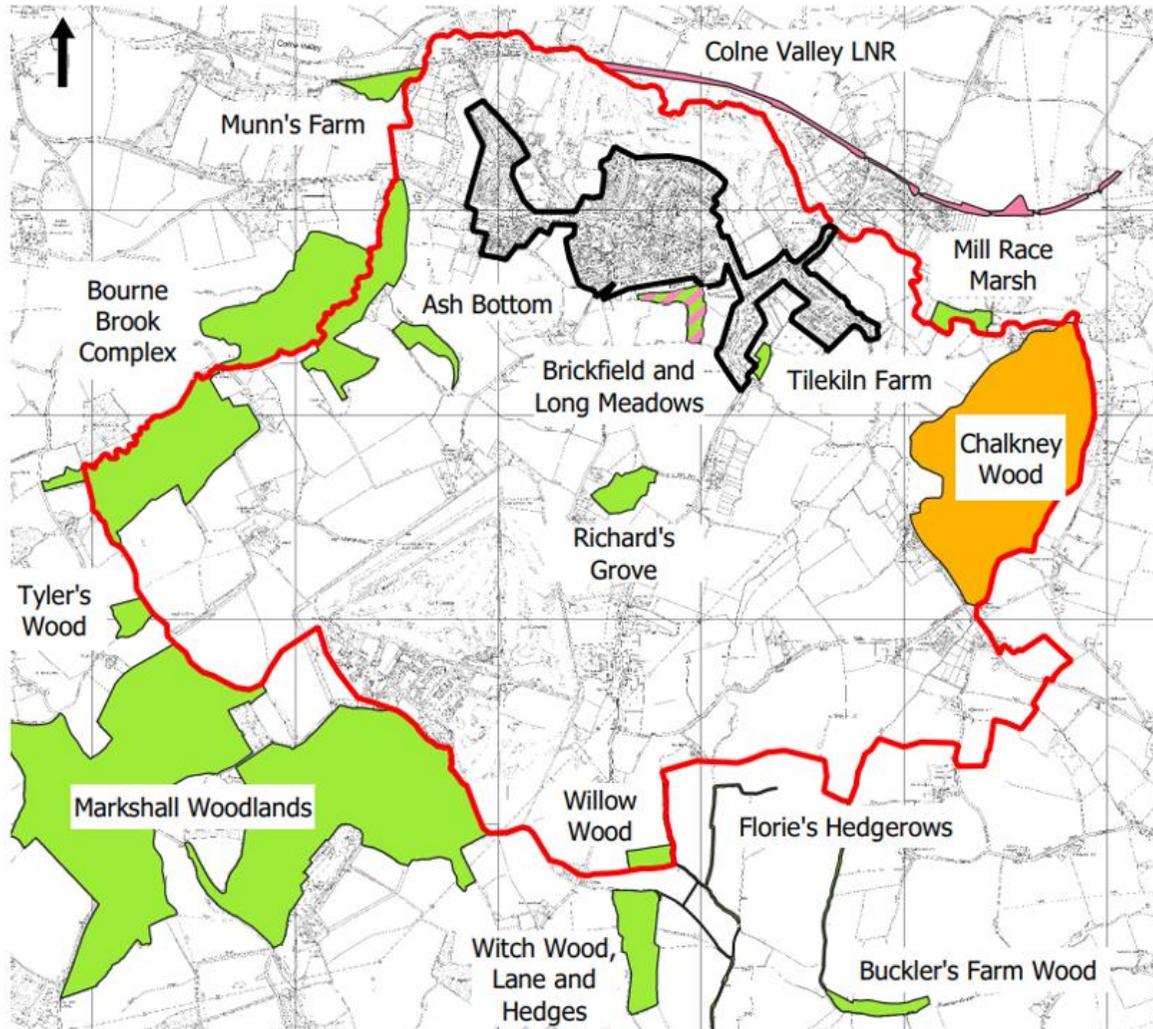
Five of these are woodland; Chalkney Wood SSSI, Ash Bottom LoWS (Bra203), Florie's Hedgerows LoWS (Co1) (includes part of the ghost outline of a former wood, now a selection of hedgerows linking to other woodland LoWS both in and outside the parish), Richard's Grove (Bra214), and Willow Wood (Bra218). Four of these five sites, Chalkney Wood, Florie's Hedgerows, Richard's Grove and Willow Wood, are ancient woodland sites.

The remaining three designated sites (Bourne Brook Complex LoWS (Bra197), Brickfield and Long Meadow LNR/LoWS (Bra221) and Tilekiln Farm LoWS (Bra226)) are a mixture of grassland and mosaic scrub habitats.

Map 1 (below) shows the location of designated sites within and adjacent to Earls Colne parish.

Individual citations for each of these sites are provided in Appendix 1.

Map 1: Designated sites within and adjacent to Earls Colne parish



Designated Sites within and adjacent to Earls Colne Parish

- Parish Boundary
- Village Envelope
- Local Wildlife Sites (LoWS)
- Sites of Special Scientific Interest (SSSI)
- Local Nature Reserves (LNR)



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The designated sites are as follows:

- Chalkney Wood SSSI is a 72.6 ha area of ancient woodland with notable floral diversity located on the eastern side of the parish.
- Ash Bottom LoWS (Bra203) is a 2.9 ha stream valley wood dominated by Ash and Sweet Chestnut.
- Bourne Brook Complex LoWS (Bra197) is a 73 ha habitat mosaic comprising grassland, woodland, plantation woodland and marsh. This LoWS is situated along much of the north western border of the parish, with some of the site within the parish and some outside. The site is close to Tyler's Wood LoWS and Markshall Woodlands LoWS.
- Brickfield and Long Meadow LNR/LoWS (Bra221) is a 3.3 ha area of wet marshy grassland, woodland and scrub. This nature reserve is located close to the Earls Colne village envelope.
- Florie's Hedgerows LoWS (Co1) is a 1.4 ha 'ghost' outline of the former Florie's Wood, plus adjoining ancient hedgerow. While listed as a Colchester LoWS, parts of the site lie in Braintree District, and the site also links directly to Witch Wood, Lane and Hedges LoWS (Bra216) and Buckler's Farm Wood LoWS (Co2).
- Richard's Grove LoWS (Bra214) is a 4.1 ha area of ancient wood located in the centre of the parish.
- Tilekiln Farm LoWS (Bra226) is a small (0.9 ha) area of grassland located in the eastern part of the parish.
- Willow Wood LoWS (Bra218) is a 2.2 ha area of ancient woodland located in the south east of the parish, on the parish boundary. This site connects to Florie's Hedgerows LoWS and is close to Witch Wood, Lane and Hedges LoWS (Bra216).

There is a single Local Nature Reserve located just outside (north) of the parish. This is Colne Valley LNR, which is notable for its bird life, bats, Otters and Stag Beetles.

Finally, there are four Local Wildlife Sites located outside the parish but adjacent to the parish boundary. These are:

- Munn's Farm (Bra199), an area of wet scrub with Cricket Bat Willow plantations, located north west of the parish boundary.
- Mill Race Marsh (Bra237), a marshy grassland located north east of the boundary and approximately 150 metres north west of Chalkney Wood.
- Markshall Woodland (Bra181), a large (171.1 ha) complex of woodland, including ancient woodland and coppice, located adjacent to the southern parish boundary.
- Tyler's Wood (Bra185), a small woodland on the south western boundary, approximately 150 metres north west of Markshall Woodland.

Habitats and Connectivity

In addition to the designated sites described above, which are primarily a mixture of woodland and grassland, other areas of potentially valuable habitat were identified during this audit. Twenty specific areas of habitat are described below in the form of numbered target notes and shown on Map 2 (below). These were selected using aerial photographs and maps, including 19th century Ordnance Survey maps which highlight areas of habitat which may have been present since that time.

- 1: A large (14 ha) block of grassland, scrub and young trees. Ordnance Survey maps from 1881 show, to the south side of the north easterly flowing stream, a block of woodland called Greatfen Ashground. This mosaic habitat provides a link between areas of pasture grassland (target note 13) and the designated sites Richard's Grove LoWS and Chalkney Wood SSSI.
- 2: Hedgerows on the parish boundary. These hedgerows likely form part of an ancient hedgerow network contiguous to Florie's Hedgerows LoWS (Co1), a boundary "ghost" bank outline of Florie's Wood and adjoining ancient hedgerow. These hedgerows are isolated from the central parish habitats (target note 13) by arable land.
- 3: Former survey shows this as broadleaf plantation, with a hedgerow to the east side. It provides connectivity between Bourne Brook Complex LoWS (Bra197) and Ash Bottom LoWS (Bra203).
- 4: Earls Colne Millennium Green is comprised of grassland, scrub and woodland. The habitats within the site which are highlighted on Map 2 are areas of scrub woodland and rough grassland.
- 5: A small, isolated fragment of woodland, which can be seen on the 1881 OS map, and an adjoining area of grassland. A hedgerow connects to Homely Ash Grounds, which is part of Bourne Brook Complex LoWS (Bra197).
- 6: A small, isolated fragment of woodland which appears on the 1881 OS map.
- 7: Long Ley Grove and hedgerows on the parish boundary, all shown on the 1881 OS map. Hedgerows provide connectivity between Bourne Brook Complex LoWS (Bra197), Tyler's Wood LoWS (Bra185) and through to Markshall Woodlands LoWS (Bra181), connecting a large area of habitat and providing a corridor for wildlife.
- 8: This secondary woodland (not shown as wooded on 1881 map) has developed to extend into a corridor for wildlife. While not connected to Long Ley Grove, the nearest area of woodland, it has the potential for connectivity to this site.
- 9: This small wooded area lies to the north of the old Colne Valley Railway. This site is close to Colne Valley LNR, with potential for connectivity. The site is not wooded on the 1881 OS map.
- 10: Corridor of plantation woodland connecting to Earls Colne Millennium Green (target note 4). The site is not wooded on the 1881 OS map.
- 11: A west-east hedgerow network running through the centre of the parish, consisting of generally well-developed hedgerows (mainly intact and with numerous trees), forming a corridor for wildlife from Ash Bottom LoWS (Bra203), via Richard's Grove LoWS (Bra214), Scrub Habitat (target note 1), and towards Chalkney Wood SSSI.
- 12: This area of grassland adjacent to the River Colne is potential floodplain or grazing marsh.

- 13: Rough pasture grassland, which extends around Richard's Grove LoWS (Bra214) and Mosaic Grassland (target note 1). The Hedgerow Network (target note 11) connects through this area of habitat.
- 14: This area of rough grassland, mosaic scrub and a small incursion of woodland is located next to Tilekiln Farm LoWS (Bra226).
- 15: An area comprising rough grassland and scrub habitat next to a brook adjacent to Brickfield and Long Meadows LoWS (Bra221).
- 16: A small wooded area (1.7 ha) to the north of the Golf Course and Airstrip (target note 17), relatively close to the central hedgerow network (target note 11).
- 17: A large golf course and adjoining airstrip in the south of the parish, comprising a large (97 ha) area of secondary habitat. While much of the grassland is intensely managed and the possibility exists that it is also degraded by use of herbicides or growth regulators, the site nonetheless represents a large swathe of short grassland among a mosaic of interspersed scrub, rough grassland and secondary woodland, with several small ponds.
- 18: A second golf course is located in the north of the parish, bordered on the northern side by the River Colne. As with the other golf course (target note 17) the habitat is secondary, featuring short grassland, trees and scrub, and small ponds, with the possibility of degradation occurring in the smaller areas of habitat.
- 19: A small area of rough grassland in the north west of the parish, fenced off and in use as an electrical sub-station or similar. This site is bordered by the River Colne to the north west, connecting it to the habitats surrounding the old Colne Valley railway line, including the strip of woodland (9), Colne Valley LNR, and Munn's Farm LoWS.
- 20: The River Colne marks the northern border of the parish. This is an important habitat and corridor for wildlife and provides connectivity between the habitats on the northern parish boundary, as well as between the neighbouring parishes.

The following table summarises those Habitats of Principal Importance in England (HPIE) that are or may be present within the parish. It should be noted that some such habitats, such as 'ponds' and 'rivers', have quite precise definitions for inclusion as HPIE, so that by no means all ponds and rivers would qualify. Other definitions (e.g., 'hedgerows' and 'lowland mixed deciduous woodland') are very broad in their definition, with a large proportion of examples qualifying.

The following evaluations of importance should be considered provisional in the absence of field surveys. They are intended to provide an indication of likely levels of importance (on a geographical scale) of the habitat types, rather than a definitive evaluation of specific areas and sites.

Table 1: Habitats of Principal Importance in England

HPIE Habitats	Present (Y/N/?)	Importance						
Habitat name		Site	Parish	District	County	Regional	National	International
Hedgerows	Y		*					
Eutrophic standing waters	Y	*						
Ponds	Y		*					
Rivers	Y				*			
Lowland meadows	Y				*			
Floodplain grazing marsh	Y			*				
Lowland mixed deciduous woodland (ancient)	Y						*	
Lowland mixed deciduous woodland (non-ancient)	Y		*1	*1				
Wet woodland	Y			*				

¹ Level of importance cannot be determined without field survey

In addition to those habitats listed above, several other HPIE may also be present within the parish, but field surveys would be required in order to confirm their presence and status. These are arable field margins, traditional orchards, open mosaic habitats on previously developed land (i.e., biodiverse brownfield sites) and reedbed.

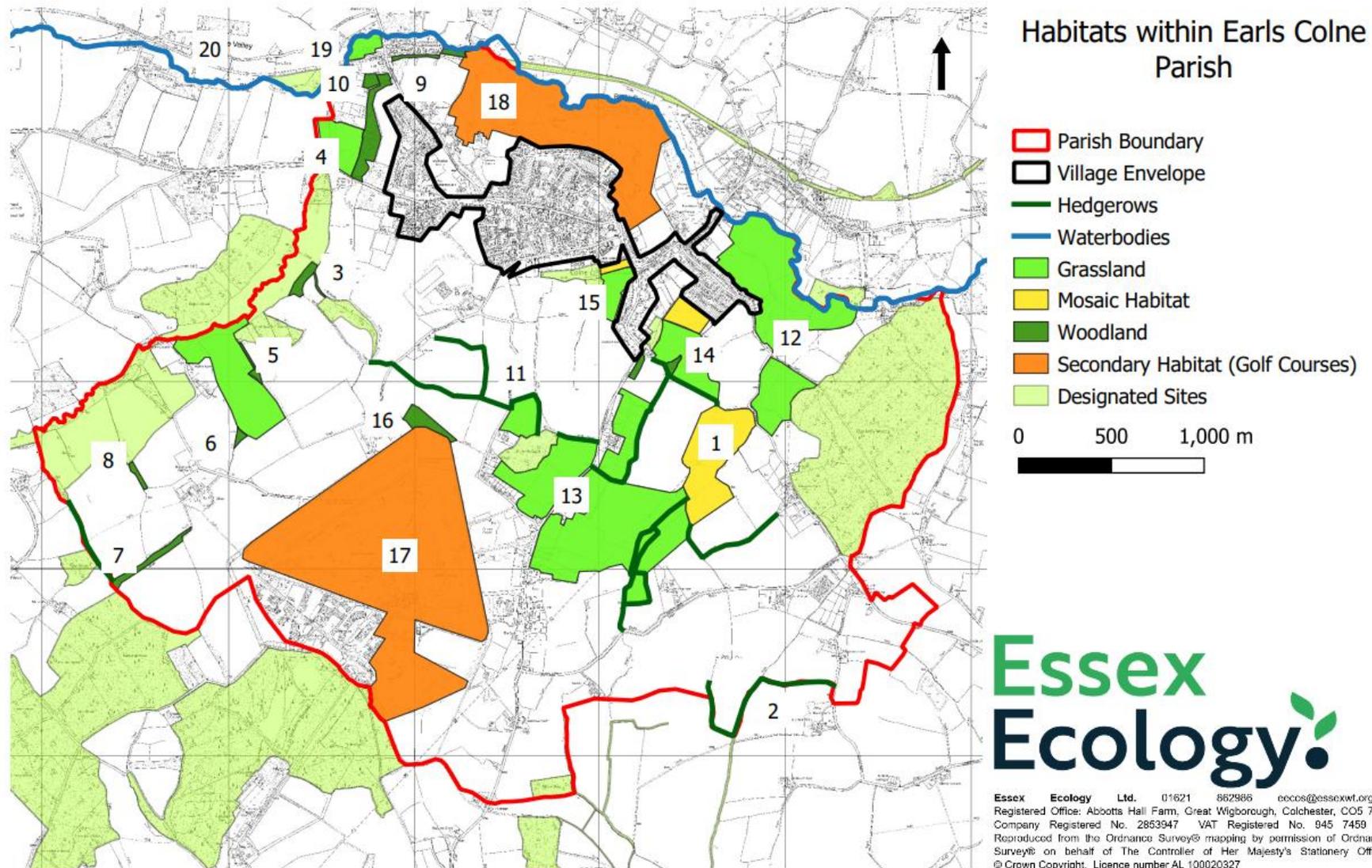
The parish of Earls Colne has fairly good ecological connectivity with neighbouring parishes, particularly with Coggeshall and Halstead and Greenstead Green Rural, where LoWS and other areas of habitat lie adjacent to similar habitats within Earls Colne parish. Almost the whole northern border of the parish (approximately four kilometres) is demarcated by the River Colne, which is an important freshwater habitat and wildlife corridor, connecting to other areas of habitat beyond the parish boundaries.

The western part of the parish has good ecological connectivity, with Bourne Brook Complex LoWS linked with woodland outside the parish, including Markshall Woodlands, by hedgerows and small woodland areas. This effectively means that most of the western parish boundary (a total of approximately five kilometres) consists of connected woodland habitat.

A network of hedgerows provides connectivity within the central area of the parish, linking the woodlands to the east and west, as well as grassland areas. The presence of mature trees in many of these hedges adds considerable ecological value to what are already highly important features for a wide range of wildlife.

In summary, the parish of Earls Colne contains a network of important wildlife habitats, with a reasonable degree of connectivity between them. The key sites are the ancient woodland of Chalkney Wood SSSI, the primarily woodland and grassland Local Wildlife Sites, the network of hedgerows and the River Colne and its riparian corridor. The golf courses provide pockets of woodland and rough grassland habitat and there are numerous small areas of trees, grassland and scrub around settlements and farms.

Map 2: Habitats within Earls Colne Parish (numbers indicate target notes)



Species

Summary

In the absence of a specific Essex Field Club data search, alternative sources of information on the occurrence of notable species in the parish were consulted, including local naturalists and organisations, and Essex Wildlife Trust databases. This section provides a brief account of certain notable species and groups that occur in the parish, including brief details of their legal protection, where relevant. More detailed information about legal protections can be provided if desired.

There are several notable mammals and birds, including Otters, Water Voles, Barbastelle Bat, historical records of Dormice, Barn Owl and Kingfisher. Slow Worms, Common Lizards and Grass Snakes are present, and are known to occur in several areas of good rough grassland habitat, including Earls Colne Millennium Green and Brickfield and Long Meadow LoWS. Great Crested Newts are present, including in Chalkney Wood, while Smooth Newts and Common Toads are present elsewhere in the parish.

European Eel and Bullhead were recorded in the River Colne, within the parish, in 2017.

Notable protected invertebrates include Stag Beetle and Purple Emperor butterfly, and the area benefits from local entomological recorders and records published by the Essex Moth Group.

The flora of the parish includes a number of protected and uncommon plant species, including Violet Helleborine and Herb Paris, and also has twenty seven veteran/notable trees, some of which are within the village itself.

Mammals

Bats

Bats use a range of habitats and corridors, including woodland, woodland edge and hedgerows. Areas of particular suitability for bats are the large designated sites of Chalkney Wood and Bourne Brook Complex, but the smaller woodland and scrub corridors around target notes 7 and 13, given their connectivity to larger designated sites, are also likely to be suitable for foraging or roosting bats. As well as hosting a number of widespread bat species, including Common and Soprano Pipistrelle and Brown Long-eared Bat, the much rarer Barbastelle was recorded in Chalkney Wood in 2017. This scarce species is a woodland specialist that roosts almost exclusively in trees. Markshall Woodlands, just outside the parish boundary, is an important hibernation site for Barbastelle, Brown Long-eared Bat, Daubenton's Bat and Natterer's Bat.

Bats are protected under the Wildlife and Countryside Act 1981 and the Conservation of Habitats and Species Regulations 2017, and all species of bats and their roosts receive full protection from injury, killing and disturbance. The following bat species are Species of Principal Importance in England that occur regularly in Essex: Barbastelle, Noctule, Soprano Pipistrelle and Brown Long-eared Bat.

Badgers

Badgers will use grassland, woodland, gardens and parkland to forage, including within urban areas. Much of the parish, including areas of grassland, arable land and woodland, is suitable for foraging Badgers, although setts are likely to be restricted to larger areas of woodland, such as Chalkney Wood and Bourne Brook Complex. They are well-established in Chalkney Wood and around the parish.

Badgers receive legal protection under the Protection of Badgers Act 1992, which protects the animals from killing, injury or disturbance.

Dormice

Dormice were recorded from Chalkney Wood in 2005, and the woodland still provides good habitat, although there do not seem to be more recent records of the species at this location. Other potential areas of suitable Dormouse habitat include areas to the south west of the parish, from Markshall Woodland LoWS, just outside the parish boundary, connecting to Tyler's Wood LoWS and Bourne Brook Complex through woodland and hedgerow networks.

Dormice and their resting places are fully protected under the Wildlife and Countryside Act 1981 and the Conservation of Habitats and Species Regulations 2017.

Water Voles

Water Voles are an iconic British mammal, found in a number of wetland habitat types including ponds, rivers, streams and ditches. Their preferred habitats are still and slow-moving water bodies with vegetated margins and banks to burrow into. Water Voles have been historically vulnerable to the effects of habitat loss and predation by invasive American Mink, and populations have become fragmented or lost in many British rivers and wetlands. The species was reintroduced to the parish in 2010-2012, and they are now resident on the River Colne.

Water Voles are protected under Schedule 5 of the Wildlife and Countryside Act 1981, protecting both the animals and their habitat.

Otters

After experiencing massive decline in Britain up until the 1970s, primarily due to habitat destruction, Otters have made a good recovery and can now be found in many waterways in the UK. In the parish, they are resident along the River Colne, with field signs recorded into early 2023.

Otters and their habitats are fully protected under the Wildlife and Countryside Act 1981 and the Conservation of Habitats and Species Regulations 2017.

Other Mammals

Chalkney Wood and the surrounding area is home to several other mammal species, including Brown Hare, Western Hedgehog (which can be found within the village envelope), Stoat, Common Shrew and Fallow Deer.

Several non-native mammals are known to occur in the parish. The presence of Reeves' Muntjac and Grey Squirrel reflect widespread distributions countrywide. Small numbers of American Mink are still trapped along the Colne and a local eradication scheme is due to start for this species in the interests of conserving local Water Vole populations.

Birds

With regards to notable and protected bird life around the parish, several 'Schedule 1 species' (certain rare or threatened species, see below) are present. including Kingfisher, Barn Owl, Red Kite and Treecreeper.

Barn Owls are present in several areas around the parish, notably around Chalkney Wood and the nearby area of floodplain adjacent to the River Colne (target note 12), and around arable fields in the west of the parish between Brickfield and Long Meadow LoWS and target note 3.

Kingfishers are present along the River Colne and may well breed within the parish. This species undoubtedly uses the river as a corridor to travel between sites.

Chalkney Wood in particular has a history of notable bird life, with previous records from throughout the 1980s of breeding Hawfinch, Willow Tit and Lesser Spotted Woodpecker. Since the 1990s, these species have ceased breeding in the wood, although can still be seen sporadically around the area and elsewhere in north Essex. Additional losses from the woodland include Nightingale and Turtle Dove. Reasons for the decline of these species could include disturbance from woodland management, disturbance from visitors, reduction of suitable trees, or could be a reflection of wider trends, such as climate change. However, numerous species still breed in the wood, and Ravens have recolonised the area and have bred at the nearby Marks Hall Estate, which incorporates Markshall Woodland LoWS.

Other bird species present in the parish include Blackbird, Blue Tit, Buzzard, Carrion Crow, Coal Tit, Collared Dove, House Martin, Cuckoo, Dunnock, Feral Pigeon, Fieldfare, Goldcrest, Goldfinch, Great Tit, Green Woodpecker, Grey Heron, House Sparrow, Jackdaw, Jay, Kestrel, Little Owl, Magpie, Moorhen, Pied Wagtail, Rook, Song Thrush, Starling, Stock Dove, Swallow, Swift, Tawny Owl, Waxwing, Woodpigeon, Wren, and Yellowhammer.

The Wildlife and Countryside Act 1981 makes it an offence, amongst other things, to intentionally kill or injure any wild bird; or to take, damage or destroy their nests or eggs. Schedule 1 of the Act includes certain rare or threatened species, and it is an offence to intentionally disturb any bird (including young and nests) protected under this Schedule.

Reptiles and Amphibians

The parish has numerous reptile and amphibian records, with some areas (such as Earls Colne Millennium Green (target note 4) and Chalkney Wood) providing rough grassland and Bramble scrub habitat for Common Lizards, Slow Worms and Grass Snakes. The River Colne corridor provides an excellent route for the movement of species such as Grass Snakes. The potential for amphibians to be present on either golf course in the parish (target notes 17 and 18) would be a potential factor for assessing the likelihood of Grass Snakes at these sites.

There are no records of Adders in the parish, and the habitat types present are not likely to support this species.

There are three records of Great Crested Newts (GCN) from within the last fifteen years, and there are historic records from nearby Chappel and Colne Engaine. Two of the Earls Colne GCN records are from specific locations: Chalkney Wood and Earls Colne Golf Course (target note 17).

Other amphibians in the parish include Smooth Newts, Common Frogs and Common Toads (a Species of Principal Importance). Earls Colne Millennium Green (target note 4) provides rough grassland habitat suitable for the movement and foraging of amphibians, and Common Toad is known from the site already. Connectivity with other sites is particularly important for amphibians, which habitually use the same breeding locations and are at particular risk when their annual migrations cross roads. Both golf courses (target notes 17 and 18) support ponds, although use by amphibians has not been confirmed.

All of the UK's native species of reptiles are protected by the Wildlife and Countryside Act 1981 (as amended) such that it is an offence to intentionally kill or injure any reptile. All reptile species are also Species of Principal Importance in England, and despite not having a licensing system, they are still considered and mitigated for when it comes to ecological surveying and development. There is extensive legal protection in place for Great Crested Newts, which are fully protected by the Wildlife and Countryside Act 1981 and the Conservation of Habitats and Species Regulations 2017. GCN is also a Species of Principal Importance.

Fishes

Following an agricultural chemical spill in the River Colne in 2012, which was responsible for widespread loss of biodiversity and fish deaths between Great Yeldham and Earls Colne, the river has recovered and a number of uncommon fish species are still present in the river within the parish boundary. These include Bullhead and European Eel, with the most recent records of both species being from 2017, recorded by the Environment Agency (source: NBN database).

Several species of fish are protected under the Wildlife and Countryside Act 1981, Salmon and Freshwater Fisheries Act 1975 and Eels (England and Wales) Regulations 2009.

Invertebrates

The parish has generally good terrestrial invertebrate habitat spread across multiple sites. Chalkney Wood hosts a diverse array of butterfly and moth species, with colonisation of Purple Emperor (*Apatura iris*), Silver-washed Fritillary (*Argynnis paphia*) and White Admiral within the last few years. The woodland is also home to the relatively elusive White-letter Hairstreak and Purple Hairstreak (*Neozephyrus quercus*). Several scarce moths have been recorded from the vicinity of the wood, including White-spotted Pinion (*Cosmia diffinis*), the only sighting of which was recorded in 2002, and Clifden Nonpareil / Blue Underwing (*Catocala fraxini*), first recorded in the woods in 2021 by local moth recorders. Of particular note is Pine Cone Tortrix (*Gravitarmata margaritana*), the first record for Essex when recorded by Daniel Blyton and publicised in the Essex Moth Group Newsletter, 2022. The Nationally Notable Black Longhorn Beetle (*Stictoleptura scutellata*) and Hazel Leaf-roller (*Byctiscus betulae*) are also recorded from the wood.

Chalkney Wood, as well as the Colne Valley LNR, just outside the parish, also supports Glow-worms (*Lampyrus noctiluca*).

Brickfield and Long Meadow LoWS and Earls Colne Millennium Green both host areas of rough grassland, with wildflower meadow areas planted at Millennium Green. These are an attractant for a number of grassland and meadow species such as Common Blue butterfly (*Polyommatus icarus*), Roesel’s Bush Cricket (*Metrioptera roeselii*) and Tortoise Shieldbug (*Eurygaster testudinaria*).

Earls Colne parish is also situated on a ‘B-line’, which aims to connect existing wildlife sites into a network by which pollinating insects and other wildlife can travel between sites (Buglife, 2023).

Signal Crayfish (*Pacifastacus leniusculus*), a Schedule 9 invasive species, is present along the River Colne. With only a single 1992 record of the native White-clawed Crayfish (*Austropotamobius pallipes*) from within the parish, it can be reasonably assumed that any local populations are unlikely to have persisted. It is also thought that the Colne may host relict populations of Turkish or Narrow-clawed Crayfish (*Astacus leptodactylus*), another non-native species.

Few species of invertebrate receive legal protection, but those of relevance to the parish are shown in the following table.

Table 2: Legally protected invertebrate species of relevance to Earls Colne parish

COMMON NAME	SCIENTIFIC NAME	RELEVANCE TO EARLS COLNE PARISH	PROTECTION STATUS
White-clawed Crayfish	<i>Austropotamobius pallipes</i>	Previously recorded in river Colne within parish (1992), but likely displaced by Signal Crayfish.	Habitats Directive IIa, Iva, Bern Convention Appendix III. WCA/WNIO : Partial protection
Roman Snail	<i>Helix pomatia</i>	Historic records from near Chalkney Wood, found in other Braintree District parishes.	Habitats Directive Va, Bern Convention Appendix III. WCA/WNIO : Partial protection
Stag Beetle	<i>Lucanus cervus</i>	Found in adjacent Colne Valley LNR, according to citation. Also recorded generally from the village. Chalkney Wood SSSI and Bourne Brook Complex provide suitable habitat, but the species is not confirmed at these locations.	Habitats Directive IIa, Bern Convention Appendix III. WCA/WNIO : Sale only
Purple Emperor	<i>Apatura iris</i>	Recolonised Chalkney Wood in recent years, can now be seen regularly in the wood.	WCA: Sale only, S. 9 (5). 1989
White-letter Hairstreak	<i>Satyrium w-album</i>	Present in Chalkney Wood.	WCA: Sale only S. 9(5). 1989.

Invertebrates present in the parish which are Species of Principal Importance include the following butterflies and moths: White Admiral (*Limenitis camilla*), White-letter Hairstreak (*Satyrium w-album*), Knot Grass (*Acronicta rumicis*), Grey Dagger (*Acronicta psi*), Mouse Moth (*Amphipyra tragopoginis*), Dusky Brocade (*Apamea remissa*), Garden Tiger (*Arctia caja*), Sprawler (*Asteroscopus sphinx*), Centre-barred Sallow (*Atethmia centrago*), Mottled Rustic (*Caradrina morpheus*), Streak (*Chesias legatella*), Latticed Heath (*Chiasmia clathrate*), Dusky Thorn (*Ennomos fuscantaria*), Spinach (*Eulithis mellinata*), Small Emerald (*Hemistola chrysoprasaria*), Lackey (*Malacosoma neustria*), White Ermine (*Spilosoma lubricipeda*), Buff Ermine (*S. luteum*), Blood Vein (*Timandra comae*), Cinnabar (*Tyria jacobaeae*) and Oak Hooktip (*Watsonalla binaria*).

The absence of a species from the above list does not necessarily indicate that it does not occur within the parish; the field of invertebrate recording is a rapidly evolving one, many species remain under-recorded and species distributions are likely to change in the future, particularly as annual weather and climate patterns change.

Flora

This part of the audit provides a brief outline of the botanical highlights of the parish according to the sources of information consulted in its preparation.

Florie's Hedgerows LoWS (on and adjacent to the southern parish boundary) retains elements of species composition and structure indicative of features surviving from the ancient landscape. Notable species include particularly strong indicators of ancient woodland and hedgerows, such as Small-leaved Lime (*Tilia cordata*), Wild Service-tree (*Sorbus torminalis*) and Midland Hawthorn (*Crataegus laevigata*).

Historic maps show that the outline of Chalkney Wood has remained largely unchanged since 1598. This SSSI woodland supports a considerable number of ancient woodland indicators, both in the canopy and ground flora. The site is notable for its stands of Small-leaved Lime. Rackham (2003) regards a wood such as this, with this species, to be medieval or possibly earlier in date. The site also has a number of rarer herb species that are recorded on the Essex Red Data List (ERDL). This list includes species that are found in very few sites in Essex or are declining rapidly. The SSSI citation shows that Chalkney Wood has four ERDL plants: Narrow Buckler-fern (*Dryopteris carthusiana*), Herb-Paris (*Paris quadrifolia*), Thin-spiked Wood-sedge (*Carex strigosa*) and Violet Helleborine (*Epipactis purpurata*). In addition, some rare mosses and liverworts are also recorded from the site.

The mosaic of grassland and woodland along Bourne Brook provides important wildlife habitat in the north west of the parish. Bourne Brook Complex LoWS straddles the boundary between Earls Colne and neighbouring parishes. Six ERDL species have been recorded from this site. Five of these, Common Sedge (*Carex nigra*), Wood Club-rush (*Scirpus sylvaticus*), Tubular Water-dropwort (*Oenanthe fistulosa*), Opposite-leaved Golden-saxifrage (*Chrysosplenium oppositifolium*) and Alternate-leaved Golden-saxifrage (*C. alternifolium*) are typical of wet or boggy habitats. Of the two saxifrages, the latter is the rarer. The sixth ERDL species recorded from Bourne Brook Complex is Toothwort (*Lathraea squamaria*). This plant is parasitic on a range of woody plants and is extremely rare in Essex. Opposite-leaved Golden-saxifrage is also recorded from Ash Bottom LoWS.

The parish has two identified old grasslands: Brickfield and Long Meadow LoWS and Tilekiln Farm LoWS, both considered as Lowland Meadows HPIE. In particular, Tilekiln Farm has important wet grassland, with a record for Marsh Ragwort (*Jacobaea aquatica*), a very rare ERDL species. Many Essex wet grasslands have declined in recent decades due to drainage and agricultural improvement.

Twenty seven notable/veteran trees have been recorded in the parish, ten of these recorded from Brickfield and Long Meadow LNR. Most of the others are scattered throughout the parish. Along with three Limes (*Tilia* sp.) found in the churchyard of St Andrews parish church, the bulbous perennial herb Fritillary (*Fritillaria meleagris*) is also recorded. This species is generally considered a neophyte (introduced after 1500 CE), most frequently planted, where it readily becomes naturalised from seed.

There is reported presence of two invasive non-native plants in the parish: Rhododendron (*Rhododendron ponticum*) and Himalayan Balsam (*Impatiens glandulifera*). These are listed on Schedule 9 of The Wildlife and Countryside Act 1981 (as amended). This makes it an offence, amongst other things, to plant or otherwise cause to grow in the wild any plant that is included in Part II of Schedule 9.

Appendix 1 : Designated Site Citations

SSSI Citations

Chalkney Wood SSSI

SITE NOTIFIED TO THE SECRETARY OF STATE ON THE 6TH DECEMBER 1988

COUNTY: ESSEX

SITE NAME: CHALKNEY WOOD

DISTRICT: BRAINTREE

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

Local Planning Authority: Braintree District Council

National Grid Reference: TL 875278 Area: 72.6 (ha.) 179.4 (ac.)

Ordnance Survey Sheet 1:50,000: 168

1:10,000: TL 82 NE

Date Notified (Under 1949 Act): 1955

Date of Last Revision: 1975

Date Notified (Under 1981 Act): 1988

Date of Last Revision: 1988

Other Information: Part is owned and managed by Essex county council as 'Access Woodland' for quiet public recreation; the remainder is owned by the Forestry Commission.

Description and Reasons for Notification: Chalkney Wood lies on a spur of land overlooking the Colne Valley, about one mile south-east of Earls Colne. Its soils are mainly acid silts and sands, but they overlie Chalk Boulder Clay. It is ancient woodland containing a number of stand types, including acid birch-ash-lime, acid pedunculate oak-lime, base-rich spingline alder and pedunculate oak-hornbeam. The lime stand types are the best examples in Essex.

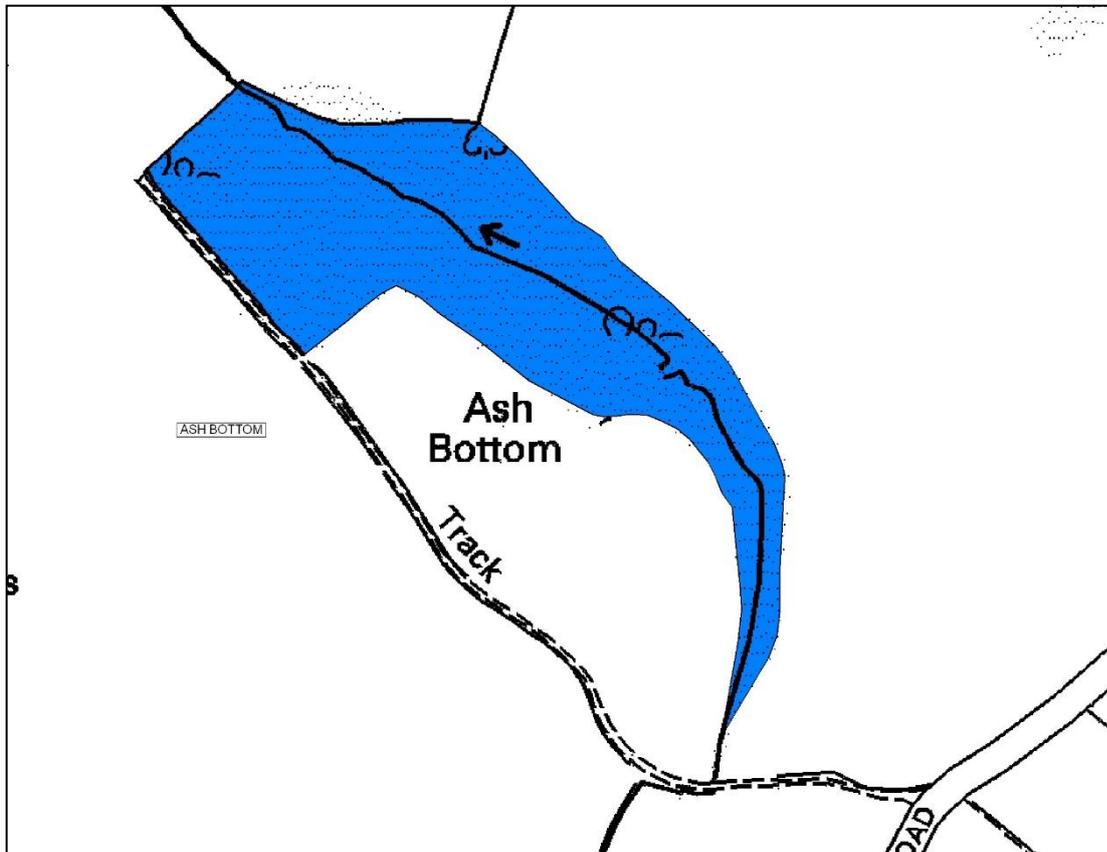
The standard trees are oak *Quercus robur*, small-leaved lime *Tilia cordata*, ash *Fraxinus excelsior*, birch *Betula* spp, sweet chestnut *Castanea sativa* and a few hornbeam *Carpinus betulus*. About half of the coppice is composed of lime stools, but some areas are mostly chestnut and/or hornbeam coppice. In the southern corner, where the Chalky Boulder Clay is nearer the surface, the coppice comprises ash, field maple *Acer campestre* and hazel *Corylus avellana*. There are some small patches of aspen *Populus tremula* and, on the western corner, an area of non-invasive elm *Ulmus* sp. In the formerly planted areas, beech *Fagus sylvatica*, western red cedar *Thuja plicata*, hybrid larch *Larix x eurolepis*, western hemlock-spruce *Tsuga heterophylla*, lawson cypress *Chamaecyparis lawsoniana*, Norway spruce *Picea abies*, grand fir *Abies grandis* and Corsican pine *Pinus nigra* var. *maritima* are all present. However, the wood retains many surviving native small-leaved lime and hornbeam coppice stools and standards. The northernmost compartments of the wood contain four valleys supporting base-rich alder woodland with ground flora communities containing marsh marigold *Caltha palustris*, opposite-leaved golden-saxifrage *Chrysosplenium oppositifolium* and ramsons *Allium ursinum*.

The ground flora is dominated by bramble (*Rubus* spp generally: *R. idaeus* along some paths) but contains primrose *Primula vulgaris*, wood anemone *Anemone nemorosa*, dog's mercury *Mercurialis perennis* and, over large areas in the north of the wood, bluebell *Hyacinthoides non-scripta*.

The flora includes two plants which are rare in Essex, violet helleborine *Epipactis purpurata* and thin-spiked wood-sedge *Carex strigosa*. Herb paris *Paris quadrifolia*, twayblade *Listera ovata*, early-purple orchid *Orchis mascula*, narrow buckler-fern *Dryopteris carthusiana* and several mosses and liverworts uncommon in Essex also occur. These include *Eurhynchium schleicheri*, *Plagiothecium latebricola*, *Ulota crispa*, *Scapania irrigua* and *Scapania nemorosa*. The wood is dissected by grassy rides; in the south (west) section of the wood, ancient, narrow rides which wind between the coppice stools; in the north(east) section, modern, wide, forestry rides. The ground flora of the rides includes yellow pimpernel *Lysimachia nemorum*, creeping Jenny *L. nummularia*, wood speedwell *Veronica montana* and remote sedge *Carex remota*. There are over twenty ponds or dells in the wood that are apparently natural.

Braintree District Local Wildlife Site Citations

Bra203. Ash Bottom (2.9 ha) TL 846284



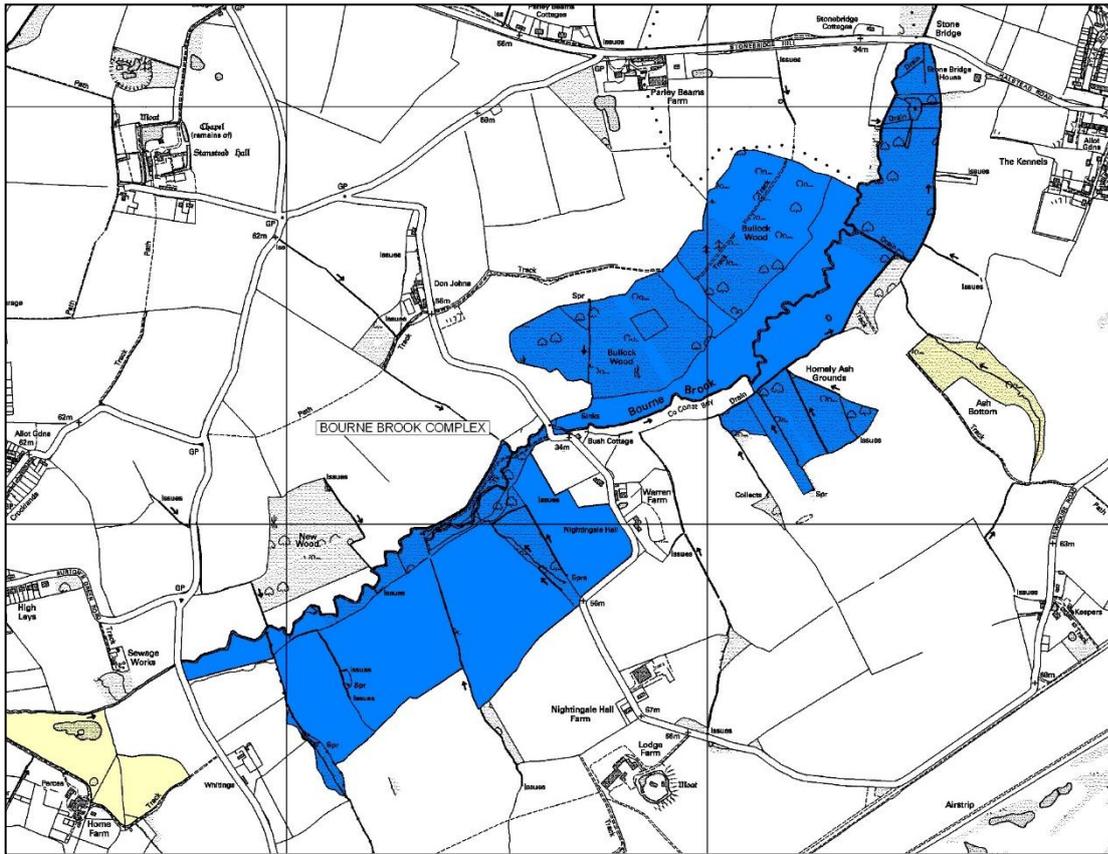
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This stream valley wood is dominated by Ash (*Fraxinus excelsior*) and Sweet Chestnut (*Castanea sativa*) coppice with standards of Pedunculate Oak (*Quercus robur*) and invasive Sycamore (*Acer pseudoplatanus*) over Hazel (*Corylus avellana*) and Hawthorn (*Crataegus monogyna*). Alder (*Alnus glutinosa*) is occasional along the stream. The rich ground flora includes Moschatel (*Adoxa moschatellina*), Wood Anemone (*Anemone nemorosa*), Pendulous Sedge (*Carex pendula*), Opposite-leaved Golden-saxifrage (*Chrysosplenium oppositifolium*), Bluebell (*Hyacinthoides non-scripta*) and Primrose (*Primula vulgaris*).

Selection Criteria:

HCr2(d) Non-ancient 'priority' woodland habitat for Essex

Bra197. Bourne Brook Complex (73.0 ha) TL 843284



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This site comprises a mosaic of habitat extending along the Bourne Brook. Grassland, marsh, woodland and plantation provide for wide diversity floral assemblages.

On the north-west side of the main grassland block are the two sections of Bullock Wood dominated by Sweet Chestnut (*Castanea sativa*) coppice with lesser quantities of Hornbeam (*Carpinus betulus*), Small-leaved Lime (*Tilia cordata*), Ash (*Fraxinus excelsior*), Field Maple (*Acer campestre*) and Hazel. Standards of Pedunculate Oak (*Quercus robur*) are thinly scattered. The ground flora is moderately varied and includes Bluebell (*Hyacinthoides non-scripta*), Yellow Pimpernel (*Lysimachia nemorum*), Wood Anemone (*Anemone nemorosa*), Yellow Archangel (*Lamium galeobdolon*) and Wood Sage (*Teucrium scorodonia*). Between the two sections of Bullock Wood, is a sheltered strip of grassland and scrub provides an interesting habitat as a form of wide woodland ride. Amongst the ground flora are Primrose (*Primula vulgaris*), Yellow Pimpernel (*Lysimachia nemorum*), Greater Bird's-foot Trefoil (*Lotus pedunculatus*) and Field Wood-rush (*Luzula campestris*).

Located to the south of the grassland is Homely Ash Grounds, comprising woodland with a very varied canopy composition. Whilst old Sweet Chestnut coppice with Pedunculate Oak standards predominates, there is much Ash (*Fraxinus excelsior*) coppice to the west and Alder (*Alnus glutinosa*) along the stream-sides. Hazel and Elder (*Sambucus nigra*) form the understorey. On drier ground, the ground flora is typified by Bramble (*Rubus fruticosus* agg), Bluebell and Dog's Mercury (*Mercurialis perennis*). In wetter areas, the presence of both Opposite-leaved Golden-saxifrage (*Chrysosplenium oppositifolium*) and Alternate-leaved Golden-saxifrage (*Chrysosplenium alternifolium*) is notable. Other species present include Moschatel (*Adoxa moschatellina*), Remote Sedge (*Carex remota*) and Primrose (*Primula vulgaris*).

Adjacent to Bullock Wood, is the complex of grassland, woodland and plantation, which lay either side of Bourne Brook. The poorly drained areas of the grassland are typified by stands of Willowherb (*Epilobium* sp.), Meadowsweet (*Filipendula ulmaria*), Thistle (*Cirsium* sp.) and Nettle (*Urtica dioica*). The drier areas display a range of grasses such as Meadow Foxtail (*Alopecurus pratensis*), Smooth Meadow-grass (*Poa pratensis*), Meadow Fescue (*Festuca pratensis*) and Creeping Bent-grass (*Agrostis stolonifera*). A diverse and interesting flora includes Cuckooflower (*Cardamine pratensis*), Creeping Jenny (*Lysimachia nummularia*), Wood Club-rush (*Scirpus sylvaticus*), Ragged Robin (*Lychnis flos-cuculi*), Common Sedge (*Carex nigra*) and Tubular Water-dropwort (*Oenanthe fistulosa*), which has suffered a drastic decline in recent decades.

To the west of the minor road bisecting the two halves of the site, the mosaic continues with plantation, grassland and woodland. Small-leaved Lime and Midland Hawthorn (*Crataegus laevigata*) are present on the lower slopes near to the brook. Toothwort (*Lathraea squamaria*), a small plant parasitic on the roots of a range of plants, is found, along the Bourne brook, which is consequently an important site for this scarce Essex plant. Other species of interest include Moschatel (*Adoxa moschatellina*) and Marsh Marigold (*Caltha palustris*).

Selection Criteria:

HCr1(a) Ancient Woodland, identified on Ancient Woodland Inventory for Essex

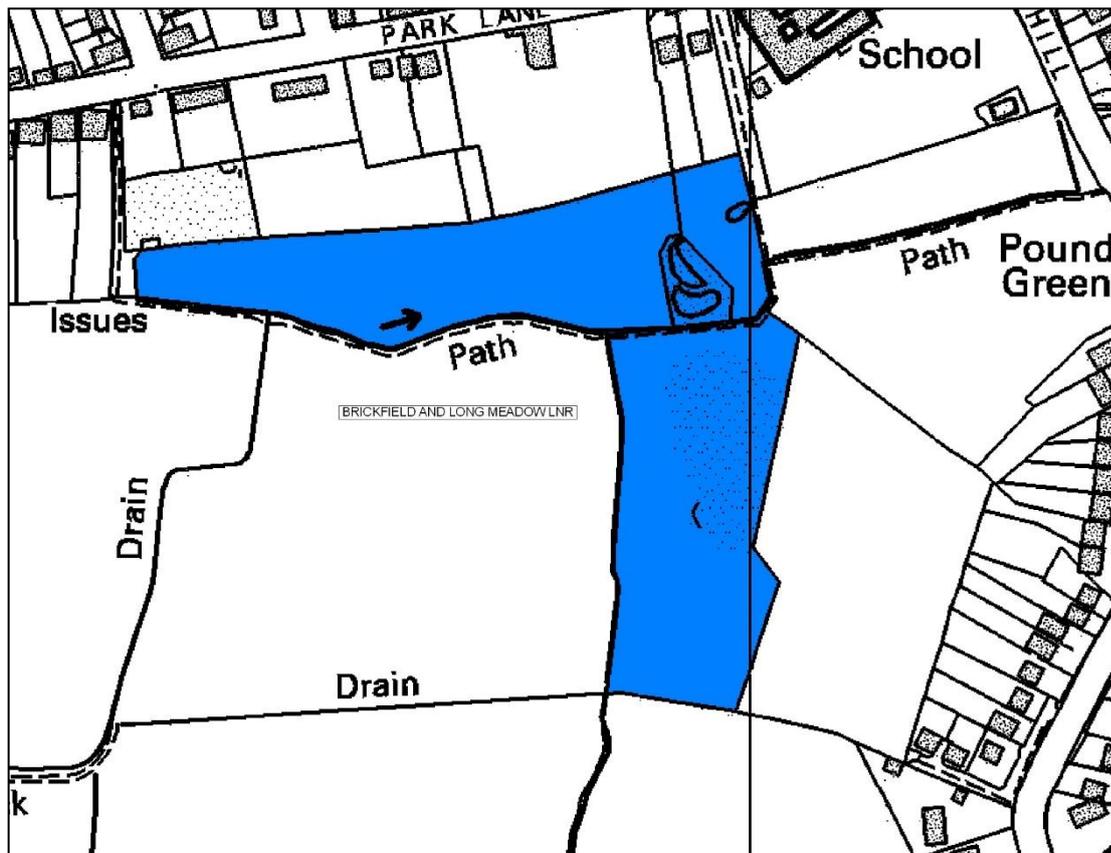
HCr2(d) Non-ancient 'priority' Wet Woodland habitat for Essex

HCr13 Floristically less interesting grassland

SCr13 Site known or suspected of supporting a breeding assemblage of invertebrates

HCr14 Areas of river floodplain grassland

Bra221. Brickfield and Long Meadow LNR (3.3 ha) TL 859285



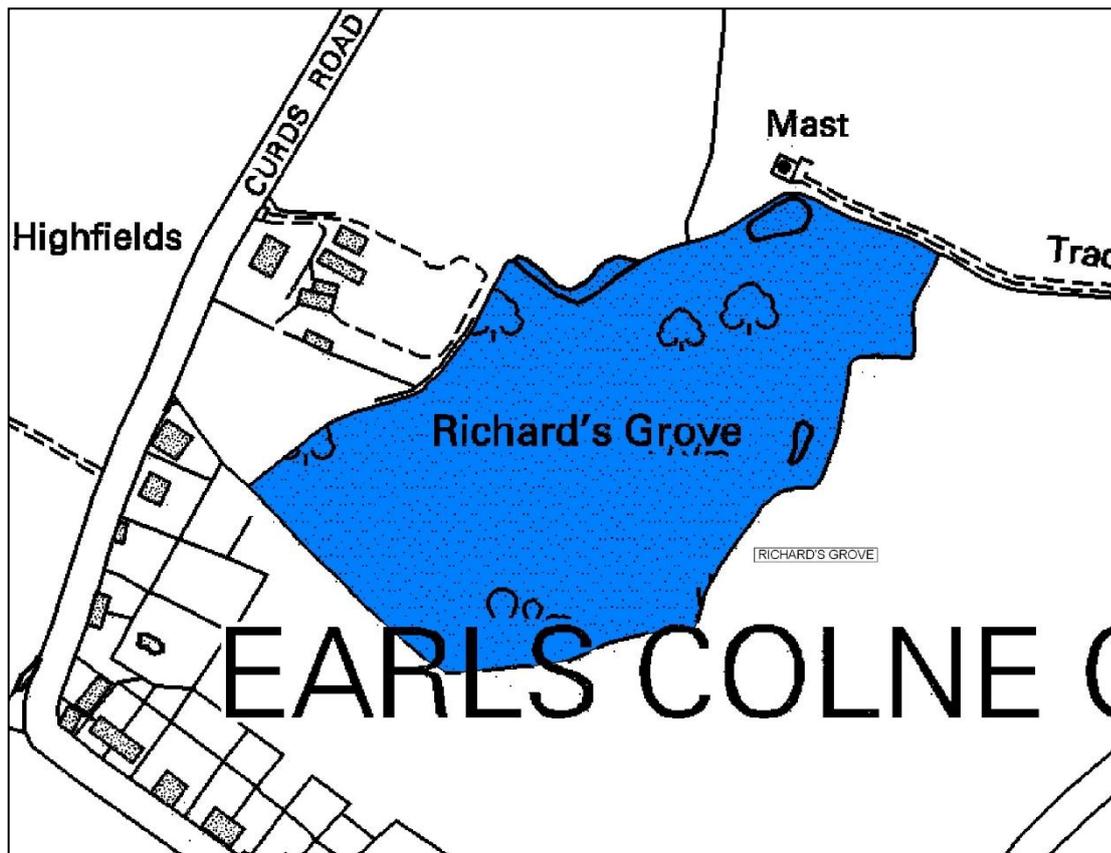
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This site comprises wet marshy grassland between areas of woodland and scrub. A wide variety of grasses can be found, such as Red Fescue (*Festuca rubra*), Sweet Vernal Grass (*Anthoxanthum odoratum*), Meadow Foxtail (*Alopecurus pratensis*), Yorkshire Fog (*Holcus lanatus*), Crested Dog's-tail (*Cynosurus cristatus*) and Yellow Oat-grass (*Trisetum flavescens*). Herbs of interest are Pignut (*Conopodium majus*) and Cuckooflower (*Cardamine pratensis*). The site also has a surviving mature English Elm (*Ulmus procera*), one of relatively few which escaped the ravages of Dutch Elm Disease.

Selection Criteria:

HCr10 Old, largely unimproved grassland

Bra214. Richard's Grove (4.1 ha) TL 856277



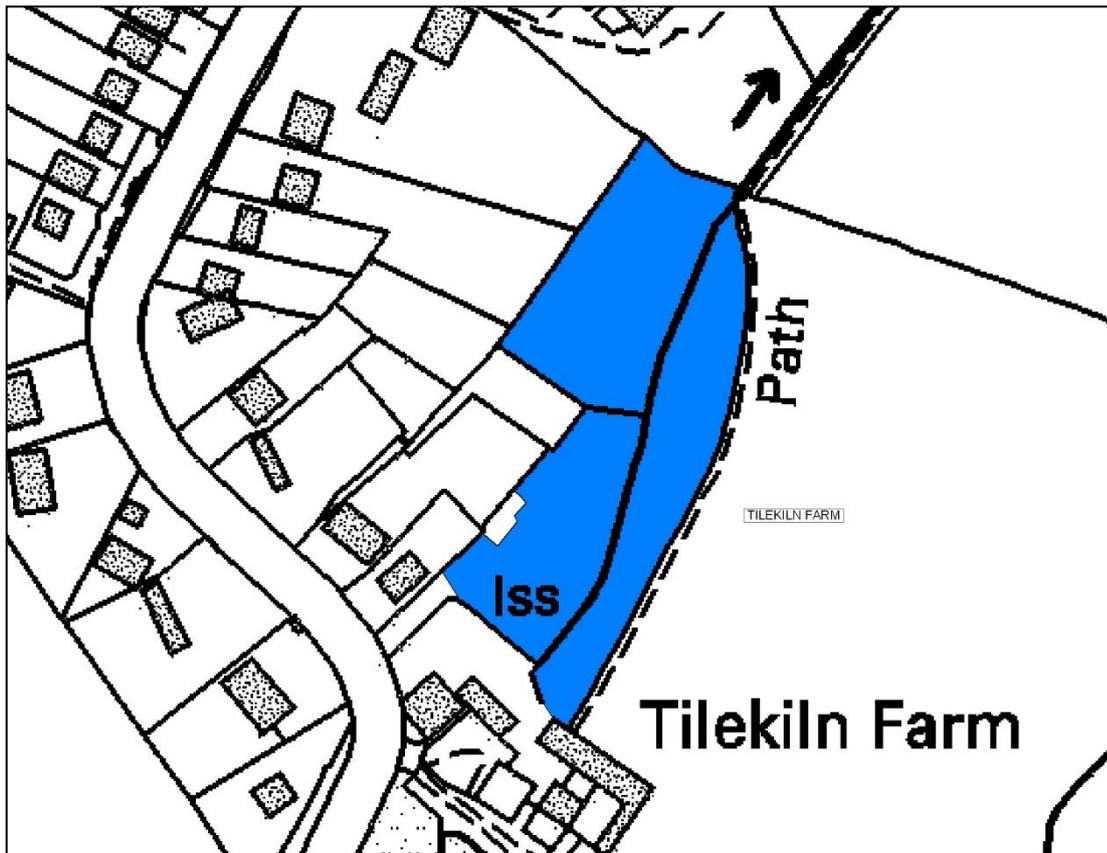
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This ancient wood has a canopy of Pedunculate Oak (*Quercus robur*) standards over Sweet Chestnut (*Castanea sativa*), Ash (*Fraxinus excelsior*) and Hazel (*Corylus avellana*) with much Elder (*Sambucus nigra*) and Hawthorn (*Crataegus monogyna*) in the scrub layer. The ground flora, suppressed by dense shading, is typified by Dog's Mercury (*Mercurialis perennis*) and Bramble (*Rubus fruticosus agg.*).

Selection Criteria:

HCr1(a) Ancient Woodland, identified on Ancient Woodland Inventory for Essex

Bra226. Tilekiln Farm (0.9 ha) TL 863282



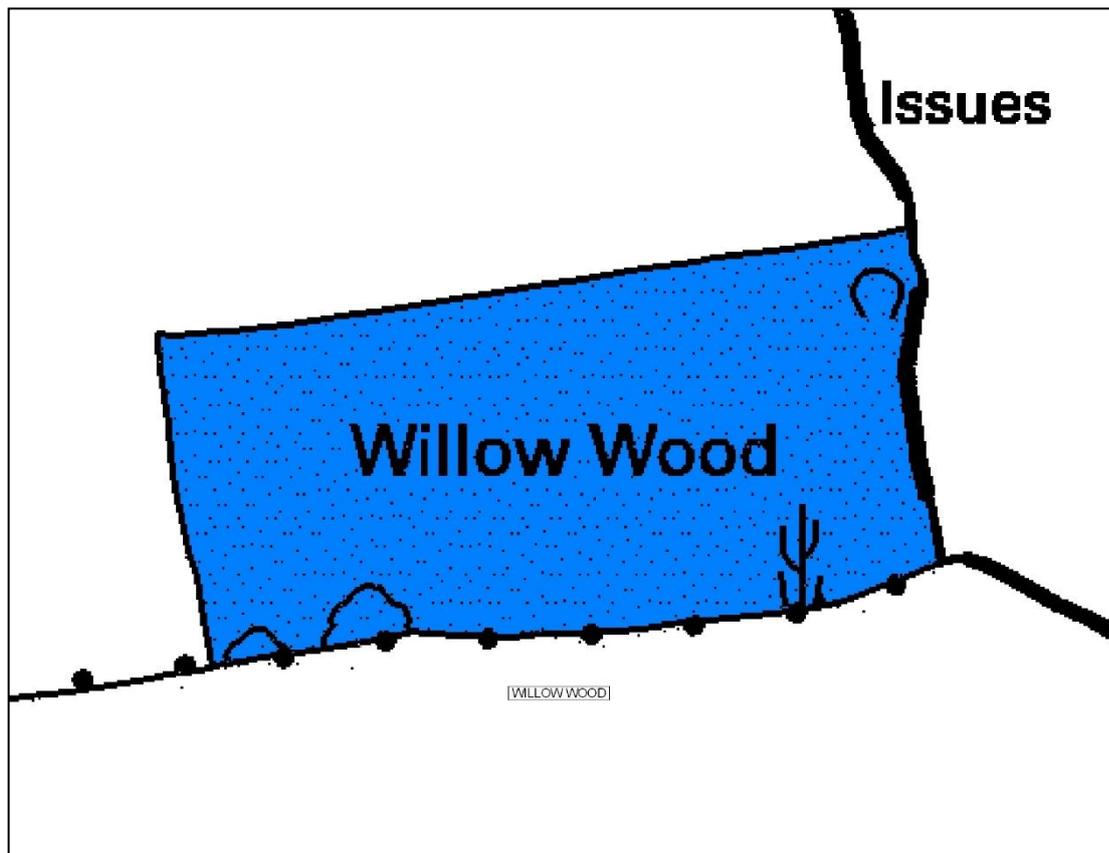
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This piece of grassland, despite being relatively small, displays diverse habitats ranging from wet streamside grassland, drier grassland and scrub. Species of interest are generally found in the wetter areas and include Cuckooflower (*Cardamine pratensis*), Ragged Robin (*Lychnis flos-cuculi*), Bog Stitchwort (*Stellaria alsine*) and Marsh Ragwort (*Senecio aquaticus*), a very rare and declining plant in Essex.

Selection Criteria:

HCr10 Old, largely unimproved grassland

Bra218. Willow Wood (2.2 ha) TL 858258



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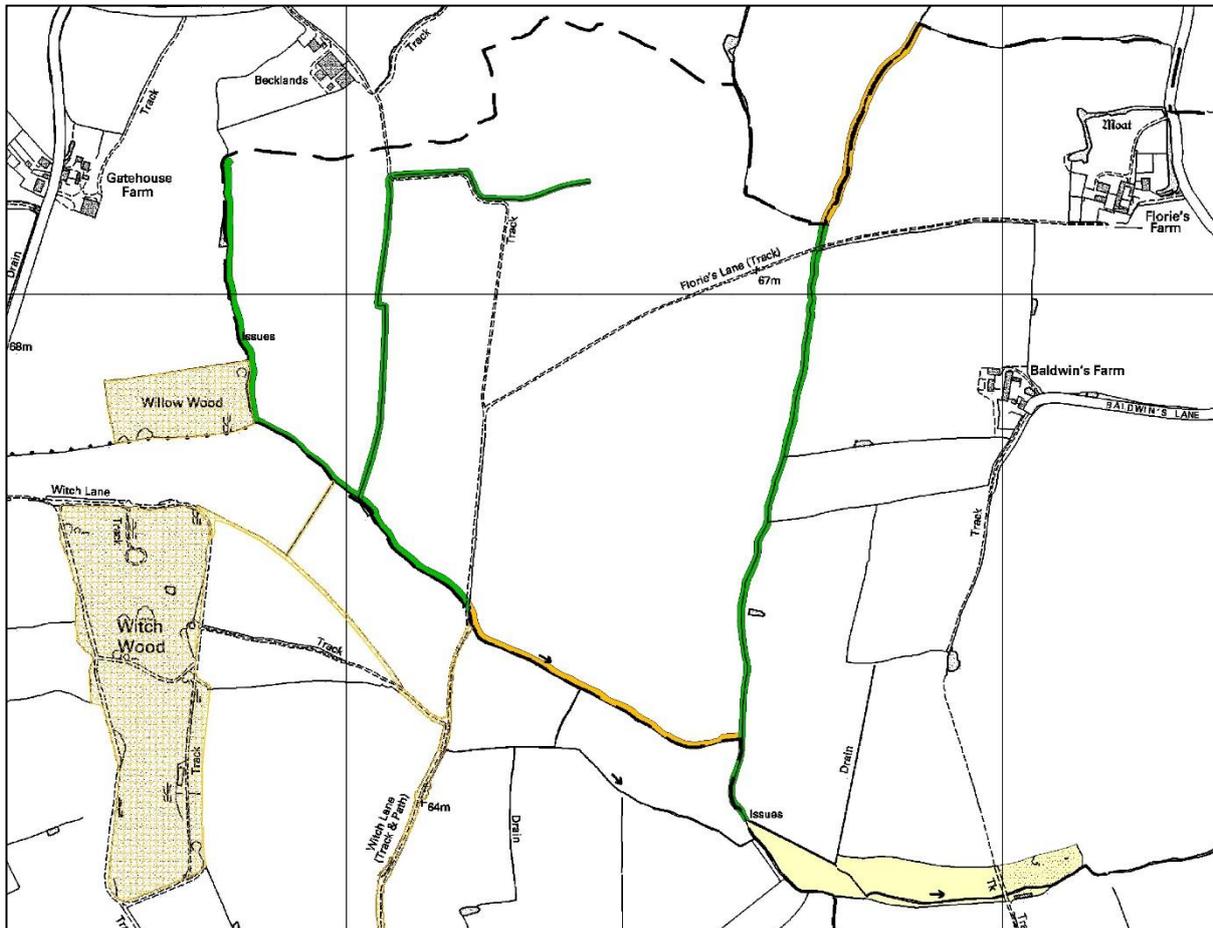
The majority of this ancient wood's canopy is composed of Pedunculate Oak (*Quercus robur*), Ash (*Fraxinus excelsior*) and Birch (*Betula* spp.) over an understorey of Hazel (*Corylus avellana*). The north-east corner, however, is dominated by abundant old Hornbeam (*Carpinus betulus*) coppice and Elder (*Sambucus nigra*), whilst the south-east corner has a stand of Small-leaved Lime (*Tilia cordata*). The rather poor flora is dominated by Bramble (*Rubus fruticosus* agg), although some ancient woodland species do occur. These include Spindle Tree (*Euonymus europaeus*), Three-veined Sandwort (*Moehringia trinervia*), Early Purple Orchid (*Orchis mascula*) and Primrose (*Primula vulgaris*).

Selection Criteria:

HCr1(a) Ancient Woodland, identified on Ancient Woodland Inventory for Essex

Colchester District Local Wildlife Site Citations

Co1 Florie's Hedgerows (1.4 ha) TL 860260



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This site comprises the boundary bank "ghost" outline of the grubbed Florie's Wood and adjoining ancient hedgerow. Parts of this Site lie in Braintree District (highlighted in dark yellow). This series of hedgerows is linked to others that lie within Braintree District (pale yellow) and forms an extensive network of species-rich ancient hedgerow, not commonly seen in the modern Essex landscape.

A particularly wide variety of woody species is present as trees grown from coppice, standards and shrubs, including Wild Service-tree (*Sorbus torminalis*), Small-leaved Lime (*Tilia cordata*), Hornbeam (*Carpinus betulus*), Wild Cherry (*Prunus avium*), Midland Hawthorn (*Crataegus laevigata*), Hazel (*Corylus avellana*) and Spindle (*Euonymus europaeus*). The bank flora includes Moschatel (*Adoxa moschatellina*) and Primrose (*Primula vulgaris*).

Selection criteria:

HCr9 Hedgerow or green lane

LoWS/LNR Outside Parish Boundary

Local Nature Reserve (LNR) adjacent to parish boundary:

- Colne Valley LNR (north east boundary)

Local Wildlife Sites (LoWS) adjacent to parish boundary:

- Markshall Woodlands (south west boundary)
- Mill Race Marsh (north east boundary)
- Munn's Farm (north west boundary)
- Tyler's Wood (south west boundary)

LoWS within one kilometre of parish boundary:

- Alder Car, White Colne (950m NE)
- Aldercar/Shrive's Wood (880m NE)
- Buckler's Farm Wood (950m SE)
- Hickmore Fen (540m SE)
- Raynor's Wood (540m SW)
- Perces Meadow (250m SW)
- Stream Strip, Colne Engaine (500m NW)
- The Squire's Wood (850m SW)
- Wakes Colne Meadow (900m SE)
- Witch Wood, Lane and Hedges (100m SE)
- Woolfney Wood (600m SE)