

Living Landscapes - *a vision for the future of Essex*

Danbury Ridge

< a mosaic of woodland, common land, heathland, streams, bogs and farmlands, including a number of nature reserves and heritage sites, all linked by a network of footpaths, bridleways and permissive tracks and accessible from adjoining villages >



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About this document

This document defines the Vision for Living Landscape Area 42 Danbury Ridge.

This is a preliminary draft version.

There is a list of abbreviations used and a glossary in the final appendix.

For more information on Living Landscapes in Essex refer to:

http://www.essexwt.org.uk/protecting_wildlife/living_landscapes

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References

[Ref 1] Danbury Central Reserves Management Plan

[Ref 2] The Backwarden Management Plan

[Ref 3] The Thrift Wood Management Plan

[Ref 4] The Danbury and Lingwood Commons 5-year Conservation Plan

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Summary

Living Landscapes are large areas which are being restored for the benefit of wildlife and the local community. This is a national initiative promoted by The Wildlife Trusts and supported by many organisations. Essex Wildlife Trust has identified 80 Living Landscapes in The County and Danbury Ridge is one of these areas. In the context of Essex Living Landscapes, Danbury Ridge is Area 42, and it covers the area south of the River Chelmer and surrounding the villages of Baddow, Danbury and (see Figure 1, in Section 1 below)

The Area has a diverse mix of habitat for wildlife: heathlands, ancient woodlands, flower-rich meadows, streams and bogs in small valleys. The recreational opportunities are diverse and include walks, mountain biking, horse riding, golf, fishing and canoeing. The Ridge itself is a unique landmark and offers vistas across farmland mixed with woods and towards the coastal estuaries. The River Chelmer is a navigable waterway with wildlife, recreational facilities and industrial history.

The area's history is apparent in many features within the landscape, including the Iron Age hill fort of Danbury Camp and the designed landscape at Danbury Palace. The Area has historic field boundaries, woodland banks and ditches, earthworks from prehistoric and Tudor times, medieval deer parks, a wealth of archaeological sites and historic buildings all of which contribute to the character of the Ridge. Much of the area is already managed in nature reserves and country parks. The character of local villages is conserved through development policies such as design statements and development frameworks.

However, some of the nature reserves are fragmented and there is much that could be done to reconnect, conserve and enhance the heritage and biodiversity of the area. There are threats to the biodiversity, heritage and landscape character including fragmentation of habitat, erosion, development and a lack of knowledge and protection of historic features.

The Living Landscape Vision for Danbury Ridge is to improve wildlife biodiversity, enhance and conserve the heritage assets and develop the area as one of special value for education and recreation, as well as to provide economic benefits for The Area.

The Vision sets objectives to:

- conserve and enlarge existing habitats and benefit the wildlife that depend on them
- develop wildlife corridors to enable wildlife species to move to new areas and conserve the historic assets
- conserve and enhance the landscape character
- provide more information on The Area to the community and increase the community involvement in conserving and enjoying the area
- increase the use of the open spaces for educational purposes
- increase the recreational use of the area and improve access for people with some disabilities, (although these improvements should be sustainable)
- provide training events
- promote local businesses, and increase the benefit they gain from visitors to The Area
- enable landowners to gain more benefits from agri-environment and other land management grant schemes

The Vision will define a variety of projects that will aim to meet the objectives. The projects are diverse and include wildlife and heritage surveys, tree planting, hedgerow maintenance, adoption of stewardship schemes, creating ponds, creating wildlife gardens, establishing nature trails along public footpaths, creating and implementing management plans for local wildlife sites and developing special educational days for schools and other young people groups. The projects will be implemented over many years, be funded from multiple sources, such as government, trust and charity grants, and should collectively bring about an incremental improvement to this special area.

1 The Area 42 Landscape

1.1 Geographical position

The Danbury Ridge Living Landscape is centred around Danbury Hill and also includes surrounding lowland areas. It extends to the River Chelmer in the north, to Waterhall Meadows in the West, to Woodham Walter in the East, and to the woodlands southeast of Bicknacre.

Figure 1 shows the approximate boundary of Area 42.

1.2 Landscape character

The Danbury Ridge lies within the Northern Thames Basin **National Character (CA111)**¹, a large area extending from Watford to Harwich. This is sub-divided into four sub-character areas, one of which is the Essex Wooded Hills and Ridges area, the line of well-wooded, prominent hills and ridges that are sometimes known as the 'Bagshot Hills', extending between Epping Forest and Tiptree.

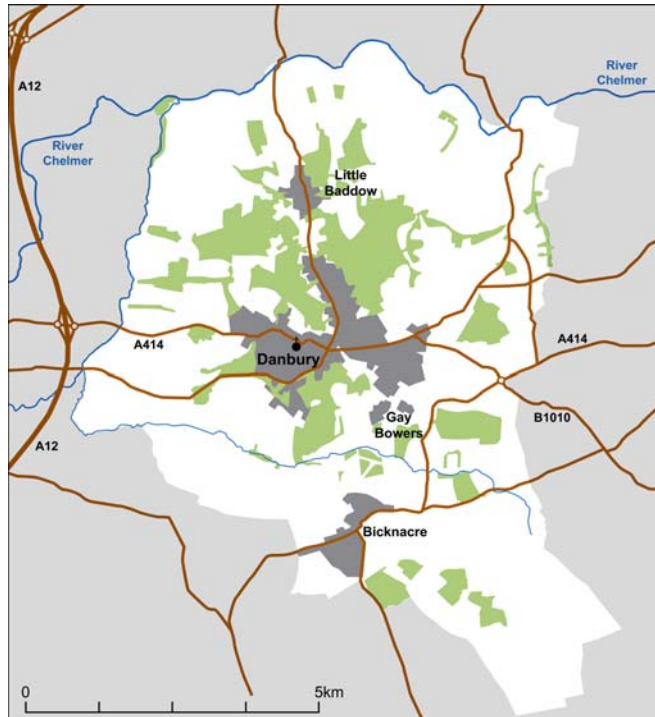


Figure 1 – Scope of The Area

Essex Wooded Hills and Ridges is an area of wooded commons, well-hedged landscapes and ancient, semi-natural woodlands. The human settlement pattern has historically been scattered and relatively sparse, but that has been largely obliterated by the development of modern towns and expansion of residential areas.

Although easy to cultivate, the soils are very acid and stony and have a low natural fertility, and the spring lines cause wet soils at the base of the Bagshot Beds. Thus much of the higher ground was originally common land, before being gradually enclosed to form small farms. The lack of cultivation on the high ground has allowed the hilltops and ridges to be crowned by ancient woodland and large areas of former common land to become secondary woodland, making it one of the most wooded areas of The County. The lower ground became farmland, originally a dense patchwork then, more recently, medium-size fields in regular or irregular layouts, with patches of small irregular fields.

A local character assessment put Danbury Ridge within three character areas each with its own key characteristics.

The first of these is **F5 Little Baddow and Danbury Wooded Farmland**. This is defined by the wooded hill and ridge housing the linear settlements of Little Baddow and Danbury, with a sense of enclosure provided by the large areas of dense deciduous and mixed woodland. It also has an intricate landscape pattern of commons, pasture, heathland and woodland habitats. Arable farmland fringes the outer edges of patches of woodland. A series of narrow lanes winds down the hillsides and provides views into and across the Chelmer/Blackwater valley to the north and east, and there

¹ <http://www.naturalengland.org.uk/ourwork/landscape/englands/character/default.aspx> explains landscape characters and the character areas

are views to wooded horizons within adjacent wooded farmland to the south. The settlement pattern is predominantly linear.

The second, **F6 Woodham Wooded Farmland**, is a broad wooded east-west escarpment, descending from The Ridge, and featuring distinctive small rounded hills that are visible where it has eroded in the southeast. It has an open landscape of arable farmland framed by woodland and hedgerows on the lower ground, and has semi-enclosed commons, small irregular fields and pasture on the wooded ridge.

Only a small part of the southern end of The Area lies within the third character area, **F12 East Hanningfield Wooded Farmland**. This area is defined as having gently rolling and undulating woodland farmland overlooking the Crouch estuary. It comprises predominantly large arable fields, delineated with very mature treed field boundaries and ditches. There are pockets of pasture and horse paddocks. There is also a network of quiet, narrow lanes and a sense of tranquillity away from the main road corridors. There is a generally dispersed settlement pattern.

The land management guidance for each emphasised the need to conserve the important existing landscape and ecological features. F6 has suffered more from the loss and neglect of landscape features such as hedgerows and require active management to restore them. Both of these local Character Areas have been identified as having a relatively high sensitivity to change.

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1.3 Geology, topography, hydrology

Danbury Ridge is situated on the London Clay Formation bedrock produced during the Eocene age approximately 34 to 56 million years ago. The ridge itself is a glaciofluvial sand and gravel formation. This formation was created by melt water flows under ice sheets depositing their gravel load as they approached the clay formation situated south east of The Ridge.

This build-up of sand and gravel occurred during the more recent Mid-Pleistocene ice-age some 781 to 126 thousand years ago² giving Danbury

Ridge the distinctive shape we see today. Danbury Hill, at 116m AOD, is the highest point. The acidic, nutrient poor, free draining soils gave rise to extensive heathland, good examples of which remain in the Danbury Ridge area and at Tiptree Heath nearby.

The Ridge has relatively steep sides with an average of a 1 in 20 slope to the south west, north west and north east and a much gentler 1 in 30 slope to the south east where the glacial deposits contain more clay.

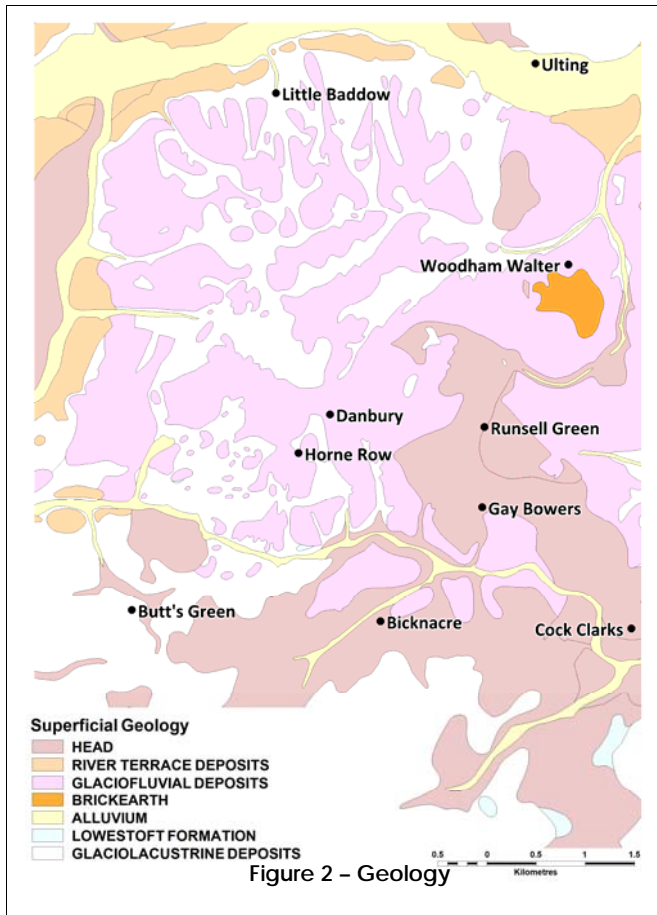


Figure 2 - Geology

² British Geological Survey (<http://www.bgs.ac.uk/lexicon/lexicon.cfm?pub=CCHR>)

The hydrogeological system on Danbury Ridge is completely dependent on precipitation flowing through the gravel layer. There are small bogs and wetland areas throughout the ridge that store this water and streams that channel excess water downhill from natural springs.³

1.4 Historic Environment / Cultural Heritage

The historic environment of The Area has been characterised in two studies.⁴ The key characteristics of the historic environment are:

- a **cropmark landscape** of trackways, field systems, enclosures and ring-ditches situated on the lower slopes of the Danbury Ridge and floodplain of the River Chelmer. This evolved through many periods and includes significant prehistoric activity.
- peat and other **Palaeo-environmental** deposits preserved within waterlogged conditions on the flood plains of the River Chelmer and Sandon Brook, together with the stream valleys, wetland areas and bogs found across the ridge.
- significant archaeological **earthworks**, surviving today. These are particularly characteristic on The Ridge, due to the topography and historic land use, and have been preserved by the ancient woodland throughout The Area. These earthworks will mainly relate to human exploitation of the woodland, such as boundary banks and saw pits, but the woodland may also preserve earthworks derived from earlier occupation. The main earthworks features are:
 - the Bronze Age round barrow on Backwarden Reserve
 - Danbury Camp, an Iron Age hill fort
 - the Iron Age bank and ditch enclosure at Twitty Fee
 - Prehistoric earthwork enclosure/medieval rabbit warren on the Heather Hills reserve
 - Lynchet field boundaries surviving at the interface between areas of present or former pasture and arable land
 - extraction pits and spoil mounds from quarrying
 - parkland boundaries at Danbury Palace and Woodham Walter Common
 - woodland and parish boundary banks and ditches
 - the Medieval/Tudor earthwork complex of Woodham Walter Hall
 - the Napoleonic gun emplacement at the west end of Danbury Common
 - a WWII 'hide out' in Poors Piece.
- **archaeological remains below ground** associated with cropmark sites, earthworks and historic buildings/settlements, for example medieval pottery and tile kilns in Danbury.
- Multi-period **stray finds and find scatters**. These indicate human occupation from prehistoric times through to the Roman period.
- the **intricate pattern of historic land use** which consists of commons, heaths, pasture, woodland, parkland and arable land. Key elements of this pattern include:
 - the pre-18th (medieval, or even older) fields on the lower slopes, very old hedged and ditched **field boundaries** and small irregular fields on the wooded ridge
 - fragments of enclosed **meadow pasture** within the floodplains of the River Chelmer and Sandon Brook, such as Waterhall Meadows, surviving the conversion to arable during the post war years
 - the Medieval deer park and **designed landscape** at Danbury Palace, together with its associated features of gardens, rides, tree planting, ha ha, lakes and ice house. Additionally, there is the former medieval deer park at Woodham Walter and late 19th century landscaped park around Riffhams
 - **Veteran trees** including individual boundary trees, parkland trees and areas of former wood pastures such as at Poors Piece.
 - Woodlands with **coppice management**.

³ Danbury Ridge Hydrogeology Study, 2009 (Essex Wildlife Trust)

⁴ undertaken by Essex County Council Historic Environment Branch on behalf of Chelmsford Borough Council (ECC, 2007) and Maldon District Council (ECC, 2008). These define a number of detailed Historic Environment Character Zones, the descriptions for which have been reproduced in Appendix x.

- a complex polyfocal **historic settlement pattern** with church/manor complexes, such as Little Baddow; greens (e.g. Church Green and Eve's Corner); linear settlement along the **historic route-ways**; later enclosure of 'waste' land and a dispersed settlement of individual farmsteads, cottages and hamlets in the wider countryside.
- a **Historic built environment** of medieval churches, medieval and post medieval timber-framed, plastered and/or weather boarded houses, cottages and halls, 18th and 19th century brick houses and traditional farm buildings including weather-boarded barns.
- The Chelmer and Blackwater Navigation with surviving **industrial archaeology** of locks, bridges, lock keepers houses and associated structures such as mills wheel pits and weirs.
- Two **old orchards** at Twitty Fee and Herbage Park Road are now arable land

The Area has a number of strong cultural associations including:

- the works of **J.A.Baker**, widely acknowledged as one of the most important British writers on nature in the twentieth century, described a narrow geographic area of Essex, 'Baker country', which has Danbury Hill at its heart.
- nineteenth century A.R.S.A artist **Keeley Halswelle** painted local landscape scenes including Danbury Palace

1.5 Key wildlife habitats

Danbury Ridge is one of the most important concentrations of inland semi-natural wildlife habitats in Essex, including several habitats that are locally rare and it is also highly varied with a mix of dry and damp habitats.

The key habitats in Area 42 are

- Lowland heathland⁵: Danbury Ridge has one of the largest areas of heathland in Essex
- ancient woodland: including substantial coppiced woodland (hornbeam and sweet chestnut), characteristic of the South East, less characteristic sessile oakwoods as well as areas of hornbeam, birch and ash
- areas of unimproved acid grassland, including one of particularly high bio-diversity value (Hitchcocks Meadows)
- Lowland raised bogs and valley mires
- wet flushes, streams and ponds (both seasonal and permanent) and a floating Sphagnum raft
- wet grassland alongside the navigable River Chelmer, as well as the river area
- patchworks of small hay meadows.

There are also substantial areas of residential areas, much of which has gardens spatially integrated with the local woodlands, areas of arable farmland with a medium proportion in agri-environmental schemes and some equestrian grassland. There are two golf courses in the north-east of the area, providing open greens and 'hazards' which also provide some wildlife benefit.

1.6 Key species

The variety of key habitats makes Danbury Ridge one of the most important inland sites in Essex for wildlife. There are many species which are of conservation concern and some of these have been recognised as such by the Biodiversity Action Plan (BAP – *see Glossary*).

Nightingale has increased in The Area, despite the national trend of a significant decline. The same habitat management of rotational scrub coppicing that benefits this species also benefits several other **amber-list** and **red-list** song-bird species (*see Glossary*), providing a rewarding experience for anyone visiting The Area in springtime. In woodland, red-listed **Lesser Spotted Woodpecker** and

⁵ See Glossary for definitions of Lowland Heathland and Ancient Woodland

Marsh Tit have 'held on' as breeding birds and it is a key feeding area in The County for winter visitors such as **Siskin** and **Redpoll**. The Area around the River Chelmer and adjacent low-lying meadows enable inland rarities to breed including **Snipe**, **Lapwing** and **Little Ringed Plover**.

There are seven species of red-listed mammals which breed in The Area, benefitting from the woodland and scrub, including **Dormouse**, **Yellow-Necked Mouse** and **Daubenton Bat** and **Noctule Bat**. Along the river, there are **Water Vole** and **Otter**.

The Area is home to **4 species of red-listed dragonfly/damselfly**, including the nationally notable **White-legged Damselfly** and many locally-rare butterflies, including **Heath Fritillary** and **Purple Hairstreak**. Danbury Ridge is the sole Essex locality for the **Rosy Marbled moth**, Danbury Common being its principal British stronghold. More than 25 **red-listed beetles** have been recorded, including the **Green Tiger Beetle**.

All the **local reptiles and amphibians** are present as well as the rarer newts, including **Great-Crested Newt**.

Most numerically significant are the range of plants: in particular Heather Hills has 106 vascular plants recorded as well as many very **mature oak pollards** and a colony of **elms**. Three types of heather are found on the heathlands. There are more than **40 red-listed species** including, on The Commons, **Green-winged Orchid**, **Meadow Saxifrage** (both rare in Essex), **Pill Sedge**, **Heath Rush** and, in Hitchcocks Meadows, **Autumn Ladies Tresses**, **Trailing St Johns Wort**, **Heath Grass**, **Dog Violet** and **Hoary Cinquefoil**. The boggy areas include **Bog Pimpernell**, **Lesser skullcap**, **Wood Club Rush** (rare in Essex) and **Marsh Pennywort**.

1.7 Important community and social values

Within the villages are designated conservation areas, under the Planning (Listed Buildings and Conservation Areas) Act 1990. The protection and sympathetic development of the villages is central to local organisations such as the parish councils, Little Baddow Conservation Society and The Danbury Society. The special character of the village is enhanced by the surrounding clusters of old growth and ancient woodlands, heathland and wet woodlands, many of which have been designated as Sites of Special Scientific Interest (SSSI) and are protected under the Wildlife and Countryside Act 1981. These areas are managed by conservation organisations and volunteer working parties.

'The Commons' and Blakes Wood are areas managed by The National Trust. The main reserves have dedicated car parking facilities with information boards and maps. All sites have good footpath networks with marked trails. The Commons are the second largest common area in Essex as well as being a natural setting for one of Essex's most aesthetically pleasing villages. There is a high-level of public access, with management plans designed to monitor and limit the impact that visitors have on the ecosystems (see References).

Danbury Country Park is a key site for quiet recreation. It has ornamental gardens, lakes, woodland, short walks, dedicated car parking facilities with toilets, a site office and fishing permits available. The park also has a dedicated education team (key stage 4) and a nature club for 7 to 11 year olds.

Essex Wildlife Trust manages a range of SSSIs and nature areas across Danbury Ridge comprising some 135 hectares. (See Appendix A for a list of reserves). The nature reserves all have good access, although this may be limited in some cases owing to their importance for certain species and habitat.

The River Chelmer is part of The Chelmer and Blackwater Navigation which connects Chelmsford with the River Blackwater at Heybridge Basin. It is used for recreational boating and fishing. Voluntary work to preserve the waterway, and organisation of special events for promotion and public enjoyment, is facilitated by The Chelmer Canal Trust.

Priory Fields in Bicknacre is a semi-natural area of meadows adjoining a remnant of Bicknacre Priory and providing the community with a facility for quiet recreation. It is managed and administered by "The Friends of Priory Fields", a volunteer group who also hold work parties and events on The Fields.

The publicly accessible areas attract visitors from the surrounding well populated areas such as Chelmsford and Maldon. 50,000 households exist within a 15 minutes drive time from the Danbury Ridge area, which therefore ensuring it contributes substantially to the ANGst requirements (see Glossary) in the local boroughs.

1.8 Important economic background

Approximately one third of Danbury Ridge is covered by woodlands, heathland, scrub and rough grassland and just under a half of the land is agricultural with the remainder being urban development. Of the agricultural land, there are small grazing pastures mainly linked to conservation management strategies with the vast majority of the land being farmed for hay, grain and rapeseed. The Kelly Bronze Turkey Farm is located just south of Backwarden SSSI which specialises in free range turkeys reared as naturally as possible in local woodlands.

The afore-mentioned number of local households gives The Area a considerable number of potential visitors, which can contribute to local economies, although it is not known if there is a relationship with the quantity and variety of businesses found in The Area, which seems higher than expected for the population.

Well advertised and popular farm shops and markets, jumble sales, seasonal fairs and horticultural shows reflect a general demand for sustainable local cottage industries within The Area. Cottage industries such as honey and jam production, local garden produce, floristry services, arts and crafts and tea rooms all exist in the local economy.

Danbury also has an emergent well-being sector with health and beauty salons, counselling services, meditation centres, cosmetic surgeons, churches, herbalists, hypnotherapists and complimentary therapists – all services that benefit greatly from tranquil, natural areas.

Owing to the geology, there is interest in sand and gravel extraction. There are two quarries in the area but only one of these is operational. The other is currently inactive at the moment but has permission to extract. There are approximately 15 former or current quarries within, or overlapping, The Area boundary, and some of these have been converted into large ponds for coarse fishing.

2 Current State

2.1 Environment Management

The many nature reserves in The Area have their own management plans and management bodies: see Appendix A for a list of nature reserves.

Danbury Ridge Nature Reserves – Central Group

These are managed by EWT, working to an approved Management Plan that covers the period to 2018 [Ref1]. In summary, the current management comprises:

- conserving and expanding areas of heathland
- conserving lowland raised bogs and mixed woodland by removing encroaching plants
- coppicing hornbeam on a rotation of approximately 1acre cut per year per reserve
- planting of hazel to provide a middle layer and encourage dormice
- brush cutting and tree thinning around woodland glades
- creation and conservation of pollards
- maintenance of the network of rides and paths which also serve as wildlife corridors
- using dead wood for log piles and standing dead wood left in situ
- hay cutting and grazing of the grassland.

There are also some deliberate minimal intervention areas, allowed to remain per situ after the 1987 storm. Some hedgerows, ponds and wet flushes desire more conservation work.

Heather Hills is owned by Little Baddow Parish Council and managed by EWT. The key habitats are heath, grassland, boggy areas and some ancient woodland and it has an important surviving stand of mature Elm. A comprehensive management plan exists and states how access facilities and playing fields are maintained, as well as how the key habitats and species are sustained.

Backwarden is common land owned by NT but managed by EWT. It also has an approved Management Plan which describes the regime for expanding, conserving and enhancing heathland, preserving a scrub and heath with boundary trees, selective coppicing, repollarding of suitable old Oaks, rotational coppicing of Blackthorn, conserving and enhancing wetland habitats and species such as Sphagnum and other mosses, monitoring habitats for positive and negative indicator species as well as protected species, maintaining and enhancing appropriate public access to the reserve and providing interpretation.

Thrift Wood (Bicknacre) is a SSSI and woodland of some 400 years in age with an excellent understorey and ground layer and many key woodland indicator plant species. There is a management plan aimed at maintaining the habitats and species and comprising rotational coppicing, annual cutting, to maintain woodland rides and the woodland glade, and occasional dredging of the woodland pond to maintain the woodland raft of sphagnum raft.

The majority of the management on the above reserves is carried out by volunteers, often working collectively as a group across the reserves. Contractors are used for most the larger jobs, including tree coppicing and bracken spraying on heathland. Grazing is carried out on some of the heaths.

Hitchcocks and **Waterhall Meadows** are grazed by highland cattle with 3 animals being moved around the reserves from spring through to autumn.

Danbury Common and **Lingwood Common** have a Management Plan for activity to 2015. This states a number of objectives which, in summary, are to:

- maintain the key habitats of lowland heath and acid grassland in favourable condition

- rotationally coppice scrub and woodland
- maintain and develop wetland, stream and pond habitats
- survey the flora and fauna and maintain populations of nationally rare and scarce plant, fungi and invertebrate species and assemblages
- prevent negative impacts by invasive native and non-native species
- deepen the interest of the public in the site through creative interpretation & educational use
- value and protect the archaeological and historical interest of the site
- ensure safe and sustainable use of the site by the public, volunteers and staff.

The Commons are divided into compartments, each with its own management regime and long-term objectives. This ensures that there is a habitat mix of woodland, heathland and grassland as well as a varied landscape and maintenance of vistas.

Blakes Wood is managed under an English Woodland Grant Scheme (EWGS⁶) in full scheme. Coppice rotation on sweet chestnut is practiced in part of the woodland and hornbeam is actively conserved in favour of sweet chestnut. Rides, paths and a small car park are all maintained.

Danbury Country Park (<http://www.visitparks.co.uk/placestovisit/danburycountrypark.php>) is 21 hectares owned and managed by Essex County Council, balancing the recreational uses, historical value and wildlife biodiversity. It includes a mix of woodland, grassland and lakes. The woods contain some large veteran specimens and a mix of native and introduced tree species. An area of uncut acid grassland adjacent to the woods contains a herb-rich flora which include Harebell, Lay's Bedstraw and Yellow Rattle.

Hitchcocks Meadow and **Dell Meadow** are acid grassland areas and managed by grazing and scrub control.

Some other **Local Wildlife sites** have their own private management regimes for their economic and leisure use: for example Slough House Wood has coppicing and Hyde Woods has rides for shooting access. Holybred Wood is maintained by Little Baddow Parish. There is some management of Thrift Wood at Runsell Green but, at the time of writing, the body that control this is not known.

Residential Areas. Guidance for the development of the villages of Danbury and Little Baddow⁷ recognise that the characters of these villages are defined by the wooded areas and vistas over open spaces. They also recognise the importance of the gardens as wildlife corridors linking the reserves and of the conservation areas of heath, woodland and the valley around The Chelmer.

2.2 Community Use and Access

Access around Area 42 is very good for fully-abled residents. People have the right to roam the Commons and there is an excellent network of footpaths, including alongside the River Chelmer, throughout the nature reserves and across the farmland in the south, where St Peters Way runs across The Area. There are nature trails through Danbury Country Park, Danbury Central reserves and there is a Millennium Walk around Little Baddow Parish.

Bridleways and cycle paths are generally in good condition with Essex County Council resurfacing parts. The scale of the accessible areas means that the impact of walkers is dispersed. Although, as many of the paths are in shaded areas, they tend to get muddy especially in valley areas and this restricts the access for educational use.

There are no buggy or wheelchair surfaces in the nature reserves, but Danbury Country Park has easy and moderate trails that are suitable.

⁶ <http://www.forestry.gov.uk/ewgs>

⁷ Does Bicknacre have a Design Statement or equivalent?

For non-residents, car parking exists around the NT reserves and Danbury Country Park but there is less around the EWT reserves. Regular bus services run from Chelmsford to Maldon or Chelmsford to South Woodham Ferrers, with stops in Danbury and Bicknacre. Little Baddow village has a limited bus service with Chelmsford.

Recreational use around The Area is generally rambling, strolling, dog-walking, cycling, horse-riding, and informal and organised walks to enjoy seasonal wildlife. There are organised walks carried out by FitSteps (<http://www.fitsteps.org.uk/>), local rambling groups and local societies (see 4.4.3, below)

Fishing occurs along the River Chelmer, at Danbury Country Park and in some private ponds and lakes licensed by local fishing clubs. There are local riding schools and various rambling clubs and two golf courses near Woodham Walter. Horse riding and mountain biking are popular particularly around Danbury Common due to the varied terrain. There are boating activities - narrow boats, power boats and canoes - along the River Chelmer.

Local outdoor activities groups such as the Scouts and Girl Guides have camps and activities. Essex County Council run Essex Outdoors Danbury Centre <http://www.essexoutdoors.org/danbury.php>, provides supervised local outdoor activities such as mountain biking, climbing, kayaking and canoeing and training schemes in these activities.

The Commons are used as an educational resource to study a wide variety of topics, including geography, military and social history, countryside management and ecology.

There are no statistics on the number of people using the nature reserves. The economic benefits of visitors to The Area are probably not fully exploited.

2.3 Ecosystem Services

“Our natural environment is vital to our health and prosperity... contributing to our economic performance as a country and as individuals.” (Richard Price, Defra, 2007).

Ecosystem services are defined as services provided by the natural environment that benefit people. They provide outputs that directly and indirectly affect human wellbeing (Defra, 2007).

Danbury Ridge has a diverse mosaic of agricultural land, wetlands (springs, ponds and bogs) and natural & semi-natural areas (woodlands, heaths and grasslands). Each part of the landscape provides ecosystem services that benefit people. These services can be broken down into four groups: supporting services, provisioning services, regulating services and cultural services.

Below are some examples of what services are linked to each part of the living landscape and how they benefit people.

2.3.1 Agricultural Land

| Ecosystem Service Type | Ecosystem Service | Benefits |
|------------------------|-------------------|-------------|
| Provisioning services | food production | food supply |

2.3.2 Wetlands (springs / ponds / bogs)

| Ecosystem Service Type | Ecosystem Service | Benefits |
|------------------------|-----------------------------|---------------------------------|
| Supporting services | nutrient cycling | maintain integrity of ecosystem |
| | hydrological cycle | improve water quality |
| Provisioning services | fresh water | clean water |
| | biodiversity | conserve habitats and species |
| | wildlife habitats/corridors | |

| | | |
|---------------------|---------------------------------|-----------------------------|
| Regulating services | genetic resources | contribute to genetic pool |
| | water purification | improve water quality |
| Cultural services | water and flood regulation | reduce risk of flood damage |
| | aesthetic | attractive views / sights |
| | health and wellbeing; spiritual | exercise and leisure |
| | recreational spaces | |
| | education and training | learning opportunities |

2.3.3 Natural and Semi-Natural Areas (woodlands, heaths, grasslands)

| Ecosystem Service Type | Ecosystem Service | Benefits |
|-------------------------------|--|--|
| Supporting services | nutrient cycling | maintain integrity of ecosystem |
| | soil formation | |
| | natural succession | |
| Provisioning services | hydrological cycle | improve water quality |
| | biodiversity | conserve habitats and species |
| | wildlife habitats/corridors | |
| | shelter | |
| | medicinal resources | provide species with natural healing potential |
| Regulating services | climate regulation | local protection from wind and heat |
| | gas regulation | regulate global temperature |
| | air purification | improve air quality |
| Cultural services | water and flood regulation | reduce risk of flood damage |
| | aesthetic | attractive views / sights |
| | health and wellbeing; spiritual | exercise and leisure |
| | recreational spaces | |
| | historical asset / heritage preservation | bequest value |
| | tourism | economic input |
| | education and training | learning opportunities |
| noise reduction | improve environmental quality | |

2.4 Threats and Issues

The Danbury Ridge Living Landscape has altered substantially in the latter part of the 20th Century and the pressures of development and change continue in the present century. There is a symbiotic relationship between the archaeology, landscape and nature conservation interests in the landscape. This applies from the macro level of the existence and distribution of heath and ancient woodland, to the detailed level of designated natural or historic sites offering protective refuges for the other interests. Partnership working and an integrated approach to management is required, if conservation and enhancement of one interest is not to be achieved at the expense of another.

2.4.1 Bio-diversity threats

2.4.1.1 Climate Change

The British Climate is changing; on average temperatures are 1°C higher than they were in the 1970's. Weather patterns are less predictable and there is a greater frequency of extreme weather with drier summers and wetter winters. The amount of rainfall has not increased, but there are heavier rainfall events. Models are being used to determine how wildlife will respond to climate

change. However, increasingly there is evidence of wildlife expanding their range northwards and to higher ground.

Essex has a low rainfall of around 500-600mm per year and warmer, sunny summers and winters not quite as cold compared to other areas on the East Coast. In recent years there have been periods of drought and hot weather interspersed with high rainfall. It has been predicted that Essex will receive hot dry summers, with heavy downpours of rain and mild wet winters. Spring will arrive earlier in the year and summer/autumn will last longer, reducing our winter. (Although more recent climate modelling has suggested that winters may become much colder in the medium term, emphasising the uncertainty of climate change.) Many species rely on the cold winters to completely hibernate and these possible mild winters will cause them to remain active when there is no food available.

2.4.1.2 Fragmentation and Isolation

Faced with the uncertainties of climate change, the need for adaption and migration are integral for the survival of wildlife. Fragmentation of habitat is one of the main threats to wildlife in Essex, as small isolated populations of species are the most vulnerable – and left stranded in “island” habitats struggling to respond to the changing climatic conditions. The Living Landscape Vision is an adaptive strategy recreating and reconnecting large habitats for biodiversity to move and adjust to survive climate change.

Many of the SSSIs and Local Wildlife Sites are adjoined to arable land and/or desirable residential land and are semi-isolated islands. There is more biodiversity where two habitats meet, for example grassland and woodland, than in each of those habitats themselves. Much of the current land use does not favour this scenario and the diversity within some of the woodlands is constrained by their proximity to arable and industrial land and large non-natural gardens. The small size of many habitats makes management difficult. For example, in Backwarden, the restored heathland will soon require grazing to maintain its current structure, but the cost of fencing a small area may be prohibitive. The size of the heathland plots within The Area limits the biodiversity thus re-colonisation by some species, such as Nightjar, will probably not occur.

Additionally, some woodlands are being compartmentalised and sold separately, which further increases the vulnerability to isolation of managed areas.

2.4.1.3 Non-management and inappropriate management

A neglect of privately-owned woodlands has a detrimental affect on the biodiversity of an area. Neglected chestnut coppice is particularly poor for invertebrates and their dependant species higher up in the food chain. A lack of grazing on grassland allows meadows to gradually return to scrub and secondary woodland – this benefits some wildlife but is detrimental to locally-rarer species. Many of the larger properties, including some former farms, are turned into large gardens with well-fertilised grass and a lack of native plants.

2.4.1.4 Animal damage and Invasive Species

Grey squirrels are damaging trees by stripping bark off the uppermost branches higher up the tree. This is a significant problem in Thrift wood where the percentage of impacted trees is a concern. **Deer** are a problem to some of the woodland reserves. In woodland, deer grazing reduces the population of rare flower species, damages young coppice, and reduces or removes the middle layer, which in turn has an impact on invertebrate, mammal and bird populations. The Muntjac Deer are now being supplemented by Fallow Deer and a Forestry Commission study⁸ has shown that these have further impact on small mammal populations. Similarly, **rabbit** grazing causes a problem in some areas. However, neither deer nor rabbits are a problem on the Danbury Common reserve, indicating that damage is limited to woodland but does not affect rotationally-managed heathland and scrub.

⁸ The Impact of Deer on Woodland Biodiversity ISBN 0-85538-527-8

Himalayan Balsam is now colonising the local streams. These plants are tall and vigorous annuals which dominate the banks and prevent native species surviving. When they die in the autumn they leave the soil bare making the water-course vulnerable to erosion.

2.4.1.5 Lack of understanding of causes wildlife declines

Danbury Ridge has suffered local extinctions of many species in common with local, national and global trends, the causes of which are not fully understood. Without precise knowledge of the causes, it is difficult to implement recovery programmes.

2.4.1.6 Resources and Access

The large area of nature reserves requires a large number of professional and volunteer resources. Cost-control measures and the trend away from voluntary work, particularly in the pre-retirement population, affects how far the management plans can be implemented. Access to some reserves is limited, making it difficult to bring groups of volunteers, to check grazing stocks, extract timber, and to bring school groups to study.

2.4.2 Historic Environment Threats

2.4.2.1 Lack of knowledge, understanding and awareness

There is an ongoing need to better understand the location, nature and extent of the historic environment resources on the Danbury Ridge and to disseminate that knowledge to land managers, local residents and visitors to The Area in order to ensure the sustainable management of heritage assets. The **location and extent of the archaeological resource** within current and former heaths and within ancient and historic woodland is poorly understood. In some cases there is also **lack of recognition** of the importance of the ecological evidence for the landscape history of the heaths and woods, including their soils, hydrology, fauna and flora, in particular 'working' trees in woodlands, all of which can reflect human impact over the millennia.

2.4.2.2 Natural damage

Historic features and archaeological sites within woodland may be threatened by windthrow, particularly during storm events. Earthworks and other below-ground archaeological remains can also be disturbed by burrowing animals and growth of roots or rhizomes, and their visual amenity, can be lost through the spread of scrub and bracken.

2.4.2.3 Change of use/land management

Cessation of historic land use and/or traditional management i.e. loss of grazing on heath can result in regeneration of scrub and secondary woodland, which can be damaging to archaeological remains. Vulnerable earthworks and below-ground archaeology can be **accidentally damaged** by heath and woodland management operations, in particular habitat restoration and recreation activities on former heaths which can involve grubbing up existing vegetation and soil stripping, and thinning and felling operations in wood.

Changes to the management of woodlands, including **compartmentalisation** through changes in ownership and neglect of traditional management techniques, can also have a negative impact on their value as historic landscapes features.

Within designed landscapes, such as Danbury Park, management is a complex issue involving pasture, trees, woodlands, buildings, structures and views. Even well-intentioned activity, such as tree planting, can undermine the historic design if it is carried out without an understanding of the significance of a site. Creation of **new woodland** and other tree planting can also impact below-ground archaeological remains.

Sites and artefacts in wetlands often remain undetected until disturbed, and care is needed in the management of all wetlands and water features, including historic farmland and roadside ponds, to ensure that damage does not occur. Unless managed properly, water features such as ponds and moats can dry out reducing their visual amenity and archaeological potential.

On farmland, **modern agriculture**, including deeper ploughing, de-stoning, mole drainage and sub-soiling, can be damaging to earthworks and below-ground archaeological remains, including cropmark sites.

2.4.3 Landscape Threats

Although field boundaries with important hedges are protected by law, equally significant boundaries marked by poor hedges, or simply ditches, remain vulnerable to removal as fields and farms are enlarged. **Lack of hedgerow management** or inappropriate species and management choice for new hedgerows can have a detrimental affect on historic landscape character.

Lapsed management of historic trees e.g. hedgerow pollards and lack of succession planting can also affect the character of field boundaries and veteran trees can be directly threatened e.g. by ploughing. Inappropriate location, species mix, form and management of **new woodland** planting on farmland can reduce historic landscape character.

Although unimproved grasslands are protected by the EIA (Environmental Impact Assessment –see Glossary) regulations for uncultivated land and semi-natural areas, **loss of riverside pasture**, along the Sandon Brook and River Chelmer, can have a detrimental impact on the character of the historic landscape.

High volumes, weight and types of **traffic** can erode the character of rural lanes and other historic route-ways, damaging their historic fabric and reducing their biodiversity value.

Historic parklands such as Danbury Park remain vulnerable to **development**, change and decay as a result of fragmentation of ownership and rising costs of management.

Pressures to accommodate new development on the fringes of the villages or on the slopes of the hill will have significant visual impact on the landscape

2.4.4 Management Challenges

2.4.4.1 Managing Recreational use

It is important to manage recreational use to minimise disturbance on nature reserves. Access is necessary to enable people to enjoy the environment but ubiquitous access can result in erosion of historic landscape features and the disappearance of species that are vulnerable to disturbance and habitat damage.

Common land is protected by law and this prohibits fencing areas to allow grazing and prevent trampling and prevent disturbance by dogs. Erosion is a problem when secondary paths are created as primary paths become worn and muddy.

The National Trust policy of providing specific areas for mountain biking has enabled a good balance of recreation and biodiversity on Lingwood and Danbury Common. This has proven to be impractical in Blake's Wood due to damage: however, mountain biking, although prohibited, is still occurring here. On other reserves, mountain bikes inside the woods are damaging the surfaces, creating skid pans and ruts and in the areas where this is most intensive this can impact on tree health, due to soil compaction. Intensive recreation and vehicular access on heaths can quickly erode sandy, unstructured soils, making archaeological features more vulnerable and similar pressures in woodland can damage earthworks and other features.

⁹

⁹ Enquiries need to be as to whether there are conservation issues along the River Chelmer and contention with leisure activities

2.4.4.2 Human Pressure and neglect

Water level reduction, possibly as a result of mineral extraction, is affecting valley mires and peat and other Palaeo-environmental deposits are threatened by desiccation as a result. Wetlands are vulnerable to changes in water levels and water quality, both of which can lead to decay and loss of fragile organic archaeological remains.

Threats to historic buildings, including traditional farm buildings, include: neglect, inappropriate alteration and repair, vandalism and removal of material for use elsewhere. Traditional farm buildings are particularly vulnerable to neglect unless they are kept in active agricultural use. Ruined built structures, can suffer from a lack of maintenance, vegetation growth, water damage and vandalism.

Vandalism, litter, dumping of garden waste and dog litter do occur but are not regarded as significant problems. Car parks have to be closed in the evenings to discourage camping and illegal fires. The proximity of housing and dog walking inevitably means that wildlife is disturbed or killed by domestic dogs and cats -this is not currently known to be a contributing factor to local extinctions but could prevent re-colonisation by locally-rare species.

3 The Vision

The Vision for Area 42 is to:

- enlarge existing special wildlife habitat areas and to join them up
- improve biodiversity
- enhance and conserve the heritage assets
- develop The Area as one of special value for education and recreation for the community
- promote the value of The Area locally, across The County and nationally and hence provide benefits to the local economy
- Implement the above with regard to village development policies e.g. Design Statements and Development Frameworks

3.1 Benefits

- retention of locally-important habitats e.g. heathland, meadows, and ancient and coppiced woodland and boggy areas
- the retention of declining species and re-instatement of some species recently lost to The Area
- conservation and promotion of The Area's heritage value
- benefit to local economies (from increased tourism and investment)
- an understanding, and a sense of pride, within the community about the wildlife and heritage value of The Area and the management required to ensure its conservation
- improved community access to wildlife, in a manner that is non-detrimental to the wildlife and economic value of the land i.e. causes no damage and only reasonable disturbance
- improved benefits to the land-owners, e.g. from funded land-management, business advertising, public relations and consumer access to their products and services
- Improvements to people's health with increased opportunities for recreation.

3.2 The Delivery

The Vision is delivered through a number of co-ordinated projects activities over a period of several years. The projects will be defined in detail in a Project Matrix once the Vision Document is finalised. The Project Matrix is mapped to the Objectives defined in Section 4 and ensures that every objective has one or more projects defined to achieve it. The projects will be diverse and each will require its own set of tasks, partners and resources to implement it and needs to be the responsibility of a volunteer or professional body. Section 5 will list the broad headings for the projects.

The current Management Committee for the Danbury Ridge reserves will monitor the overall progress towards the Vision and regularly update the Project Matrix. Ideally, EWT and NT wardens of all reserves, ECC and the Parish Councils, should be represented on this Committee. We will also progress these projects as part of the Chelmsford Biodiversity Forum and with regular liaison with the Essex Wildlife Trust so that initiatives can be shared across other Living Landscape Areas. The delivery will be dependant on local volunteers looking for opportunities i.e. sites where conservation measures can be implemented on wildlife on heritage sites – and to look for funding for these opportunities.

4 Objectives

The objectives for the Danbury Ridge Living Landscape fall into broad headings of biodiversity, heritage and landscape as well as recreation, education and information for the community. Underpinning these objectives are community involvement and training.

4.1 Managing for Biodiversity

All animal species have preferred food and habitat types that sustain them and provide shelter and breeding opportunities. Soil properties, temperature and water availability are also critical to some species. To conserve these species, we have to sustainably manage their preferred habitat and the need for the ability to disperse to areas which continue to provide their needs is paramount.

4.1.1 Habitat Management

The table below shows the objectives for each habitat type in The Area, and the key species that depend on these habitats. The species list has been derived after considering the Section 41 (S41) list of the Natural Environment and Rural Communities (NERC) Act 2006, after discarding species that would not be expected to be found in The Area. Other species not in the S41 list have been added because they are known to have declined locally and their status is a concern. Also, many Essex Red List species have been added.

For definitions of UKBAP, eBAP, Red List and Amber List, see Glossary)

(EsxR = Essex Red List,).

| | | | |
|---------|---------------------------|-----------------|---|
| 4.1.1.1 | Heathland | Current status: | Being conserved and expanded on Danbury Common, Lingwood Common, Backwarden and Woodham Walter Common |
| | | Target: | conserve existing heathland and join up the pockets of heathland wherever possible |
| | | Key species: | Yellowhammer, Green Hairstreak Butterfly (<i>EsxR</i>), Green Tiger Beetle, Ling Heather, bell heather, Cross-leaved heather, Tormentil, Heath bedstraw, Heath milkwort, Lousewort, Fenugreek, Subterranean clover, Small flowered buttercup (<i>Ranunculus parviflorus</i>) |
| 4.1.1.2 | Woodland | Current status: | Being conserved across all reserves |
| | | Target: | to increase traditionally managed woodland by increasing the amount of managed woodland in the reserves and LoWs |
| | | Key species: | Hazel Dormouse (<i>EBAP, EsxR, UKBAP</i>), Common Pipistrelle Bat (<i>EBAP, EsxR</i>), Noctule Bat (<i>UKBAP, EsxR</i>), Daubenton's Bat (<i>EsxR</i>), Badger (<i>EsxR</i>), Yellow- Necked Mouse (<i>EsxR</i>), Lesser Spotted Woodpecker (<i>EsxR</i>), Nuthatch (<i>EsxR</i>), Marsh Tit (<i>EsxR</i>), Mistle Thrush, all local reptiles and amphibians depending on the types of woodland, Purple Hairstreak Butterfly, Heath Fritillary Butterfly (<i>UKBAP; EBAP; EsxR</i>), Silver-washed Fritillary (<i>EsxR</i>), Wood Ants (<i>EsxR</i>), Shining Guest Ant (<i>UKBAP, EsxR</i>), <i>Omalium rugatum</i> Beetle (<i>EsxR</i>), <i>Byctiscus populi</i> Leaf-rolling Weevil <i>UKBAP; EsxR</i> Wild Service Tree, Sessile Oak, Alder buckthorn, Great Woodrush (E) Early purple orchid, Various fungi (<i>see appendix</i>) |
| 4.1.1.3 | Acid Grassland/ Meadow | Current status: | Being conserved on Danbury Common, Heather Hills, Hitchcocks Meadow, Dell Meadow, Little Baddow Heath, Woodham Walter Common |
| | | Target: | Increase The Area of grassland/meadow under conservation to 100% Improve the conservation on the reserves by introducing grazing |

| | | | |
|----------|---------------------------------------|-----------------|--|
| | | Key species: | Adder (<i>UKBAP, EsxR</i>), Common Lizard (<i>UKBAP</i>), Grass Snake (<i>UKBAP</i>), Marbled White (<i>EsxR</i>), White-letter Hairstreak (<i>UKBAP</i>), Silver barred moth, Rosy Marbled Moth, Common Green Grasshopper (<i>EsxR</i>), Great Green Bush Cricket (<i>EsxR</i>), Glow worm, <i>Agyneta ramosa</i> Spider (<i>EsxR</i>), Argiope bruennichi Spider (<i>EsxR</i>), Purple moor grass, Tormentil, Meadow saxifrage (rare in Essex), Hoary cinquefoil, Autumn lady's tresses, Green winged orchid (rare in Essex) |
| 4.1.1.4 | Ponds and boggy areas | Current status: | Some bogs are being conserved but many bogs and ponds are in need of active conservation management |
| | | Target: | Wetland project to restore all bogs and marshes throughout Danbury Ridge reserves. restore/create ponds/boggy areas outside the reserves: adding 3 new boggy/marsh areas and 10 new or restored ponds |
| | | Key species: | Grass Snake (<i>UKBAP</i>), Great Crested Newt (<i>UKBAP; EsxR</i>), Palmate Newt (<i>UKBAP; EsxR</i>), Common Toad (<i>UKBAP, EsxR</i>), Common Frog Hairy Dragonfly (<i>EsxR</i>), Scarce Emerald Damselfly (<i>EsxR</i>), Ruddy Darter (<i>EsxR</i>) Various Water Beetles (<i>EsxR</i>), <i>Agabus bipustulatus</i> Diving Beetle, (<i>EsxR</i>) <i>Anacaena limbata</i> Water Beetle (<i>EsxR</i>) Bog Pimpernell, Lesser skullcap, Wood Club Rush (rare in Essex), Marsh Pennywort |
| 4.1.1.5 | Rivers and Wet meadows | Current status: | <i>Need more info re Chelmer</i> |
| | | Target: | To return 30 hectares of arable fields on the valley floor to meadow pasture by 2015. |
| | | Key species: | Water Vole, Otter, Snipe, Lapwing, Kingfisher, Grasshopper Warbler, Sedge Warbler, Grass Snake (<i>UKBAP</i>), White-legged Damselfly (<i>EsxR</i>) |
| 4.1.1.6 | Arable farmland (including hedgerows) | | <i>Need to calculate area of arable farmland in ES from map and estimate how much is in – current est is 40%</i> |
| | | | Increase land in ES by 50% |
| | | | Brown Hare, Kestrel, Reed Bunting, Barn Owl, Turtle Dove, Swallow, Skylark (<i>eBap</i>) Yellowhammer, Linnet, Bullfinch Small Heath (<i>UKBAP</i>) |
| 4.1.1.7 | Scrub | Current status: | 50% of scrub on Danbury Common is rotationally coppiced |
| | | Target: | Increase rotationally managed scrub to 85% |
| | | Key species: | Hedgehog (<i>EsxR</i>) Nightingale, Garden Warbler, Willow Warbler, Bullfinch Slow Worm (<i>UKBAP</i>) White Admiral (<i>UKBAP; EsxR</i>) <i>Rubus disjunctus</i> (rare bramble) |
| 4.1.1.8 | residential areas | Current status: | Widespread areas, some of which have large mature gardens, hence important potential areas for wildlife |
| | | Target: | Increase the number of 'wildlife-friendly' gardens by 100%, through their value and promoting habitat and nest boxes |
| | | Key species: | House Sparrow (<i>EsxR</i>), House Martin, Swift, Song Thrush |
| 4.1.1.9 | Sand and gravel pits | Current status: | A few are present throughout The Area, the status of wildlife within these is unknown |
| | | Target: | Log key species in this area and liaise with landowners to encourage conservation |
| | | Key species: | Little Ringed Plover, Sand Martin, Common Lizard |
| 4.1.1.10 | Golf Courses | Current status: | Little known about the 2 golf courses from a wildlife perspective |

| | | | |
|-----------|----------|----------------|--|
| | | Target: | Introduce various benefits for wildlife (where non-detrimental to the facility and if not already done) e.g. ponds and refuges to encourage native reptile and amphibian species, plant out rough areas, minimise use of chemicals |
| | | Key species: | All amphibians, many birds e.g. Linnet |
| 41.1.1.11 | Orchards | Current status | 2 old orchards are now arable land. There is a large managed orchard near Riffhams |
| | | Target | Create two orchards ¹⁰ that are managed for biodiversity as well as fruit production |
| | | Key species | Many species benefit from the food source and underlying meadow including Bullfinch, Common Lizard, Song Thrush, Tormentil, Marbled White butterfly |

Habitat unknown: Acalles ptinoides Beetle EsxR

Biodiversity monitoring is regular on some of the reserves, conducted by an enthusiastic but small number of volunteers. Species records are maintained but all the management plans have stated a need to increase the monitoring of target species, particularly in response to management.

4.1.1.12 By 2014: have 50 people involved in conservation monitoring

4.1.2 Local Wildlife Site Management Plans

In Area 42, 46% of the LoWSs are in PCM. The target is to add a further 25% of sites into PCM.

4.1.3 Wildlife Corridors

A number of wildlife corridors have been identified – see map in Appendix A.

| | Location/ action | Purpose | Species benefiting |
|---------|--|---|--|
| 4.1.3.1 | River Chelmer to Blakes Wood | Encourage promulgation of hedgerow and woodland species across the farmland between The Ridge and River Chelmer and prevent fragmentation of outer woodland | Bats, reptiles, amphibians, small mammals (voles, mice) and some wildflower species |
| 4.1.3.2 | Pheasanthouse Farm to Bassett's Wood | | Bats, dormouse |
| 4.1.3.3 | Waterhall meadows to Danbury Central Reserves | To develop the Central Ridge reserves as part of a Living Landscape area, covering the north and east of Danbury and through Little Baddow. | Bats, dormouse |
| 4.1.3.4 | Danbury Central Reserves to Thrift wood (Runsell Green) | | |
| 4.1.3.5 | Thrift Wood (Runsell Green) to Thrift Wood EWT (Bicknacre) | | |
| 4.1.3.6 | Thrift Wood EWT through Folks Wood and to Emberson's Wood | Reduce fragmentation of these woodlands | Bats, dormouse |
| 4.1.3.7 | Hyde woods to Danbury Common | Encourage promulgation of hedgerow and woodland species across the farmland and encourage farmland species | Farmland birds, grassland butterflies, Bats, dormouse |
| 4.1.3.8 | Blake Woods to Backwarden | Maintain the wildlife stepping stones between Blake Woods and Backwarden | Bats, dormouse, woodland birds |
| 4.1.3.9 | Sandon Brook to Chelmer Valley | Allow flora and fauna species preferring damp and water-side areas to propagate along the brook and river | Plants, including Meadow Saxifrage, Devils-Bit Scabious; reptiles, insects, including White-Legged Damselfly; Kingfisher |

¹⁰ Orchards are an [Essex Biodiversity Action Plan \(eBAP\) habitat and now a UKBAP habitat](#)

It should be noted that adoption of agri-environment schemes on farmland may not be sufficient to achieve the objectives for these corridors and to meet Wildlife Targets. We should also look to tailor the options within the schemes to suit the adjoining reserves and even supplement the schemes with e.g. large tree-field hedges linking woodlands and scrub/ meadow / secondary woodland margins.

4.2 Conserving the Heritage

4.2.1 Understanding the Historic Environment

Detailed survey work is required and should be carried out by volunteers from the community. The objectives for different land uses/habitats and associated heritage assets are as follows:

| | | | |
|---------|--|-----------------|---|
| 4.2.1.1 | Woodland, Heath, Farmed areas especially pasture | Current status: | Baseline information required |
| | | Target: | Implement an extensive airborne Lidar survey (3D laser scanning) of The Area for interpretation, field checking and inclusion within the Essex Historic Environment Record |
| | | Key assets: | Woodland earthworks e.g. boundary banks; field boundaries e.g. lynchets; water management earthworks |
| | | Target: | Establish an annual programme of archaeological field survey for local volunteers, to include detailed survey of features identified during the Lidar survey |
| | | Key assets: | Woodland earthworks e.g. boundary banks; field boundaries e.g. lynchets; water management earthworks |
| 4.2.1.2 | Wetlands and waterbodies | Current status: | Baseline information required |
| | | Target: | Establish annual programmes for local volunteers to undertake Palaeo-environmental sampling of raised bogs, valley mires and other water bodies in The Area |
| | | Key assets: | Palaeo-environmental deposits |
| 4.2.1.3 | All | Current status: | Baseline information required |
| | | Targets: | Establish a programme of local historic research for volunteers/researchers - topics to include documentary research, oral history and documentary sources for historical ecology |
| | | Key assets: | Historic land-use; heath and woodland management; settlement patterns; industrial processes |
| 4.2.1.4 | Farmed areas, pasture, parkland, heath | Current Status: | Detailed information required for key cropmark sites |
| | | Target: | Establish a programme of geophysical surveys of archaeological sites in The Area |
| | | Key assets: | Cropmark complexes; earthwork sites e.g. Woodham Walter |
| 4.2.1.5 | Parkland, field boundaries, woodlands | Current status: | Baseline information required |
| | | Target: | A survey of all veteran trees in The Area |
| | | Key assets: | Veteran and historic 'working' trees |
| 4.2.1.6 | Farmed areas | Current status: | Baseline information required |
| | | Target: | A survey of The Area's hedgerows |
| | | Key assets: | Historic field boundaries |

4.2.2 Conserving the Historic Assets

Historic features require active conservation management. Targets are as follows:

| | | | |
|---------|---------------------|-----------------|--|
| 4.2.2.1 | Chelmer Navigation, | Current status: | Conservation management of navigation structures and Danbury Park Lake |
|---------|---------------------|-----------------|--|

| | | | |
|---------|--|-----------------|--|
| | Parkland, farmed areas | Target : | To secure the restoration of three historic water features in The Area |
| | | Key assets: | Industrial archaeology of Chelmer Navigation; designed landscapes; farmland ponds |
| 4.2.2.2 | Woodland, Heath, Parkland, Farmed areas especially pasture | Current status: | Conservation management of Danbury Common Napoleonic earthworks |
| | | Target: | To secure the conservation management of five archaeological earthwork features in the Danbury Ridge Living Landscape Area |
| | | Key assets: | Woodland earthworks e.g. boundary banks; field boundaries e.g. lynchets; prehistoric earthworks |
| | <i>Removed due to overlap with 4.3.2.2</i> | | |
| 4.2.2.3 | Farmed areas | Current status: | None known |
| | | Target: | To protect 3 archaeological cropmark sites through arable reversion or reduced depth cultivation |
| | | Key assets: | Cropmark complexes |
| 4.2.2.4 | Woodland, Parkland, field boundaries | Current status: | Conservation management within Danbury Park |
| | | Target: | To undertake appropriate conservation management of 15 veteran 'working' trees |
| | | Key assets: | Veteran and historic 'working' trees |
| 4.2.2.5 | All | Current status: | Limited local training available |
| | | Target: | A programme of training events for local people to learn practical conservation skills, to include: Earthwork repairs, Repair and conservation of flint walling, Conservation brickwork, Pollarding and Coppicing. |
| | | Key assets: | Earthworks, historic buildings and structures, veteran and historic 'working' trees and woodland |
| 4.2.2.6 | All | Current status: | Limited practical conservation tasks on heritage assets |
| | | Target: | Establish a programme of tasks for local volunteers to carry out practical conservation work on heritage assets in The Area |
| | | Key assets: | Earthworks, historic buildings and structures, veteran and historic 'working' trees and woodland |
| 4.2.2.7 | All | Current status: | No advice currently provided |
| | | Target: | Provide conservation management advice to landowners with heritage assets, to include integrated farm visits and integrated woodland visits |
| | | Key assets: | Earthworks, veteran and historic 'working' trees and woodland; historic field boundaries; cropmark complexes |

4.3 Conserving and Enhancing the Landscape

The primary aim is to manage existing features such as the woods and heathland appropriately and to restore those that have been lost, such as hedgerows, to maintain the landscape character. There is an obvious link between the landscape character of the area and the habitats that are present and therefore, by managing the habitats appropriately, will help protect the landscape character.

4.3.1 Targets for Understanding the landscape

| Ref | Target |
|---------|---|
| 4.3.1.1 | Identify key viewpoints and vistas from and into the Danbury Ridge and consider opportunities for enhancement |

| | |
|---------|--|
| 4.3.1.2 | Identify key natural features and areas of poorer quality landscape and develop plans for protecting and enhancing these |
|---------|--|

4.3.2 *Targets for Enhancing the landscape*

| Ref | Target |
|----------|---|
| 4.3.2.1. | To restore existing poorly maintained hedgerows (<i>volume to be defined after more detailed study</i>) by providing targeted advice to landowners about appropriate techniques and possible funding |
| 4.3.2.2 | To plant 1km of new hedgerows, targeting those areas which have suffered significant losses in the past, and along the A414 road corridor to help reduce its visual intrusion |
| 4.3.2.3 | Maintain character of the network of lanes, liaising with highways to ensure sympathetic maintenance of verges and enhancement of poor quality features e.g. signage and other furniture and damage by vehicles |
| 4.3.2.4 | Undertake planting schemes to help soften hard urban edges where they occur. |

4.4 **Benefitting the Community**

4.4.1 Community Liaison

Currently there is no single person responsible for the delivery of the Living Landscape. A community liaison post could ensure that there is an integrated and co-ordinated approach to the delivery

| Ref | Target |
|---------|--|
| 4.4.1.1 | Establish a funded post of Community Liaison Officer whose remit is to co-ordinate environmental education, information, formal and informal recreational activities and lead the conservation work, such as organizing volunteers, sale of resources from the reserves. |
| 4.4.1.2 | Construct a wood yard to be able to make use of produce from the nature reserves, such as in the sale of logs. The office/yard space would also be an interpretation and information centre for a meeting point for school groups and visitors to the Area. |

4.4.2 Information and Activities

The aim is to increase information, using a range of media, and to engage local residents in the Danbury Ridge Area.

Currently there are interpretation boards on nature reserves, but they would benefit from links to other sites, and The Area would also benefit from more joined-up work between the various conservation organizations. **Other opportunities to reach those who do not currently visit the area need to be explored.**

| Ref | Target |
|---------|--|
| 4.4.2.1 | Produce a joint interpretation plan for the Danbury Ridge Area |
| 4.4.2.2 | Produce publicly accessible information on Danbury Ridge Living Landscape to include: a portable exhibition to be hosted at different venues across the Ridge and elsewhere locally. Design and installation of 5 x new integrated interpretation panels at heritage sites on the Danbury Ridge, design and produce a self guided trail leaflets linking heritage assets and wildlife and 1 x self guided cycling leaflet. |
| 4.4.2.3 | Standardise elements of all interpretation boards for the nature reserves and heritage sites, as a way of promoting a co-ordinated approach to The Area. |
| 4.4.2.4 | Develop and deliver a co-ordinated programme of evening talks/lectures on the landscape, archaeology and history of the Danbury Ridge. |
| 4.4.2.5 | Include more conservation and heritage related material in local newsletters, which would help to connect the residents of Danbury Ridge to their local area. Sections on environmental and heritage education and volunteering would be particularly relevant. |

4.4.3 Education

The aim is to make more use of the open spaces for educational purposes, so that children can broaden their knowledge of, and develop a concern for, their local natural environment and heritage. Currently the main use of NT reserves for educational purposes is by Writtle College – use by schools has diminished recently.

| Ref | Target |
|---------|--|
| 4.4.3.1 | 20% of students engaged within formal environmental education, linked to the Primary and Secondary National Curriculum needs |
| 4.4.3.2 | Secondary school to be conducting annual studies at one or more of the nature reserves – as part of the Secondary National Curriculum |
| 4.4.3.3 | 40% of the Primary, Junior and Infant and Schools to develop their grounds for wildlife gardening and outdoor learning |
| 4.4.3.4 | Increase by 25% the number of students engaged with informal environment education, such as school holiday activities, forest schools, pre-school |
| 4.4.3.5 | Schoolchildren should learn about the local heritage of The Area. School visits to include: <ul style="list-style-type: none"> o Whole school assemblies o Archaeological detectives/artefact handling sessions o Historic building detective sessions o Landscape detectives sessions |

4.4.4 Recreation

Current organised recreation within Area 42 is low, given the biodiversity of the area, with only 4-5 walks per year provided by local groups. Disabled access to the Area should be approved, with more mobility routes around the key parks. More information on self-guided walks and cycling opportunities would be beneficial.

| Ref | Target |
|---------|---|
| 4.4.3.1 | Develop and deliver a co-ordinated programme of monthly guided walks throughout The Area, which could include: <ul style="list-style-type: none"> o Healthy History walks for adults o Landscape Discovery walks with activities for 7-14 year olds o Family friendly heritage walks o Spring Birdsong walks o Summer (Wildflower and Butterfly) walks o guided walks for young people groups (Cub-Scouts, Beavers, Brownies) |
| 4.4.3.2 | 100 children from organisations such as the Scouts & Cubs and the Guides, Brownies & Rainbows which have nature clubs in Area 42, conducting activities such as nature watches, geo-caches, treasure hunts, tree rubbings and scavenger hunts |
| 4.4.3.3 | Conduct a disability access survey, to really understand what is needed on the key sites, such as Danbury Ridge Central Reserves and Danbury Common, Danbury Country Park |

4.4.5 Society and Trust Membership

Currently, community involvement varies from occasional work parties and wildlife monitoring to community education and fundraising, conducted through local trusts, societies and friends-groups. The aim is to enlarge the membership of these groups and hence involve a wider section of the community in the conservation and enjoyment of The Area.

| Ref | Target |
|---------|---|
| 4.4.4.1 | Increase the collective membership of the societies/group to 30% of households. |
| 4.4.4.2 | Have a turnover in the collective committees of 3 people per annum |

| | |
|---------|--|
| 4.4.4.3 | Increase the number of working party person-days by 50% |
| 4.4.4.4 | The RSPB Area group need a new group leader to organise events in The Area. Previously they have run tree planting and dawn chorus events. |

4.4.6 Training

Fulfilment of many of the above objectives requires contributions from trained volunteers as well as professional specialists. The aim is to increase the number of local people with newly learnt conservation, archaeological, ecological and historic research skills to enable them to understand and explore the heritage of Danbury Ridge.

| Ref | Target |
|---------|--|
| 4.4.6.1 | Hold three training events, for local people to learn archaeological skills to enable them to investigate the woodland heritage of The Area. Training will include: <ul style="list-style-type: none"> o Finding and mapping archaeological features in woodland o Detailed recording and condition survey of archaeological features in woodland o Identifying and recording veteran and working trees |
| 4.4.6.2 | Hold three training events for local people to learn archaeological skills to enable them to investigate the non-woodland heritage of The Area. Training will include Archaeological Walk-over Surveys, Archaeological Field Walking and Palaeoenvironmental Sampling. |
| 4.4.6.3 | Hold three training events for local people to learn historical research skills to enable them to investigate the heritage of The Area, to include: <ul style="list-style-type: none"> Introduction to documentary research including local and national archives, on-line sources and 'behind the scenes' at Essex Record Office Using maps for historical research on commons, woods and heath Using other documentary sources for historical research on commons, woods and heath. |
| 4.4.6.4 | Hold three training events, for local people to learn ecological skills to enable them to investigate the historical ecology of the woodland heritage in The Area, to include woodland structure and diversity, Ancient Woodland botanical indicators, assessment of veteran trees and invertebrate habitat. |
| 4.4.6.5 | Hold courses on dormouse surveying, water vole surveying, grassland management, wildflower identification, freshwater invertebrate identification and pond ecology, heathland management. The courses will be free to volunteers who offer their help with surveying or practical conservation tasks. |
| 4.4.6.6 | Training courses for Forest Schools will be held to train leaders for the local schools. |
| 4.4.6.7 | Training courses will be held in practical woodland management skills to include coppicing, firewood processing. |

4.5 Benefitting the Economy

4.5.1 Visitors and Businesses

Eco-tourism is on the rise and destinations that can connect visitors to nature in a sustainable way are much sought after. This type of tourism can generate income for residents and businesses as well as strengthening links between the community and the local environment in which they will have a vested interest.

The aim is to increase, from The Area's heritage, recreational and wildlife assets, the economic benefits for local businesses.

4.5.1.1 Undertake an assessment, by 2012, which identifies improvements to the local infrastructure that will enable visitors to stay in The Area longer and reduce negative impacts from increased visitor numbers

4.5.1.2 Undertake an assessment, by 2012, that identifies opportunities for, and constraints on, increasing visitor numbers and 'length of stay'.

4.5.1.3 Prepare a joint Audience Development Plan for Danbury Ridge by 2011/2012

4.5.1.4 Develop a brand identity for the Danbury Ridge Living Landscape Area by 2013

4.5.1.5 Develop and deliver a co-ordinated programme of public events throughout The Area

4.5.1.6 Design and implement a joint publicity campaign, by 2014, promoting The Areas heritage attractions, local produce, local services, tourism businesses etc.

4.5.1.7 Produce three joint 'user guides' e.g. leafleted trails, by 2014, aimed at increasing visitors 'length of stay' by identifying links between providers/attractions.

Businesses that can harness the spending power of eco-tourists should be encouraged. For example: Nature trail tours, cycle hire, production and sale of natural local products and refreshments for visitors.

Businesses that can build relationships with other businesses in The Area should also be encouraged. For example: where quality locally grown food is supplied to local pubs and restaurants. This helps to create a resilient, sustainable local economy attractive to visitors who care about the quality of their food and its carbon footprint. Income from these types of relationships is kept within the local economy for longer generating additional benefits such as increased local employment and identity.

There are a number of well-being businesses that may benefit from greater links with some of the more tranquil areas. These links should be strengthened so that the healing and spiritual qualities of nature can become part of the local identity, ultimately attracting more visitors and customers.

4.5.2 *Agri-environment Schemes*

In order to enhance and preserve Danbury Ridge for future generations, a careful balance must be struck between what we can take from the environment and what must be left. The overarching focus of any economic targets must be the sustainable use of the land for human benefit with the minimum impact on the local wildlife and their habitats.

The dominant land uses on Danbury Ridge are agriculture and woodland conservation. It is important to identify ways in which these two potentially conflicting land uses can become mutually beneficial to one another. There are a number of agri-environmental schemes designed to encourage farmers and landowners to manage their land in environmentally beneficial ways:

- English Woodland Grant Scheme (EWGS).
- Entry-level Environmental Stewardship;
- Higher-level Environmental Stewardship;
- Organic Entry-level Stewardship;
- Energy Crops Scheme;

Take up of the EWGS is high around Danbury and Little Baddow with most of the large woodlands covered. Most of the woodlands to the south of Danbury Ridge (east of Bicknacre) are not in the scheme and could possibly be targeted for inclusion.

4.5.2.1 100 hectares woodlands to newly adopt the EWGS

There are approximately 13 Entry-level Environmental Stewardship (ELS) schemes running throughout Danbury Ridge; with many still in their pre-application stage. Of the 800ha of agricultural land, ELS schemes account for nearly half giving plenty of scope for additional scheme take up and also transition to the Higher-level Environmental Stewardship (HLS) schemes in some areas. In particular, agricultural land around the SSSIs and woodlands should be targeted for inclusion.

Comment [a1]: If most of large woods in WGS is this achievable? (Steve)

4.5.2.2 An additional 200ha of land to be managed under Entry Level Stewardship

4.5.2.3 100ha of land to take-up, or transition to, Higher-level Stewardship

Farmers markets and horticultural shows indicate a demand for locally grown produce. Farmers should be encouraged to take advantage of the Organic Entry-level Stewardship scheme (OELS) which pays £60 per hectare per year. Around Danbury Ridge there is a potential total of £48,000 per year available to landowners if they all choose to grow organically. Payments of £175 per hectare for the first two years are available for improving the land up to acceptable organic standards. In Total there is potentially £280,000 available for converting all 800ha of agricultural land to organic. Natural England research believes that on average £1 million of expenditure on agri-environmental schemes generated benefits valued at £25 million by society.

4.5.2.4 50ha of land to take-up Organic Entry-level Stewardship

5 Resources required to deliver the Living Landscape

This section is to be completed during the review of the Draft Document for Wider Consultation. It will comprise a list of projects and approximations of cost as well as potential sources of funding, expertise and labour.

The projects will be cross-referenced to the objectives in the previous section.

A single project may meet multiple objectives (and vice versa).

For example, restoring a hedgerow along an ancient boundary and near a public footpath could potentially:

- *provide an improved habitat for wildlife and a wildlife corridor*
- *enhance the enjoyment to walkers, with added flora and fauna*
- *enhance the landscape character*
- *restore a heritage feature*
- *benefit the landowner, as a hedge can prevent soil erosion, water run-off, and encroachment onto crops.*

Other projects may be less holistic but equally valuable in meeting objectives. An integrated approach should be taken to their definition e.g. a new recreationally facility, such as a mountain bike track, may need to be balanced with protection of another area from erosion.

It is envisaged that the list of projects will continually change year-by-year as new opportunities are identified and after negotiations are completed with landowners and resource providers. Generic examples include:

- *Local Wildlife Sites into Positive Conservation Management*
- *Restoration of historic water features*
- *Introducing grazing: a specific example suggested is using Pheasanthouse Farm as the centre for stock to graze meadows and heathland on Backwarden (requires fencing as a pre-requisite)*
- *Conversion of disused quarries into wildlife sites e.g. sand martin colony, reptile translocation*
- *Restoring an earthwork and providing information on its history*
- *Re-planting a former orchard, involving perhaps, a local school*
- *Installing homes for wildlife such as owl boxes, bat boxes and hibernaculums*
- *Creation of Forest Schools*
- *Conversion of farm buildings into wood yard; to create an area for the sale of timber*
- *Woodland crafts centre and events*
- *increase connectivity of the footpaths with grant-assisted permissive footpaths*