



Essex Rural Partnership

www.essexruralpartnership.org.uk

The Essex Rural Partnership was founded in 2002. Its members represent organisations in the public, private and voluntary sectors, addressing the social, economic and environmental priorities for rural Essex.

Essex Woodland Strategy

2010 to 2050

Vision

An expanding woodland resource in Essex that is nationally recognised as bringing the highest quality sustainable benefits to all who live and work within the County.

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Foreword

Woodlands and forests make an important contribution to the social, economic and environmental richness of our county.

This strategy details our vision, aims and objectives to create and sustain woodlands in Essex, in the context of national and regional policy.

Through the member partners of the Essex Rural Partnership we will strive to increase the amount and value of woodlands, bringing greater economic and environmental benefits, and developing a resource for community activities which can help to enhance the wellbeing of our residents. Our vision also recognises the importance of a sustainable resource which will serve future generations.



John Jowers
Chair of Essex Rural Partnership

Executive Summary

This is a Woodland Strategy for Essex. This strategy provides a sound basis for the sustainable management of our woodland and calls for shared action to achieve better management of our woodland. Effective partnership and new models of cooperative working with all stakeholders will be essential for successful delivery. The strategies overarching purpose is to fulfil the vision:

“An expanding woodland resource in Essex that is nationally recognised as bringing the highest quality sustainable benefits to all who live and work within the County”.

This vision will be achieved by the woodlands of Essex being managed in an economically and environmentally sustainable manner.

The strategy has six aims:

1. To increase the contribution woodlands make to the quality of life for those living in, working in or visiting Essex.
2. To create a sustainable woodland resource in those places where it can contribute most in terms of environmental, economic and social benefits now and in the future.
3. To improve the opportunities for, and competitiveness of, woodland businesses and promote the development of new and, or improved markets for sustainably produced woodland products.
4. To protect and enhance the environmental resources of water, soil, air, biodiversity and landscape (both woodland and non-woodland).
5. To ensure that existing and newly created woodlands contribute to the mitigation of, and are resilient to the potential effects of climate change.
6. To raise awareness of the importance of the cultural and amenity values of woodland and the economic and social opportunities. That this valuable natural resource can provide.

The strategy describes the economic, environmental and social benefits provided by woodland, the legal and policy framework in which woodlands exist and identifies and discusses the strengths, weaknesses, opportunities and threats to woodland in Essex.

The strategy promotes the overarching need for sustainable woodland management within the three broad themes of economic, environmental and social sustainability. To achieve these challenging aspirations 15 clear objectives are described. The objectives and their associated actions will act as a catalyst to the achievement of the vision.

The vision is best achieved by all stakeholders working in partnership together. The actions described will facilitate partner organisations in drawing up their own action plan for the actions they are prepared to work towards fulfilling.

1 Introduction

1.1 Background

1.1.1 This is a Woodland Strategy for Essex. Its overarching purpose is to fulfil the vision:

“An expanding woodland resource in Essex that is nationally recognised as bringing the highest quality sustainable benefits to all who live and work within the County.”

1.1.2 For the purpose of this strategy:

- Essex refers to ‘Greater’ or ‘Historic’ Essex which in addition to the administrative area of Essex County Council includes the unitary authority areas of Southend-on-Sea and Thurrock.
- Woodland is defined as groups of trees that are 0.1 hectare (1000 square metres) or larger and have a woodland character. Woodlands can be found in both urban and rural situations.
- References to woodland implicitly include trees and other tree features in both the urban and rural environments.

1.1.3 The strategy is an addendum to the Essex Rural Strategy ‘A Vision for Rural Essex’ (ERP 2009) that has been published by the Essex Rural Partnership and will facilitate the accomplishment of many of the recommendations made by the Essex Rural Commission’s 2009 report.

1.1.4 This strategy sets Essex two extremely challenging aspirations:

- All Essex’s woodlands are managed as an economically and environmentally sustainable resource that enhances the economic prosperity of the County and the quality of life of its residents.
- All Essex residents have easy access to woodlands close to where they live. This will be assessed against the criteria of how many people live within 500m of an area of accessible woodland of at least 2ha in size and within 4km of an area of accessible woodland of at least 20ha in size.¹

¹ Based on the ‘Woodlands for People’ Woodland Access Standard. Woodlands for People’ is an ongoing partnership funded by the Woodland Trust with support from the Esmee Fairbairn Foundation, the Forestry Commission (across GB) and the Environment and Heritage Service (Northern Ireland) to create and maintain a UK-wide ‘provisional’ dataset of accessible woodland. The data on woodland accessibility are collected annually. This will enable progress to be monitored on an annual basis

It is important to recognise this as an aspirational benchmark. It is accepted that it is unrealistic to expect all Essex residents to fall within this criteria. In some parts of Essex, because of biodiversity, landscape, historic environmental and, or cultural considerations, it is unlikely ever to be appropriate to create significant amounts of new woodland. The target is to achieve a year on year increase in the proportion of the population that fall within the described criteria.

1.1.5 The strategy:

- Informs the management of woodland holdings in Essex and,
- Provides a framework to inform and guide the creation of new woodlands in Essex.

This will support the Essex Strategy's objective of making Essex the best place to live in Britain (EP 2010).

1.1.6 This strategy is organised so that it has six aims that operate across three themes. Within each theme there are a number of objectives and actions required to fulfil these objectives.

1.2 Aims

1.2.1 The purpose of this strategy is to provide leadership and direction on the future management of woodlands in Essex. It focuses the priorities identified in national and regional tree and woodland strategies to a county level.

1.2.2 The strategy has six aims:

1. To increase the contribution woodlands make to the quality of life for those living in, working in or visiting Essex.
2. To create a sustainable woodland resource in those places where it can contribute most in terms of environmental, economic and social benefits now and in the future.
3. To improve the opportunities for, and competitiveness of, woodland businesses and promote the development of new and, or improved markets for sustainably produced woodland products.
4. To protect and enhance the environmental resources of water, soil, air, biodiversity and landscape (both woodland and non-woodland).
5. To ensure that existing and newly created woodlands contribute to the mitigation of, and are resilient to the potential effects of climate change.

6. To raise awareness of the importance of the cultural and amenity values of woodland and the economic and social opportunities. That this valuable natural resource can provide.

- 1.2.3 The basis of all actions will be sustainable woodland (forest) management, which can be defined as:

“the stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national and global levels, and that does not cause damage to other ecosystems”²

1.3 Themes

- 1.3.1 Forests and trees can provide economic, social and environmental benefits. Often these are complementary, but trade-offs can be required between economic timber production and aims such as public access and, or increased biodiversity. The priority of one function over any other will be site specific and dependant on the characteristics of the site concerned and the owners objectives.

- 1.3.2 The functionality of trees and woodland can be divided into three broad themes, which themselves can be sub-divided into individual benefits. All three themes impact on the quality of life of Essex residents. The themes are:

- **Economic:** include employment, the value of timber (wood), positive influences on inward investment, increased property values, reduced energy costs, regeneration of derelict and damaged land, and tourism.
- **Environmental:** chiefly comprise biodiversity, pollution abatement, soil conservation, protection and use of water resources, carbon sequestration, climate change mitigation/adaption and local sustainability.
- **Social:** relate to improved physical and mental health, enhanced living environments, increased community pride, recreation, education, local distinctiveness (including the cultural and historic environment) and community engagement.

² Second Ministerial Conference on the Protection of Forests in Europe, Helsinki; 1993

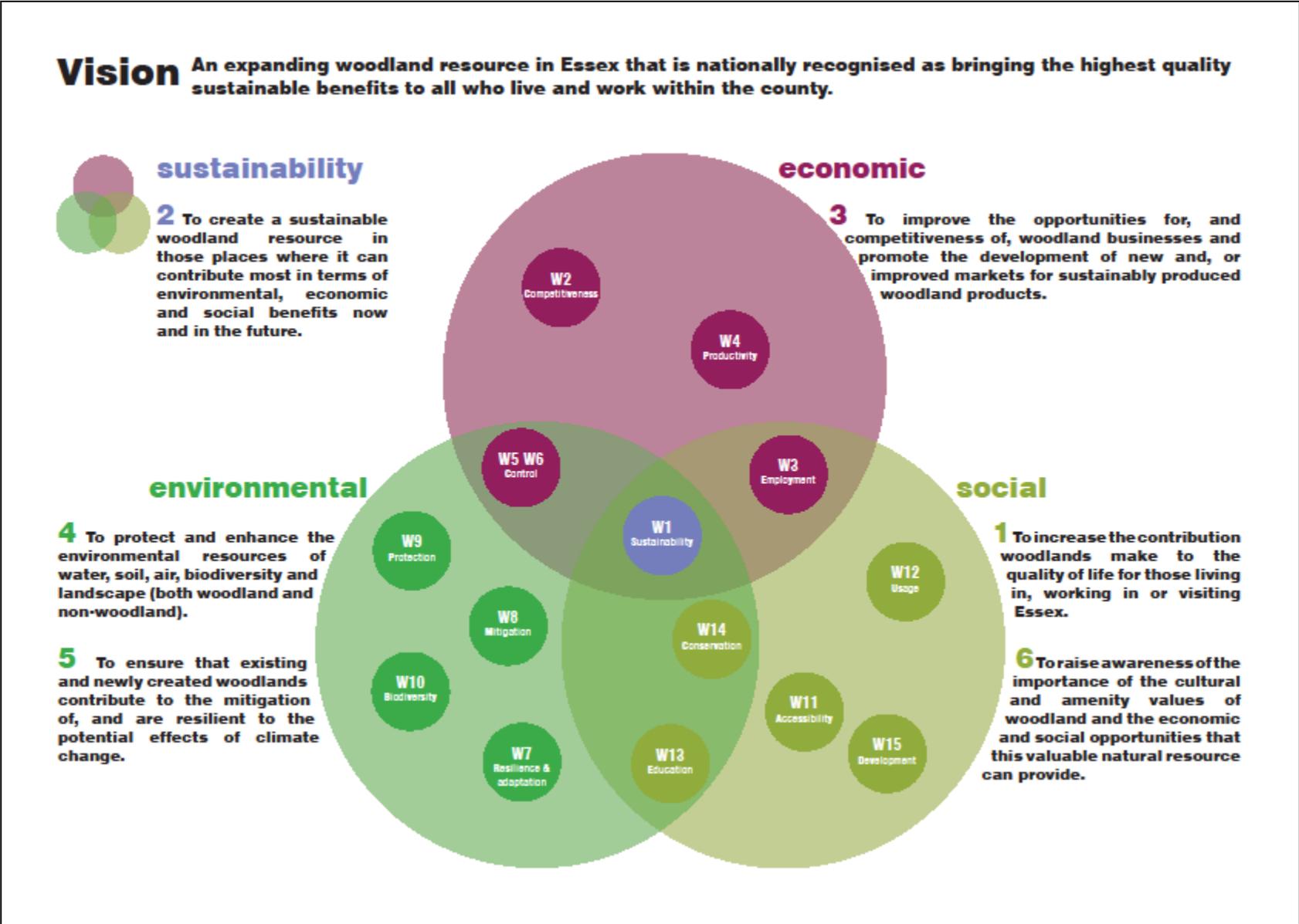


Diagram 1: A representation of how the Vision, Themes, Aims and Objectives of the Essex Woodland Strategy relate to each other

2 Woodland

2.1 Description

- 2.1.1 Woodland is a land use where trees are the dominant plant form. Individual tree canopies often overlap and interlink to form a more or less continuous canopy, shading the ground to varying degrees.
- 2.1.2 Woodlands are much more than just trees. They usually contain a great variety of other plants depending on the amount of light available under the tree canopy. Close inspection of woodland will reveal that it has a rich biodiversity (as a general rule the longer the woodland has been *in situ* and the larger it is the richer its biodiversity).
- 2.1.3 The species present are all interacting in relationships that can be staggeringly complex. Plants in woodland will host a variety of animal life, for example oak trees alone can support over 400 different species (Offwell 2010). A tree's value for biodiversity does not end with the death of the tree. Even seemingly innocuous habitats like rotting wood have up to 1,700 species of invertebrate associated with it (Offwell 2010).
- 2.1.4 Fungi and bacteria are an often overlooked component of woodlands although they are vital for recycling dead material into reusable nutrients to fuel new plant growth and vital for creating and maintaining soil.
- 2.1.5 Habitats dominated by trees include traditional woodland (both wet and dry), parkland, wood pasture, orchards, hedges, 'scrub', plantations (cricket bat willow, conifer and broad-leafed some on ancient woodland sites (PAWS)) and the urban forest, the main difference being the age/size/species of the trees and the number of them per unit area. Some of these categories of woodland are more 'natural' than others but all have, to a greater or lesser extent been influenced by human activity.
- 2.1.6 Virtually all of the benefits of traditional woodland are also found in the urban forest which made up of trees growing along streets and in parks and gardens (both public and private) in addition to areas of urban woodland; this often referred to as 'Green Infrastructure'. In the urban forest the focus tends to be on the individual tree feature although the forest's importance at a strategic level is the tree population as a whole. The importance of the urban forest is that it is the first and possibly the only interaction some people have with trees, a treed landscape and the associated wildlife. With the exception of the 'traditional' woodland component the urban forest is beyond the scope of this strategy although much of what is said about woodlands is also applicable to the urban forest.
- 2.1.7 In addition to their ecological significance woodlands and wooded landscapes are an important component of Essex's cultural heritage and historic environment both in their own right but also because they can contain a variety of archaeological

remains and historic environment features that have been protected by the woodland environment.

- 2.1.8 Woodland, with the exception of even age plantations and orchards, acts as a matrix in which other habitats are found and develop in a dynamic way in time and space. Habitats naturally tend not to have clearly defined boundaries, although human intervention has often defined hard boundaries between woodland and adjoining habitats.
- 2.1.9 Small woodlands have a proportionally high amount of ‘edge effect’. Typically a woodland ‘*interior*’ or ‘*core*’ will only be found in the parts of woodland that are at least 30m from the woodland edge; such woodlands need to be at least 60m wide in all directions. Much woodland is not large enough to contain core woodland because of the fragmented character of Essex’s woodland; this makes it a relatively rare habitat.
- 2.1.10 Wooded landscapes fragmented by development and other competing land uses will result in the woodland’s ecological function being diminished or lost altogether. Small woods are a characteristic feature of much of the Essex landscape; enlarging existing and creating new woodlands will, over time change the character of the Essex landscape.
- 2.1.11 Generally woodlands, especially Ancient Semi-Natural Woodlands (ASNW), will benefit from the creation of ecological buffers and links, around and between them.
- 2.1.12 The character of Essex woodland is dictated by a combination of the physical attributes of the site (soil/climate/drainage/aspect), the dominant species present and the sites structure and history. These latter characteristics tend to be a function of management.
- 2.1.13 The characteristic woodland types of Essex include:
- a) When defined by their dominant species³.
 - i) Lime-woods
 - ii) Chestnut woods
 - iii) Beech-woods
 - iv) Hornbeam woods
 - v) Elm-woods
 - vi) Ash, hazel, maple woods
 - vii) Oak woods
 - viii) Alder woods
 - ix) Willow woods

³ A description of how these woodland types relate to the National Vegetation Classification can be found in Appendix C

b) When defined by historic management practices:

- i) Coppice (with and without standards)
- ii) Plantation
- iii) High forest
- iv) Woodland fragments (hedges, small spinney's and copses, pollards)
- v) Wood pasture
- vi) Parkland
- vii) Orchards

2.2 Why are Woodlands so Important?

2.2.1 Woodland is one of the few land uses that is multi-functional. Well managed woodland can be economically viable, have high levels of biodiversity and provide an amenity asset that can benefit the whole community.

2.2.2 The predominance of any particular function in woodland is dependant on the purpose for which the woodland is being managed. The objectives of management should be set by the woodland's owner.

Economic

2.2.3 Woodlands contribute to the local economy by:

- Producing timber for building houses and other structures, making furniture, fencing, tools and even artwork. Wood is a very durable building material and a long term depository for stored carbon (for example the 13th century Barley Barn at Cressing Temple built from 480 oak trees).
- Producing a renewable fuel either as logs, charcoal, wood chip or wood pellets.
- Being a source of food; including meat both from wild animals and domestic animals that graze/browse woodlands, nuts, fungi, fruit and berries.
- Eco-tourism - creating an attractive environment for both educational and recreational activities that people will pay to undertake; for example paint balling, shooting, orienteering, geocaching, mountain biking, horse riding, camping, rallying and environmental field studies, so having a knock-on beneficial effect on the wider local economy.
- Employing local people to manage, harvest, process and market woodland products.

- Creating an attractive environment in which to live and invest; therefore encouraging inward investment into the locality and generally having a positive effect on property values.

Environmental

2.2.4 Woodlands enhance the environment by:

- The removal of carbon dioxide from the atmosphere and the storing (sequestration) in wood is an important element of climate change mitigation (Read 2009). It is also a renewable carbon neutral fuel that displaces fossil fuels which produce a greater amount of green house gas emissions. There is a national target of 12% of heat generated by renewables.
- Being an important habitat for a wide variety of plants and animals. The importance of woodland for biodiversity stems from it being the remnant of the original 'wildwood' (see paragraph 2.3.4) climax habitat for most of Essex in which wildlife thrived in its natural, undisturbed state. This is especially important for woodland dependant specialist species that are adapted to, and benefit from, woodland conditions.
- Woodland soil acting as a carbon sink.
- Filtering out dust and particulates from the atmosphere.
- Slowing down, dissipating and reducing peak flows during periods of heavy precipitation.
- Micro-climatic amelioration by providing shelter, reducing wind speeds and providing a shading/cooling effect.
- Contributing to local distinctiveness and sense of place
- An important component of the Essex landscape

Social

2.2.5 Many of the economic and environmental benefits of woodland listed above are also a social benefit. In addition woodlands also enhance local amenity by providing an attractive environment for people to:

- Live and work in.
- Undertake physical recreational activity to keep fit.
- Undertake wildlife-related recreation, e.g. bird watching

- Unwind from the stresses and strains of urban living.
- Undertake community activity and voluntary work.
- Learn in. e.g. Forest Schools
- Protection of historic environment assets from plough damage; woods as well as containing assets related to human exploitation and management of woodland often preserve earlier earthworks and other features.

2.3 Essex Woodlands

- 2.3.1 Trees and woodlands are a significant feature of the Essex landscape that improves the quality of life for Essex residents through their contribution to the environment and economy of the County in addition to providing a recreation resource for both Essex's residents and visitors.
- 2.3.2 The woodlands of Essex include the internationally important Epping Forest⁴ and nationally important sites such as Hatfield Forest⁵, the oxlip woodland complex in north-west Essex and the ancient woodlands of Hockley Woods in south-east Essex. Essex also boasts being host to many significant areas of wood pasture, for example Weald and Thorndon Country Parks. Other woodland types include the river valley cricket bat willow plantations, hornbeam woods of south and west Essex, the spring-fed wet woods of Braintree District, the occasional conifer plantation and more recent broadleaf plantations
- 2.3.3 Part of south Essex is within the Thames Chase Community Forest that was designated in 1990. The ambitious vision was to increase woodland cover within the 104 square kilometres of the forest's area from 8% in 1990 to 30% in 2030. By 2010 woodland cover had increased to 13% with the successful establishment of something over 450 hectares of new woodland.
- 2.3.4 The Forestry Commission's Inventory of Trees and Woodlands (FC 1998 - the inventory is currently (2010) being updated) estimated the woodland cover of Essex was 5.3% (19,455ha) of total area, of which 12,774 ha (woodlands over 2ha in size) (3.5%) is defined as ancient semi-natural (ASNW) (land continuously wooded since at least 1600). This is likely to be an underestimate as the majority of woodlands under 2ha in size (totalling about 4,000ha (1.1% total area)) are also likely to fall into the category of ASNW. Since the inventory was published Forestry Commission grant has been paid for the planting of over another 450 ha of new woodland although some woodlands are likely to have been lost to development and clearance for other reasons (for example creating open habitats). Both known and anecdotal evidence suggest that a significant amount of new

⁴ Designated as a Special Area of Conservation (SAC) and SSSI because of its ancient wood pasture and associated pollarded trees

⁵ Designated as Site of Special Scientific Interest (SSSI) and National Nature Reserve (NNR) because of its undisturbed medieval royal hunting forest.

woodland may have been created without grant support over this period. It is anticipated that the Inventory of Trees and Woodlands currently being undertaken will suggest woodland cover in Essex is now over 20,000ha, approximately 5.5% of the County's land area.

- 2.3.5 The woodlands found in Essex today are generally the product of the removal and or management of the post ice age 'wildwood' that would have covered a large proportion of what is now Essex. By the time of the Norman conquest (11th century) the woodland cover is estimated to have already been reduced to around 20% (75,000 ha) of land area. Plantation woodlands have been established in the county since at least the medieval period; Bullock Wood near Colchester is one of the earliest examples of a woodland plantation in the country. It was originally called Sowen wood and was planted by St John's Abbey before 1242.
- 2.3.6 A number of Essex woodlands are the remnants of the Royal Hunting Forests found in the County (Writtle, Waltham - Epping, Hainault, Wintry, Hatfield Broadoak and Kingswood). This tradition of managing woodland for sport has continued into the present with many small copses, hedges and woodlands being planted or retained as game cover for hunting and shooting purposes. The value to the local economy of field sports is quite considerable. Such use also contributes to the protection and management of existing woodlands and consequently to the biodiversity benefits they provide.
- 2.3.7 Historically woodlands and hedges were retained and managed for fuel (firewood.), construction (timber), fodder (fruit and nuts) and sport (originally hunting of boar and deer, and more recently pheasant). Essex's proximity to the large urban area of London resulted in a lot of the woodlands being managed as coppice for firewood and charcoal; this practice had ceased on a large scale by the middle of the twentieth century. Since World War Two active woodland management has been in decline both within Essex and nationally which has led to the loss of traditional woodland skills and crafts. Recently there has been a resurgence of interest in these traditional skills primarily motivated by interest in the environment (natural and historic) and sustainability. There is also a renewed interest in using wood as a fuel because of its 'carbon neutral' characteristics. Grant aid to facilitate the establishment of a woodfuel supply chain is currently available through the European funded Woodfuel East project.
- 2.3.8 It is estimated that the 20,000 hectares of woodland in Essex could produce around 80,000 cubic meters⁶ of green wood per annum which equates to about 40,000 oven dry tonnes per year. In practice it is unrealistic to expect all, or even a majority, of Essex's woodlands to be managed productively.

⁶ Estimated based on the assumption that the average woodland productivity is likely to be around 4 cubic meters of wood, per hectare per annum.

- 2.3.9 Woodlands (especially if ASNW) and veteran trees are important UK⁷ habitats in biodiversity terms with more species of conservation concern associated with them than any other habitat. Ancient woodlands can not be re-created; once destroyed they are lost forever. Therefore it is essential that as much ancient woodland as possible is protected. Although Essex is one of the least wooded counties in England about two thirds of what there is, is classified as ASNW.

2.4 S.W.O.T Analysis of Essex Woodlands

- 2.4.1 A **S**trengths, **W**eaknesses, **O**pportunities and **T**hreats (SWOT) analysis is a technique used to summarise the main factors that have an influence on the subject being assessed. Table 1 below identifies the main factors acting on the woodlands of Essex.
- 2.4.2 The SWOT analysis identifies a number of challenges that face woodlands in Essex.

Strengths	Weaknesses
<ul style="list-style-type: none"> • High levels of public support for woodland and a strong attachment to large and old trees. • Felling licence regulations and tree preservation orders give woodlands have a high level of protection. • Extent of total resource. • Large proportion (over 50%) of ASNW (good for biodiversity). • Proximity to large markets (centres of population). • Important component of the Essex landscape. • Positive contribution to climate change mitigation. • Recreation resource scattered throughout Essex. • A significant renewable resource. • Increasing demand for carbon lean renewable fuel. • Growth in interest in traditional skills. • Significant education resource. • Important historic environment resource. • Profitable cricket bat willow plantations. • Strategic and funded initiatives to promote woodfuel and deer management in East of England • Strong and established eWGS scheme. • Significant biodiversity resource. 	<ul style="list-style-type: none"> • Public have strong attachment to woodland and large, old trees which may restrict economic utilisation. • Majority of woodland is either unmanaged or under-managed. • Small size of individual woodland and extent of woodland resource as a proportion of total land area. • Inadequate deer and squirrel control. • Lack of public access. • Inadequate woodland product supply chain. • Conflicts between biodiversity, access and economic utilisation of woodlands. • Pressure on land from development. • Shortage of skilled woodland management labour. • Limited capacity of local wood processors. • Lack of general understanding of woodland management often makes beneficial management activities controversial. • Fragmented woodland ownership. • Potential conflict between society's desire for instant results and the long lead-in time before woodland management achieves the desired outcome.

⁷ The section 41 list of the Natural Environment and Rural Communities (NERC) Act list UK Biodiversity Action Plan (BAP) Species lists habitats and species of conservation concern (NE 2010)

Opportunities	Threats
<ul style="list-style-type: none"> • Most ASNW are not managed. • Climate change mitigation and adaption. • Proximity to large market that is not exploited. • Latent market for local woodland products that currently use imported material. • Sustainable woodland management and certification schemes. • Under utilised recreation resource scattered throughout Essex. • Increase use of woodland for Forest Schools. • Health benefits of woodland and woodland use. • A significant renewable resource that is not fully realised. • Strategic and funded initiatives to promote woodfuel and deer management in East of England. • A desire for locally grown produce. • Limited public access in much woodland. • Expansion of woodland area. • Venison and game market development. • Government targets to increase woodland area by 10,000ha pa for 15 years in England⁸. (HMG 2009). • Growth in interest in traditional skills. • A significant education resource. • Strong and established eWGS scheme. • Enhancement of historic environment assets. • Growing population providing and opportunity to incorporate the creation of new wooded green infrastructure into housing developments. • Large charcoal market not fulfilled from local woodland. • Enhancement of the Essex landscape. 	<ul style="list-style-type: none"> • Societal time frames much shorter than woodland rotations leading to abandonment of long-term objectives resulting in a discontinuity of political support for woodland. • Lack of public understanding of woodland management making beneficial management activities controversial. • Over reliance of woodland management on government grants. • Uncontrolled deer populations reducing the benefits provided by woodlands. • Uncontrolled grey squirrel numbers reducing the economic and ecological benefits provided by woodlands. • Pressure on land from development. • Large number of pollution incidents. • Climate change. • Inappropriate non-sustainable management of woodland. • Small woodlands. • Alternative land uses. • Invasive species • Continuation of no management or under-management of woodland. • Disease and its management and control. • Potential conflicts between new woodland planting, the historic environment and landscape through inappropriate choice of species, location and future management. • 'New' pathogens • Wood-lotting

Table 1: S.W.O.T Analysis of Essex Woodland

2.4.3 The main challenges that need to be met to give woodland in Essex a secure future are to ensure they are economically and ecologically sustainable while not adversely impacting on the economic and environmental sustainability of the wider countryside; the social benefits provided by woodlands, which need to be understood and valued, will flow naturally from these.

⁸ *Pro rata* the equivalent of about 300 ha pa in Essex.

2.4.4 There are a number of key factors that will determine the future of woodlands in Essex, these include:

- Access,
- Size,
- Species,
- Climate change,
- Pollution
- Protection,
- Management,
- Supply chain,
- Development and
- Continuity.

All of these are interrelated to a greater or lesser extent.

2.4.5 Each of these key factors can relate to any of the economic, environmental and, social benefits that trees and woodlands can provide.

Access

2.4.6 To obtain many of the social benefits woodland can provide they have to be publically accessible, especially to the local community.

2.4.7 The key challenges for access are to work with woodland owners to increase public use of their woodland and to create new woodlands in areas which lack a woodland resource close to where people live.

2.4.8 Many woodland owners are not keen on public access due to concerns about potential loss of privacy, damage (both casual and deliberate), disturbance and restrictions on the owners' personal woodland activities. It is suggested that woodland owners who have experience of public access find it much less problematic than those with no experience of it (Lawrence *et al* 2009).

2.4.9 Woodland for access and recreation could be created within and around new developments as part of the development process. This would become an important component of the locality's green infrastructure and could be facilitated local development frameworks (LDF) and Section 106 Agreements.

Size

2.4.10 Woodland operations are affected by economies of scale. In small woodlands the overhead costs associated with management operations are a much larger proportion of the total cost than in larger woodlands. Some economies of scale

can be obtained by managing a number of small woodlands as a single management unit. This can be facilitated by woodland owners/managers working cooperatively together with others in their locality; this could include machinery rings, joint marketing of parcels of timber and or joint management plans for adjacent woodland holdings.

- 2.4.11 Small scattered woodlands are ecologically less robust than large woodlands with the same area. In mid-Essex, small woodlands are often undesignated ancient woodland that was traditionally coppiced and frequently used for game cover. These small woodlands add a distinctive character to the landscape. In small woodlands ecological communities are less robust and unable to cope with changes to their 'climate space'. This can be overcome by extending or linking existing woodlands, using hedgerows' and, or natural regeneration rather than planting wherever practical.
- 2.4.12 Increasing the size of woodlands may change the character of the local landscape, therefore the extent and location of new woodland creation needs to be informed by, but not necessarily constrained by, the visual and historic character of the local landscape. The character of a landscape is a product of an areas natural characteristics and human (economic) use of the land over time; a change in character can be either positive or negative depending on how it is perceived.
- 2.4.13 The challenge is to create woodlands (or woodland management units) that are large enough to be both economically and ecologically viable while not adversely impacting on the economic and environmental sustainability of the wider countryside. Although bigger is better this should not restrict the opportunity for new small woodlands to be created. Anecdotal evidence suggests that landowners will start off with 1 hectare of new woodland and then, several years down the line (when they are pleased by the result) will increase the size of their woodland as the financial situation and aspirations of the owner changes. To have the small woods in the landscape increases the scope for linkage and joining in the future.
- 2.4.14 There is currently a trend towards 'wood-lotting'. This is the breaking up of 'large' woodland into a number of small parcels of land, or wood-lots. At one level it is good in that it is opening up woodland ownership to more people. This benefit is often out-weighed by the fragmentation of management of the woodland and even it's 'gardenisation' and the construction of 'sheds' within the wood. The best way to discourage this process is to ensure that woodlands are economically viable management units.

Species

- 2.4.15 The type of trees growing in woodland can make a huge difference to the economic viability of woodland and the length of time before any investment is realised. The timber market tends to be conservative and is not particularly receptive to varieties of timber it is unfamiliar with. The establishment, by planting or natural regeneration, of the right species is critical for producing a marketable product.

- 2.4.16 The ecological characteristics of a woodland are influenced by the overstorey species composition. For ecologically valuable habitats like ASNW the choice of an inappropriate species can be detrimental to a sites biodiversity.
- 2.4.17 Invasive species can dominate woodland to the detriment of biodiversity, by out competing less vigorous species. Invasive species can relate to the trees, shrubs, ground plants and or animals. Invasive plants and animals can also change pressures and dynamics creating different niches that benefit native plants and animals. For example, non-native conifers, especially where planted with gaps, can provide optimum habitat for species that may otherwise be absent or die out, e.g. lesser redpoll.
- 2.4.18 Deer can prevent regeneration of both trees and native understorey, the issue of deer control is important as it may prevent land owners from managing their woods effectively. For example the sweet chestnut and hornbeam coppiced woods of South Essex cannot be economically coppiced as new growth will be destroyed due to high numbers of deer.
- 2.4.19 The challenge is to find a suitable species mix on a site by site basis to create woodland that produces an economically viable marketable product while maintaining and enhancing biodiversity, increasing resilience to and, or adapting to climate change while not having a negative impact on the landscape.

Climate change

- 2.4.20 Climate changes naturally over time. There is now a general scientific consensus that we are in a period of rapid climate change that may be caused by human activity (for example pollution caused by excessive burning of fossil fuels increasing the carbon dioxide load in the atmosphere which contributes to planetary warming – 2010 is the warmest year on record so far) although this view is not universally accepted.
- 2.4.21 Woodlands are an environmental resource that can help reduce our carbon footprint by sequestering atmospheric carbon into wood. Woodland soils are also a valuable store of carbon. Using wood as a fuel is carbon neutral over the whole life cycle of the woodland. It is also renewable and displaces the use of the finite fossil fuel resource. Using wood for making products that are retained long term (for example for furniture or structural timber in buildings) provides a long term carbon store.
- 2.4.22 Using wood as an alternative to other materials like concrete, brick, plastic or steel reduces carbon production because products made from wood are significantly more carbon lean than products made from these other materials.
- 2.4.23 In Essex it is predicted that summers will get hotter and drier, winter's wetter and warmer and there will be an increased number of severe weather events. If correct

this will impact on biodiversity by changing the physical conditions (climate space) within which woodland ecosystems exist. To enable woodland habitats and species to adapt to the potential impacts of climate change there needs to be enough:

- Genetic diversity both within the species and across species in any particular woodland to allow the habitat to adapt to the changes; generally larger woodlands are more able to adapt than smaller ones. Ensuring the correct provenance of seed stock can help maintain genetic diversity.
- Physical space to accommodate shifts in species ranges and preferences and corridors and linkages along which they can migrate.

2.4.24 Changes in climate also have the potential to extend the range of pests and diseases that historically have rarely if ever have been problems in Essex's woodlands.

2.4.25 Woodlands and trees can also mitigate the potential effects of climate change by ameliorating local climate (for example by providing shelter and shade for crops, animals and buildings). They also intercept and slow water flow during severe storms which can reduce peak flow and the risk of flash floods.

2.4.26 The challenge is to create and perpetuate a woodland network linked by hedges and other semi-natural habitats that is large enough to be ecologically robust and economically viable, fixes carbon in wood that can be used for both long lived products used to replace carbon expensive materials like steel, concrete and plastic and as a renewable alternative to fossil fuels.

Pollution

2.4.27 Woodlands are damaged by pollution, whether it is fly-tipping, litter, nutrient enrichment from dog faeces or less obvious diffuse pollution in the atmosphere (for example from aircraft and the burning of fossil fuels) and, or ground water. Diffuse pollution tends to be particularly damaging to the more sensitive, rarer plants associated with ancient woodland sites.

2.4.28 Some types of pollution, for example carbon dioxide produced by the burning of fossil fuels like gas, oil and coal can be mitigated against because of the ability of growing woodlands to absorb and be a long term store for atmospheric carbon.

2.4.29 The challenge is to ensure woodlands (especially the ecologically most valuable) are protected from damaging pollution while encouraging woodland expansion to absorb and store atmospheric carbon and other pollutants like particulates in addition to actively managing existing undermanaged woodland. This will be achieved by educating people not to fly-tip and leave litter, by adapting land use practices to minimise or remove the causes of diffuse pollution, by creating areas

of new 'buffer' woodland around ecologically important ASNW, by expanding woodland cover and by enabling woodland to penetrate into the suburban areas.

Protection

- 2.4.30 Weaknesses caused by species being stressed by changes in environmental conditions caused by factors like pollution, water shortage and poor management increase the susceptibility of woodlands or their component species to pests and diseases that not only reduce productivity but can be fatal. The warmer conditions being caused by climate change increase the risk of new pests and diseases surviving and even thriving in the Essex countryside. Currently known serious threats include acute oak decline, *Chalara fraxinea* (a fungal pathogen that causes ash die back) and Asian longhorn beetle; all are likely to have a serious impact (both economic and ecological) if they become established.
- 2.4.31 The challenge is to make woodlands as resilient to infection as possible/practical combined with trying to keep the pests and diseases out of the woodlands. This is most likely achieved by avoiding monocultures (especially clonal ones) and selecting the most appropriate species for the physical conditions of the site.
- 2.4.32 Once an infection is identified in a woodland it needs to be managed to minimise its impact on both the woodland and the wider countryside. Plant health and biosecurity is the lead responsibility of DEFRA/ FC who will coordinate major disease outbreaks and provide advice on current best management practice.
- 2.4.33 Woodlands need to be protected from pests, especially deer and grey squirrel to ensure they have a reasonable chance of economic and ecological sustainability. The biodiversity of woodlands and the economic value of the crop can be devastated if the numbers of animals using the woodland are too great. It is not just regeneration of tree species that is affected by deer and squirrels, but also other plant species. The majority of SSSIs in poor condition are due to excessive deer predation of both tree natural regeneration and the plants that make up the understorey.
- 2.4.34 Animals such as squirrels and deer do not respect ownership boundaries so the challenge is to get groups of landowners working together and the landscape scale to control pest species. This is best achieved through encouraging active participation in deer control groups organised by the Deer Initiative and the Wild Venison Project and locally organised squirrel control groups.

Management

- 2.4.35 The present environmental value and the economic potential of woodland is a product of the woodlands historic management. No woodland in Essex is completely natural or untouched by man.

- 2.4.36 If woodland is managed in a silviculturally unsound manner the economic return is likely to be reduced over the long term and is likely to be disastrous if the woodlands potential multi-purpose benefits are to be realised.
- 2.4.37 Lack of active management in living memory in many woodlands has resulted in the local population not understating the need for management operations, which can often be quite dramatic, and this need has therefore to be explained. There is also a misconception amongst some woodland owners that doing nothing is best for biodiversity when in fact it reduces biodiversity, woods have to be managed to encourage regeneration, light for the understorey species and for pest control. This can be a particular issue with woodlands owned or managed by community groups which often have little understanding of what sustainable woodland management means.
- 2.4.38 Ecological and historic landscape characteristics of woodland are dictated by species composition, the level and type of management; if the management is wrong the ecological/biodiversity and historic landscape value of the woodland may be reduced or even completely lost.
- 2.4.39 The challenge is to ensure woodland is managed by people with the requisite knowledge and skills in a way which fulfils the owner's objectives, is environmentally and economically sustainable and is understood by the local community.

Supply Chain

- 2.4.40 The supply chain includes the identification of a market, production of products and supply of customers. It is the key component that has to be got right if woodlands are going to be economically sustainable. Most Essex woodland is privately owned so if the woodland management is not economically viable to the owner the management will not get done. This means that woodland is unlikely to be environmentally or socially sustainable as well.
- 2.4.41 Each small woodland may only produce products every few years due to crop rotation lengths. This will result in a discontinuity of supply. The product being sold needs to be available when the customer needs/wants it, especially for basic commodities like wood for fuel. If customers cannot get the product when they need it they will look for other sources of supply or change to an alternative product (for example oil or gas instead of firewood). At present wood is transported over long distances from producers who have access to large quantities of product; there is little consideration of locally produced wood due to lack of continuity of supply. Woodland management plans can provide some idea of the continuity of supply if any particular locality if woodland owners are prepared to work together although theft and illegal logging can significantly reduce expected yield.
- 2.4.42 Wood and woodland products are widely used in our society, most of them are imported. The UK imports about 82% of the wood products it uses (POST 2007).

Essex woodlands could be much more productive than they currently are if the supply chain for locally produced woodland products was better developed. The UK is the second largest importer of timber next to China.

- 2.4.43 Woodlands need to create products that have a value greater than the cost of production. The product may be wood (for fuel, construction, furniture etc), animal fodder, food (fruit, nuts, fungi, meat (venison, rabbit, squirrel, pork, pheasant etc.), recreation and/or ecosystem services (biodiversity, climate change mitigation, flood control etc). The owner's of woodland need, as a minimum, to be able to cover the cost (money, time, physical resources) associated with managing their woodland, creating a product and getting it to market although some will want significantly more.
- 2.4.44 The challenge is to establish a reliable supply chain for the products of Essex's woodlands so that a market can be identified and served. Not all the products of woodlands can be bought and sold like wood; some like ecosystem services and recreation are a benefit to the community at large but can not easily be sold to individuals so an objective way of valuing these services and compensating the woodland owner for them needs to be established. One way forward may be to create an Essex Woodland brand for the products of Essex woodlands to promote and encourage people to buy locally grown and produced products.
- 2.4.45 Currently grants are provided by Woodfuel East to help with supply chain problems for the woodfuel market (i.e. grants for equipment for micro enterprises, for woodland/farm owners to help set up woodfuel businesses, as well as to contractors). Finding ways for woodland owners to be rewarded for the ecosystem services their woodland provides is currently being researched at both national and international levels but no easy objective way has been found to measure the value provided; part of the problem is that society is used to getting these service for free so there is likely to be significant resistance if people are asked to pay for these service directly.

Development

- 2.4.46 The challenge is to ensure woodland, especially irreplaceable ASNW, is not lost to development and ensure new woodlands are created as part of new developments. New developments should become urban forests.
- 2.4.47 It is important to prevent woodland loss to development. Therefore, its importance should be clearly set out in the Local Development Framework (LDF) documents. Policy should be in place to ensure that where loss is unavoidable compensatory woodland is created (possibly through Section 106 agreements or other similar mechanisms) as well as ensuring that new woodland makes up a significant proportion of the green infrastructure requirements for all development. Strong local policy needs to be in place to protect trees in development.

- 2.4.48 It is predicted the population of Essex will grow from 1,413,700 in 2010 to 1,685,000 in 2031 (ECC 2010). The woodlands and trees in Essex need to be protected and well placed in local planning documents, tree strategies and PPG17 (see paragraph 3.2.2) assessments to provide sustainable public benefit to these growing populations.
- 2.4.49 Development pressure is increased in some parts of the county as they have been designated as growth areas (the M11 Corridor and the Thames Gateway) or growth points (Haven Gateway).

Continuity

- 2.4.50 Woodland management is a long term endeavour; when woodland is planted and tended it is often for the benefit of future generations.
- 2.4.51 It is accepted that the physical environment in which woodland exists is dynamic and is likely to change progressively over time and is outside human control while the political and economic environment within which woodlands are managed is under human control. If landowners are to be persuaded to invest time and effort in the creation and tending of woodlands they need to have the confidence that the return on investment makes it worth while. Lawrence *et al* (2009) found that for many landowners the economics of woodland creation and management were often a secondary consideration in their decision to do (or not to do) something in their woodland.
- 2.4.52 There is support for woodland within the general population (FC 2009) although the nature of the support can vary over relatively short time frames. To enable woodland managers and owners to effectively plan long term woodland management they need a consistent policy from government (local, regional and, or national). The relatively long time frame of this strategy (2010 to 2040) should provide some continuity of policy within the context of Essex. The challenge is to ensure local politicians and decision makers understand the need for long term continuity of policy of trees, woods and forests and persuade them to lobby and campaign on this at national level.

3 Woodland Policy and Legislation

3.1 Legislation

3.1.1 There is relatively little legislation that specifically relates to woodland, the main act is the Forestry Act 1967 (as amended) which consolidated earlier legislation and confirmed the Forestry Commission's (FC – the government body responsible for forestry) power to control the felling of trees for timber by requiring the person doing the felling to have a Felling Licence issued by the FC. In 1986 FC were also given the power to require replanting after felling.

3.1.2 The Forestry Act 1979 confirmed the FC's role as giver grants for the promotion of forestry.

3.1.3 The Forestry Commission is also responsible for administering the Environmental Impact Assessment (Forestry) (England and Wales) Regulations 1999. The regulations potentially affect four types of forestry operation. The operations are:

- **Afforestation:** Planting new woods and forests, includes direct seeding or natural regeneration, planting Christmas trees or short rotation coppice;
- **Deforestation:** Felling woodland to use the land for a different purpose;
- **Forest roads:** The formation, alteration or maintenance of private ways on land used (or to be used) for forestry purposes. This includes roads within a forest or leading to one; and
- **Forestry quarries:** Quarrying to obtain materials required for forest road works on land that is used or will be used for forestry purposes or on land held or occupied with that land.

The regulations give each of these operations an area threshold. Lower thresholds are given for projects that lie within sensitive areas like Areas of Outstanding Natural Beauty.

3.1.4 The overall purpose of the FC enshrined in the legislation is to promote the sustainable management of forests and woods, to facilitate the expansion of woodland cover and to increase the many and diverse benefits that they provide. This is achieved through Felling Licence and the Woodland Grant Scheme systems. The FC is also a non-statutory consultee for planning applications affecting ancient woodland based on Department of the Environment (DoE) Circular 9/95.

3.1.5 The FC is also as the prescribed the 'competent authority' in Great Britain as regards the protection of forest trees and timber by the Plant Health Act 1967 (as amended). The Act empowers the Forestry Commissioners;

- to make orders to prevent the introduction and spread of forestry pests and diseases;
- to require local authorities to undertake certain work to prevent the spread of specified pests or diseases

It also makes provision for the creation of offences and imposing fees for certain work. To support this biosecurity role the FC publishes and disseminates information on current and potential pests and diseases that may have an impact on the health and condition of trees and their products.

- 3.1.6 Legislation designed to protect and enhance woodland habitats and species and prevent adverse impacts to woodland includes the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way (CROW) Act 2000, the Natural Environment Rural Communities (NERC) Act 2007 and The Conservation (Natural Habitats, &c.) Regulations 1994.
- 3.1.7 The main impact of this legislation is that it means woodland operations have to take into account designated sites, protected species and the general biodiversity of woodlands. This restricts what can be done when and identifies what preparatory work has to be undertaken to ensure that protected species and habitats on the site do not suffer inappropriate damage.
- 3.1.8 Section 16 of the CROW Act gives woodland owners the power to dedicate their land as Access Land. This is land with unrestricted pedestrian public access.
- 3.1.9 Section 197 of the Town and Country Planning Act 1990 (as amended), places a duty upon councils to consider the amenity value of trees and (therefore woodlands) as part of the planning process. Section 198, allows councils to make and administer Tree Preservation Orders (TPO). Woodlands can be protected by TPO which gives the Local Planning Authority control of what work is undertaken within the protected woodland although the FC are still required to issue a felling licence unless the felling is a requirement for a planning permission for development. In Essex this power is administered by local district, borough and unitary councils.
- 3.1.10 The legal position relating to woodland safety is not clearly defined and tends to be subject to legal precedent, set by developing case law. There are however a number of clearly defined legislative requirements:
- The Occupiers Liability Acts (1957) and (1984) requires landowners to take 'reasonable care' to protect all those on their property.
 - The 1980 Highways Act places a duty on the Highway Authority to ensure trees do not become a danger to highway users.

- 3.1.11 It is anticipated that guidance on tree safety in woodland will be published by the FC during 2010 or 2011. This guidance will be based on the findings of the National Tree Safety Group. This guidance is expected to clarify what woodland owners responsibilities are in relation to tree safety within their woodlands.

3.2 National and Regional Policies

- 3.2.1 The governments White Paper “A better Quality of Life” emphasises the effective stewardship of natural resources and sets the tone for local authorities to examine their guardianship of their natural resources, including their tree stock.
- 3.2.2 Policy documents that have a bearing on woodland and woodland management include:
- Combating climate change – a role for UK forests. An assessment of the potential of the UK’s trees and woodlands to mitigate and adapt to climate change (Read 2009).
 - Securing the future: delivering UK sustainable development strategy (HMG 2005)
 - UK Biodiversity Action Plan (HMG 1994b). Ensures the UK meets its obligations under the Rio (earth summit) Declaration. These are in turn reinforced by general guidance given in Planning Policy Statement (PPS) 9 (CLG 2005) and ‘A Strategy for England’s Trees, Woods and Forests’ (DEFRA 2007).
 - A Strategy for England’s Trees, Woods and Forests (DEFRA 2007). This describes the Government’s aims and priorities in respect of trees and woodland and their importance for achieving a range of public benefits including health, biodiversity, woodfuel and climate adaptation.
 - The UK Low Carbon Transition Plan: National Strategy for Climate and Energy (HMG 2009). Published by central government it includes a commitment to plant 15,000 ha of woodland per annum in England for the next 15 years. This equates to something in the order of 150 ha a year of new woodland in Essex.
 - Keepers of Time: A statement of policy for England's Ancient and Native Woodland (FC 2005) jointly published by Forestry Commission and DEFRA. This statement updates the government’s policy towards woodlands and trees by re-emphasising their value, evaluating threats and opportunities and setting out a range of actions to improve their protection and quality.
 - Woodlands for Life (FC 2003). This is the East of England Regional Woodland Strategy which identifies 6 themes to which woodlands contribute; these are ‘Quality of Life’, ‘Spatial Planning (Green Infrastructure)’, ‘Economic

Development', 'Renewable Energy', 'Education and Learning' and 'Natural Environment'. This document is currently being reviewed and updated.

- Woodfuel Strategy for England (FC 2007). This contains a national target of bringing to market an additional 2 million tonnes of wood, annually, by 2020. This represents approximately 50% of the currently unharvested sustainable yield in English woodlands and would save 400,000 tonnes of carbon emissions annually.
- Safeguarding our Soils: A Strategy for England (Defra, 2009). This soil strategy provides a vision that by 2030, all soils in England will be managed sustainably and degradation threats tackled successfully.
- Policy Planning Statement (PPS) 9: *Biodiversity and Geological Conservation* (CLG 2005). Specifically identifies Veteran trees and ancient woodlands as being matters for special consideration and protection, when being considered by the planning process.
- PPS 7: *Sustainable Development in Rural Areas* (CLG 2007). This sets out the Government's planning policies for rural areas, including country towns and villages and the wider, largely undeveloped countryside (including woodland and forest) up to the fringes of larger urban areas. This PPS includes planning policies on landscape protection including, Areas of Outstanding Natural Beauty, and identifies how Government will comply with obligations it agreed to when it signed Council of Europe's European Landscape Convention in 2006.
- PPS 3: *Housing* (CLG 2010). The Government expects local planning authorities to ensure there is adequate quality green space in development sites. The planting of trees/woodlands and care of existing trees/woodlands near new developments and existing buildings can help meet these requirements.
- Planning Policy Guidance (PPG) 17: *Planning for open space, sport and recreation* (CLG 2002). Advises that local authorities develop strategies for delivering open spaces that meet the needs of local communities. The planting and maintenance of woodlands can help to improve existing sites as well as helping to increase the number of sites within the area.
- Sustainable Schools Strategy (DEFS 2006): A Department for Education and Skills ((DEFS) strategy that provides a number of 'doorways' through which schools can become involved in sustainability. Woodlands link well to the 'doorways' for 'Energy and Water', 'Food and Drink' and 'Local Well-being' and can also be linked into other 'doorways' like 'Global Dimension' and 'Buildings and Grounds'.

- 3.2.3 In March 2010 the Communities and Local Government Department consulted on a new Planning Policy Statement: Planning for a Natural and Healthy Environment (the consultation ended during June 2010). It is proposed that this PPS will replace PPS7, PPS9 and PPG17 in a new more streamlined document. If the new PPS is similar to the consultation document it is considered to be unlikely that it will change the impact of the current PPS's and PPG's on woodland.
- 3.2.4 The above list is not exhaustive and there are plenty of other national and regional policies that are likely to have a bearing on woodland and woodland management.

3.3 County Level Policies

- 3.3.1 The overarching priorities within Essex as identified by the Essex Partnership and the Essex Rural Partnership are described by a number of published documents; The Essex Strategy (EP 2010), The Local Area Agreement (LAA) (EP 2009), '2020 Vision for Rural Essex' - Essex Rural Strategy (ERP 2009) and the report of the Essex Rural Commission (ECC 2009). In addition the Essex Works Corporate Plan (ECC 2008) describes how the County Council will play its part to fulfil the priorities it has signed up to as a member of these partnerships.
- 3.3.2 The Essex Rural Partnership published the '2020 Vision for Rural Essex' - Essex Rural Strategy in November 2009. This strategy has five strategic aims; active and caring communities, improved access to services, greater availability of affordable housing, a thriving economy, a rich and varied environment and a flexible planning and policy framework. The sustainable management of Essex woodland will contribute to these aims, especially the 'thriving economy' and 'rich and varied environment' and potentially also the 'active and caring communities'.

Rural Commission Report

- 3.3.3 During September 2009 the independent Essex Rural Commission published its recommendations. The Commission has produced 60 recommendations within 12 priority areas. Sustainably managed woodlands have the potential to contribute to several of the priority areas, most notably;
1. Expand rural enterprise in Essex (new woodland or woodland product based businesses, woodland related tourism)
 2. Increased use and management of natural green spaces (woodlands (and orchards) are natural green space)
 3. Nurture wilderness in Essex (sustainably managed woodland will protect and perpetuate valuable woodland habitats, sequester carbon while woodland expansion will support habitat connectivity, flood protection etc.)

- 4 Building community well-being and volunteering (sustainable management of woodlands has the potential to provide activities for volunteers to get involved in).
- 5 Schools for both communities and children ('green' outdoor education (for example Forest Schools) in woodlands).
- 6 Initiate an Essex energy policy (sustainably managed woodlands will be able to provide fuel for heating and power generation).
- 7 Secure an Essex food policy (woodland can produce food like fruit, nuts, fungi and meat).
- 8 Establish a strategy for young and old (woodlands are potentially areas where children can 'free-range' and elderly people and families can walk and take exercise).

Essex Strategy 2008 - 2018

- 3.3.4 The Essex Strategy 2008–18 has been published by the Essex Partnership and sets out the goals for improving the quality of life within the County up to 2018. The Essex Partnership brings together the public, private and voluntary sectors.
- 3.3.5 The Essex Partnership is a working relationship between representatives of organisations who deliver services to the public across Essex. Member organisations include: all local authorities (county, district, town and parish councils); police; fire service; health trusts; academic institutions; private, community and voluntary bodies.
- 3.3.6 The Essex Strategy identifies the way the Partnership plans to deliver the vision:

“To support Essex people to liberate their potential and enjoy the best quality of life in England.”

The delivery mechanism for the Strategy is the Local Area Agreement.

Essex Local Area Agreement 2008 - 2011

- 3.3.7 The Essex Local Area Agreement (LAA) sets out how the Essex Partnership will deliver the Essex Strategy. The most significant target in the LAA as far as woodlands are concerned relates to National Indicator 197 (NI197) which aims to ensure Local Wildlife Sites (LoWS) are under positive conservation management (PCM). ASNW make up a significant proportion of all designated LoWS and also accounts for over half the woodland in Essex.
- 3.3.8 The LAA has been prepared by the Essex Partnership and agreed with central Government. It lists specific targets that the Partnership has identified to help fulfil

their vision. Central Government withdrew its support for LAAs in September 2010.

- 3.3.9 The LAA indicator LI10.1 aims to support Living Landscapes across Essex. The vision of Living Landscapes is that maintaining the quality of large tracts of Essex is important for environmental, social and economic reasons and connecting habitats such as woodlands is a very important part of the vision.

Resourcing EssexWorks Budget and Corporate Plan 2010-11

- 3.3.10 The EssexWorks Corporate Plan 2008 – 2011 was first published by the County Council in May 2008 and has recently been refreshed to become ‘Resourcing EssexWorks Budget and Corporate Plan 2010-11’. This document clearly sets out the Council’s vision to deliver the best quality of life in Britain. This document is the County Council’s overarching policy document that identifies how the Council will fulfil the commitments it has signed but to in the Essex Strategy, the LAA, Essex Rural Strategy and Essex Rural commission Report.
- 3.3.11 To achieve this vision the Council has identified a number of priorities that will be delivered through the three delivery programmes:
- Our People
 - Our Economy
 - Our World
- 3.3.12 All these programmes will operate within the context of the Council’s over arching priority of “putting the customers first”.
- 3.3.13 The County Council’s Corporate Plan is the way in which the County Council will work towards the delivery of the objectives set out in this strategy. The Council will publish a delivery plan that identifies what it will do to contribute to the vision:

“An expanding woodland resource in Essex that is nationally recognised as bringing the highest quality sustainable benefits to all who live and work within the County.”

4 Measures of Success

- 4.1 To establish whether or not this woodland strategy is achieving its aspirations some measures need to be established and monitored. One of the potentially largest cost, in either money or resources, is measuring something is the collection and manipulation of the data required. To minimise this cost the measures suggested below relate to data that is believed to already be routinely collected, or could easily be collected, and should be publicly available.
- 4.2 It is anticipated that this list of measures will be changed and amended over the life of the strategy as priorities and available resources change and new data streams come on line.

Table 2: Provisional List of Measures of Success

No.	Measure			Source	
	Description	Frequency	Target		
1	Total woodland cover		annual	Ha - year on year increase	FC
	a	Amount of new woodland created in Essex	annual	300 ha/pa ⁹	FC
	b	Amount of ASNW lost in Essex	annual	0 ha/pa	FC/LA
	c	Amount of woodland lost in Essex	annual	0 ha/pa	FC/LA
	d	Amount of PAWS in Essex	annual	Ha - year on year decrease	FC
2.	a	Proportion of Essex residents that live within 500m of an area of accessible woodland of at least 2ha in size	annual	% year on year increase	WT
	b	Proportion of Essex residents that live within 4km of an area of accessible woodland of at least 20ha in size	annual	% year on year increase	WT
3.	Area of woodland under active management in Essex.		annual	Ha – year on year increase	FC
4.	Area of woodland certified as sustainably managed in Essex		annual	Ha – year on year increase	FSC
5.	Number of operational woodfuel heating systems in Essex		annual	Number – year on year increase	FC/WFE/LA

⁹ Based on the Government target to increase woodland area in England by 10,000 ha pa publish in The UK Low Carbon Transition Plan (HMG 2009). It is assumed the land area of greater Essex (including Thurrock and Southend on Sea unitary council areas) is approximately 3% of the land area of England and that the new woodlands will be distributed evenly throughout the country.

5 Objectives and Actions

- 5.1 The woodland of Essex can help to achieve Essex residents having the best quality of life in England. This will be achieved by stakeholders adopting a clear strategy that defines the objectives that woodlands are expected to deliver and the actions needed to deliver this.
- 5.2 The vision will best be achieved by all stakeholders who have an interest in the long term survival of Essex's woodlands working in partnership together. The actions described below will facilitate partner organisations and other key stakeholders in drawing up their own delivery plan for the actions they are prepared to work towards fulfilling. The majority of the actions listed are ongoing with no finish date.
- 5.3 The tables below describe the 15 key objectives that have been identified as critical to the successful achievement of this strategy's vision. Each objective has a number of associated actions that will help fulfil the objective; these actions have been prioritised as high, medium and low. The high, medium and low priorities are listed in separate tables with **red**, **green** and **blue** fonts respectively. Each table identifies key stakeholders that are likely to be involved in each action. Figures in brackets against individual actions to achieve an objective indicate similar actions under a different objective.
- 5.4. For the purpose of this document the priorities are defined as:
- **High Priority (red font):** Actions essential to protect existing woodlands and prevent their value declining and to establishing a framework within which sustainable woodland management can be facilitated.
 - **Medium Priority (green font):** Actions necessary to improve and enhance the value of woodland in Essex.
 - **Low Priority (blue font):** Longer term actions to facilitate the sustainable management of woodlands in Essex.

The level of priority for any particular action may change over the life of the strategy as the natural, social and economic environment in which woodlands exist will change over time.

- 5.5 The actions listed can only be achieved if the appropriate resources (human, physical and financial) become available; this will influence the suggested timescales. Many of the actions will be achieved by stakeholders just practicing and promoting 'good' woodland management in their everyday work. A key output of the Strategy is to record, promote and recognise what is already being done.
- 5.6 Currently grants are available from organisations like the Forestry Commission, Woodfuel East, Wild Venison Project and Natural England to promote, support and

encourage the sustainable management of woodlands and other treed environments.

Table 3: Essex Woodland Strategy Objectives and High Priority Actions

Objective	No.	Action	Key Stakeholders	Time Scale
Sustainable management				
W1: Sustainability: Work towards Essex creating a sustainable woodland resource in places where it can contribute most in terms of environmental, economic and social benefits now and for future generations.				
W1	1	Prevent the loss of woodland except under exceptional circumstances where it can be shown it is to the wider benefit of society for the woodland to be removed (e.g. for the creation of a more valuable habitat) (W15.2, W15.3, W14.1)	FC, LA, Woodland owners	Start as soon as possible then ongoing
	2	Establish a 'one stop shop' for sources of advice and providers of woodland services and products. (W3:1)	EWf, FC, WFE, DI, LA, CLA, NFU, WT, EWT, EA, NE, ERP, RCCE, FWAG, EBP, SWA, AONB	By Dec 2011
	3	Establish an 'Essex Woodland Forum' (or similar grouping) made up of representatives of groups that have an interest in woodlands that can adopt and take forward this strategy.	FC, WFE, DI, LA, CLA, NFU, WT, EWT, EA, NE, ERP, RCCE, FWAG, EBP, SWA, AONB	
Economic sustainability				
W2: Competitiveness: Improve the opportunities for, and competitiveness of, woodland businesses and promote the development of new and, or improved markets for sustainably produced woodland products and ecosystem services where this will deliver identifiable public benefits, county wide or locally, including the reduction of carbon emissions				
W2	1	Promote the installation of wood fuel heating systems, especially in new developments. (W4:1)	LPA, WFE	Start as soon as possible then ongoing

Objective	No.	Action	Key Stakeholders	Time Scale
W3: Employment: Create new rural employment by stimulating the market for woodland products in Essex by encouraging appropriate woodland management, establishment and associated training.				
W3	1	Establish a web based information exchange and market place for woodland products and services in Essex.(W1:2)	EWF, FC, WFE, DI, LA, CLA, NFU, WT, EWT, EA, NE, ERP, RCCE	By Dec 2011
	2	Identify training needs to ensure there is an appropriately skilled and qualified workforce to undertake necessary woodland management and wood processing operations.	FC, WFE, EWF, ERP, LA, RCCE	By Dec 2012
W4: Productivity: Increase the use of renewable fuels and the use of sustainable timber in construction				
W4	1	Promote the installation of wood fuel heating systems, especially in new developments. (W2:1)	WFE, LPA, FC, EWF	Start as soon as possible then ongoing
W5: Control – Grey Squirrel: Advise on and support the management and control of grey squirrel population.				
W5	1	To provide up to date advice on grey squirrel control and management in Essex's woodlands.	EWF, FC, WFE, DI, LA, CLA, NFU, WT, EWT, EA, NE, ERP, RCCE, FWAG, EBP, SWA, AONB	Start as soon as possible then ongoing
W6: Control – Deer: Establish and promote sensitive landscape scale deer management to create a healthy population of wild deer managed in a way that maintains a good level of biodiversity and supports the local economy				
W6	1	Promote landscape scale deer management. (W10:8, W10.2, W10.9)	EWF, FC, WFE, WVP, DI, LA, CLA, NFU, WT, EWT, EA, NE, ERP, RCCE, FWAG, EBP, SWA, AONB	Start as soon as possible then ongoing
	2	Promote and encourage the setting up of deer control groups in all areas where deer numbers are a cause for concern. (W10:5)		

Objective	No.	Action	Key Stakeholders	Time Scale
Environmental sustainability				
W10: Biodiversity: Sustainable management of existing woodland and creation of new woodland to maintain an ecologically viable woodland habitat in Essex.				
W10	1	Promote landscape scale deer management (W6:1).	EWF, FC, WFE, DI, LA, CLA, NFU, WT, EWT, EA, NE, ERP, RCCE, FWAG, EBP, SWA, AONB	Start as soon as possible then ongoing
Social sustainability				
W11: Accessibility: All Essex residents live within 500m of an area of accessible woodland of at least 2ha in size and within 4km of an area of accessible woodland of at least 20ha in size.				
W11	1	Encourage districts/borough to include the planting of trees and the development of community woodlands I and around towns in their Green-space Strategies. (W15:1)	EWF, FC, LA, CLA, NFU, WT, EWT, EA, NE, ERP, RCCE, FWAG, EBP, SWA, AONB	Start as soon as possible then ongoing
W12: Usage: Greater use of woodland for informal recreation, sport, education and other activities that help maintain and increase both the physical and psychological fitness of the population.				
W12	1	Encourage people to use woodlands for recreational activities.	EWF, FC, LA, CLA, NFU, WT, EWT, EA, NE, ERP, RCCE, FWAG, EBP, SWA, AONB	Start as soon as possible then ongoing
W14: Conservation: Protect and maintain veteran trees, historic parkland, wood pasture, traditional orchards and associated historic and archaeological features throughout Essex.				
W14	1	Prevent destruction of veteran trees, historic parkland, old orchards and wood pasture. (W1.1)	Land owners, EWF, LA, EWT, EBP, SWA, AONB, NE	Start as soon as possible then ongoing

Objective	Action	Key Stakeholders	Time Scale
W15: Development: New woodland to be a key element of all development proposals.			
W15	1 Encourage boroughs/districts to prepare green infrastructure plans as part of the LDF process. With woodland being a key component of the green infrastructure. (W11:1, W11.2, W8.2)	EWF, LA, ERP, RCCE,	Start as soon as possible then ongoing
	2 Prevent the loss of ASNW and other historic tree dominated habitats (except under exceptional circumstances) to development. (W1.1, W14.1)		
	3 Prevent the loss of woodland (except under exceptional circumstances) to development. (W1.1)		

Table 4: Essex Woodland Strategy Objectives and Medium Priority Actions

Objective	No.	Action	Key Stakeholders	Time Scale
Sustainable management				
W1: Sustainability: Work towards Essex creating a sustainable woodland resource in places where it can contribute most in terms of environmental, economic and social benefits now and for future generations.				
W1	4	Promote sustainable woodland management to all woodland owners. (W14.7)	EWf, FC, WFE, DI, LA, CLA, NFU, WT, EWT, EA, NE, ERP, RCCE, FWAG, EBP, SWA, AONB	Start as soon as possible then ongoing
	5	Provide advice to woodland owners on how to manage their woodlands sustainably.	FC, WFE, DI, LA, CLA, NFU, WT, EWT, EA, NE, FWAG, EBP, SWA, AONB	
	6	Agree and establish a number of baseline measures that that can be used to measure the progress of sustainable woodland management in Essex (see section 4 for suggested measures).	EWf ERP	By Dec 2010
	7	Report annually ERP on the agreed measures of success.	EWf	From 2011 onwards
	8	Produce a woodland creation guidance to identify the most appropriate place for new woodland to be created where it produces most benefit.		By March 2012
Economic sustainability				
W2: Competitiveness: Improve the opportunities for, and competitiveness of, woodland businesses and promote the development of new and, or improved markets for sustainably produced woodland products and ecosystem services where this will deliver identifiable public benefits, county wide or locally, including the reduction of carbon emissions				
W2	2	Facilitate the establishment of reliable supply chain for Essex woodland products. (e.g. establishment of local wood/timber stations)	FC, WFE	By Dec 2012
	3	Promote the use of low grade wood as biomass fuel. (W4:2)		Start as soon as possible then ongoing
	4	Undertake research to establish the potential extent of the market for Essex woodland products.	EWf, FC	By Dec 2012

Objective	No.	Action	Key Stakeholders	Time Scale
W4: Productivity: Increase the use of renewable fuels and the use of sustainable timber in construction				
W4	2	Promote and increase Essex's production of woodland sourced biomass. (W2:3)	EWF, FC, WFE, DI, LA, CLA, NFU, WT, EWT, EA, NE, ERP, RCCE, FWAG, EBP, SWA, AONB	Start as soon as possible then ongoing
W5: Control – Grey Squirrel: Advise on and support the management and control of grey squirrel population.				
W5	2	Manage and control grey squirrel numbers. (W10.1, W10.6)	EWF, FC, WFE, DI, LA, CLA, NFU, WT, EWT, EA, NE, ERP, RCCE, FWAG, EBP, SWA, AONB	Start as soon as possible then ongoing
Environmental sustainability				
W7: Resilience and Adaption: All existing, and newly created, woodlands are resilient to the impacts of climate change and contribute to the way in which biodiversity and natural resources adjust to a changing climate				
W7	1	Link existing woodlands with new hedge and woodland planting to create ecological networks along which species can migrate. (W10:2)	Land owners EWF, FC, LA, CLA, NFU, WT, EWT, EA, NE, FWAG, EBP, SWA, AONB	As and when opportunities arise
	2	Ensure the appropriate provenance and species of stock used on both restock sites and within new woodland planting to maximise resilience to climate change while fulfilling the landowners objectives		
	3	Promote the need for genetic diversity within and across species within woodland habitats. (W10:9)	EWF, FC, LA, CLA, NFU, WT, EWT, EA, NE, FWAG, EBP, SWA, AONB	Start as soon as possible then ongoing

Objective	No.	Action	Key Stakeholders	Time Scale
W8: Mitigation: To use woodland to mitigate and adapt to climate change (i.e. for carbon sequestration) by increasing the woodland area in Essex.				
W8	1	Identify areas where new woodland would provide most benefits for the community. (W9:1)	LA, WT, EWT, EWF, FWAG, FC	As and when opportunities arise
	2	Promote the establishment of a larger area of woodland (W15.1, W11.2, W15.4, W15.5).	EWF, FC, WFE, DI, LA, CLA, NFU, WT, EWT, EA, NE, ERP, RCCE, FWAG, EBP, SWA, AONB	Start as soon as possible then ongoing
W9: Protection: Use tree cover to help reduce soil erosion and rainfall runoff, so reducing peak river flows and flooding.				
W9	1	Create additional woodland on suitable sites in river catchments and flood plains to slow down rainwater run-off. (W8:1). Where practical link in with the catchment management process coordinated by the Environment Agency	Land owners, EWF, FC, LA, CLA, NFU, WT, EWT, EA, NE, ERP, RCCE, FWAG, EBP, SWA, AONB	As an when opportunities arise
	2	Ensure woodland operations are designed to minimise soil erosion.		Start as soon as possible then ongoing
	3	Promote the use of woodlands (together with other land management changes) as a contribution to reducing flood risk.		
W10: Biodiversity: Sustainable management of existing woodland and creation of new woodland to maintain an ecologically viable woodland habitat in Essex.				
W10	2	Link existing woodlands with new hedge and woodland planting to create ecological networks along which species can migrate. (W7:1)	Land owners EWF, FC, LA, CLA, NFU, WT, EWT, EA, NE, FWAG, EBP, SWA, AONB	As an when opportunities arise
	3	Implementation of Biodiversity Habitat Action Plans for woodland (for example – hedgerows, traditional orchards, lowland mixed deciduous woodland, wet woodland, wood pasture and parkland).	Woodland owners, EBP, SWA, AONB, EWF, FC, LA, CLA, NFU, WT, EWT, EA, NE, FWAG,	Start as soon as possible then ongoing
	4	Ensure all ASNW is managed in an environmentally sustainable manner.		
	5	Promote the need for genetic diversity within and across species within woodland habitats. (W7:2)	EWF, FC, WFE, DI, LA, CLA, NFU, WT, EWT, EA, NE, ERP, RCCE, FWAG, EBP, SWA, AONB	
	6	Provision of advice on control of invasive species (W1:2, W6.1, W10.5).		

Objective	No.	Action	Key Stakeholders	Time Scale
Social sustainability				
W11: Accessibility: All Essex residents live within 500m of an area of accessible woodland of at least 2ha in size and within 4km of an area of accessible woodland of at least 20ha in size.				
W11	2	Encourage new woodland planting on the urban edge to help blend in new development and provide open spaces for recreation. (W15.1, W8.2)	EWF, FC, LA, CLA, NFU, WT, EWT, EA, NE, ERP, RCCE, FWAG, EBP, SWA, AONB	Start as soon as possible then ongoing
	3	Encourage appropriate towns/ parishes in a joint approach with the county/district/borough councils to develop community woodlands in their locality		
W12: Usage: Greater use of woodland for informal recreation, sport, education and other activities that help maintain and increase both the physical and psychological fitness of the population.				
W12	2	Promote and encourage Forest Schools and other educational uses of woodland and encourage all schools in Essex to take part.	EWF, FC, LA, CLA, NFU, WT, EWT, EA, NE, ERP, RCCE, FWAG, EBP, SWA, AONB	Start as soon as possible then ongoing
	3	Encourage the use of woodlands by voluntary organisations to undertake appropriate woodland work that helps fulfil the woodlands objectives of management and other activities that facilitate community capability building.		
	4	Ensure that all members of the community have equality of access to woodland for the physiological and psychological benefits it provides irrespective of the individuals personal circumstances.		
W13: Education: All Essex residents understand and appreciate the importance of the economic and ecologic sustainable management of woodland.				
W13	1	Provision of a central information point where people can find out the where, what and why woodland management is being carried out. (W1:2)	EWF, FC, WFE, DI, LA, CLA, NFU, WT, EWT, EA, NE, ERP, RCCE, FWAG, EBP, SWA, AONB	By Dec 2011

Objective	No.	Action	Key Stakeholders	Time Scale
W14: Conservation: Protect and maintain veteran trees, historic parkland, wood pasture, traditional orchards and associated historic and archaeological features throughout Essex.				
W14	2	Establish the extent and condition of parkland, wood pasture old orchards and veteran trees throughout Essex.	EWf, LA, EWT, EBP, SWA, AONB, NE	By Dec 2012
	3	Where appropriate create new traditional orchards, wood pasture and parkland.	Land owners, EWf, LA, EWT, EBP, SWA, AONB, NE	Start as soon as possible then ongoing
	4	Encourage appropriate management of veteran trees, historic parkland, old orchards and wood pasture that will perpetuate them.	EWf, LA, EWT, EBP, SWA, AONB, NE	
	5	Promote the appropriate management and enhancement of important historic environment assets located within woodland. Managed and enhanced within existing woodland and protected during new woodland expansion	EWf, FC, WFE, DI, LA, CLA, NFU, WT, EWT, EA, NE, ERP, RCCE, FWAG, EBP, SWA, AONB	
W15: Development: New woodland to be a key element of all development proposals.				
W15	4	The inclusion of the cost of providing woodland green infrastructure (and the revenue to maintain it) in any planning gain package (particularly on larger development sites on the urban edge). (W15.1, W8.2)	EWf, LA, ERP, RCCE,	Start as soon as possible then ongoing
	5	Encourage an early and integrated approach to woodland planting and management in and around towns and cities to provide a high quality, sustainable resource which reflects local needs and landscape character, and is responsive to change (W15.1, W8.2)		

Table 5: Essex Woodland Strategy Objectives and Low Priority Actions

Objective	No.	Action	Key Stakeholders	Time Scale
Sustainable management				
W1: Sustainability: Work towards Essex creating a sustainable woodland resource in places where it can contribute most in terms of environmental, economic and social benefits now and for future generations.				
W1	9	Promote the need for sustainable woodland management and how it will benefit the residents of Essex. (W13:2)	EWF, FC, WFE, DI, LA, CLA, NFU, WT, EWT, EA, NE, ERP, RCCE, FWAG, EBP, SWA, AONB	Start as soon as possible then ongoing
	10	Promote the certification of sustainably managed woodland – for example Forest Stewardship Council (FSC) certification		
Economic sustainability				
W2: Competitiveness: Improve the opportunities for, and competitiveness of, woodland businesses and promote the development of new and, or improved markets for sustainably produced woodland products and ecosystem services where this will deliver identifiable public benefits, county wide or locally, including the reduction of carbon emissions				
W2	5	Promote production of timber to supply local timber processing industry. (W4:3)	FC EWF, LA, CLA, NFU, WT, EWT, EA, NE, ERP, RCCE, FWAG, EBP, SWA, AONB	Start as soon as possible then ongoing
	6	Promote the use of timber and timber products in construction. (W4:4)		
	7	Identify gaps in the local wood processing industry and encourage new or existing business to fill these gaps.	EWF	By Dec 2011
W3: Employment: Create new rural employment by stimulating the market for woodland products in Essex by encouraging appropriate woodland management, establishment and associated training.				
W3	3	Encourage the take-up of traditional building and craft skills that use woodland products.	LA, FC, WT, FWAG, EWT	Start as soon as possible then ongoing
	4	Work towards ensuring the establishing of woodland or woodland product businesses in Essex as straightforward as possible.		By Dec 2013

Objective	No.	Action	Key Stakeholders	Time Scale
W4: Productivity: Increase the use of renewable fuels and the use of sustainable timber in construction				
W4	3	Promote and increase the cultivation of construction grade timber in Essex woods. (W2:5, W8:3)	EWF, FC, WFE, DI, LA, CLA, NFU, WT, EWT, EA, NE, ERP, RCCE, FWAG, EBP, SWA, AONB	Start as soon as possible then ongoing
	4	Promote the use of timber and timber products in construction. (W2:6, W8:3)		
W5: Control – Grey Squirrel: Advise on and support the management and control of grey squirrel population.				
W5	3	Support research into effective ways of controlling grey squirrels	EWF, FC, EBP, SWA, AONB	Start as soon as possible then ongoing
W6: Control – Deer: Establish and promote sensitive landscape scale deer management to create a healthy population of wild deer managed in a way that maintains a good level of biodiversity and supports the local economy				
W6	3	Promote the use of Essex venison as a healthy, sustainable source of meat.	EWF, FC, WFE, WVP, DI, LA, CLA, NFU, WT, EWT, EA, NE, ERP, RCCE, FWAG, EBP, SWA, AONB	Start as soon as possible then ongoing
Environmental sustainability				
W7: Resilience and Adaption: All existing, and newly created, woodlands are resilient to the impacts of climate change and contribute to the way in which biodiversity and natural resources adjust to a changing climate				
W7	4	Undertake research to establish the extent (map), condition and level of resilience of Essex woodland and what needs to be done to increase it.	EWF, FC, EWT, EBP, SWA	Start as soon as possible then ongoing
W8: Mitigation: To use woodland to mitigate and adapt to climate change (i.e. for carbon sequestration) by increasing the woodland area in Essex.				
W8	3	Promote the growing of timber for long term carbon storage.	EWF, FC, WFE, DI, LA, CLA, NFU, WT, EWT, EA, NE, ERP, RCCE, FWAG, EBP, SWA, AONB	Start as soon as possible then ongoing
	4	Promote the use of woodlands and trees for improving air quality; providing wildlife corridors; producing shade in urban areas, reducing run-off and minimising the potential impacts of climate change.		

Objective	No.	Action	Key Stakeholders	Time Scale
W10: Biodiversity: Sustainable management of existing woodland and creation of new woodland to maintain an ecologically viable woodland habitat in Essex.				
W10	7	All woodlands are managed sustainably with due consideration to biodiversity	Woodland owners, EBP, SWA, AONB, EWF, FC, LA, CLA, NFU, WT, EWT, EA, NE, FWAG,	Start as soon as possible then ongoing
	8	Ensure not all deadwood is removed from woodland sites during management and maintenance operations		
	9	Control and removal (as appropriate) of invasive species, pests and diseases (W6.1)		
Social sustainability				
W11: Accessibility: All Essex residents live within 500m of an area of accessible woodland of at least 2ha in size and within 4km of an area of accessible woodland of at least 20ha in size.				
W11	4	Encourage all woodland owners to allow public access in to their woodlands. Develop and agree public access guidance to deal with the requirements of biosecurity, pest control and woodland management.	EWF, FC, LA, CLA, NFU, WT, EWT, EA, NE, ERP, RCCE, FWAG, EBP, SWA, AONB	Start as soon as possible then ongoing
	5	Promote (where appropriate and with the agreement of the woodland's owner) the declaring of woodland as open access as defined by section 16 of the CRoW Act.		
W13: Education: All Essex residents understand and appreciate the importance of the economic and ecologic sustainable management of woodland.				
W13	2	Promote the need for sustainable woodland management and how it will benefit the residents of Essex. (W1:9)	EWF, FC, WFE, DI, LA, CLA, NFU, WT, EWT, EA, NE, ERP, RCCE, FWAG, EBP, SWA, AONB	Start as soon as possible then ongoing
	3	Encourage the setting up of local woodland stakeholder groups to oversee and buy-in to the management of their local woodland(s)		

Objective	Action No.	Key Stakeholders	Time Scale
W14: Conservation: Protect and maintain veteran trees, historic parkland, wood pasture, traditional orchards and associated historic and archaeological features throughout Essex.			
W14	6	Increase public recognition, enjoyment and understanding of the historic, archaeological and cultural value of trees and forests, particularly of ancient woodlands and veteran trees	EWF, FC, WFE, DI, LA, CLA, NFU, WT, EWT, EA, NE, ERP, RCCE, FWAG, EBP, SWA, AONB
	7	Establish the extent of, and understand the historic environment resource of woodlands within Essex. Use this to inform management.	EWF, LA, EWT, EBP, SWA, AONB, NE
Start as soon as possible then ongoing			

Appendices

A1 Appendix 1: Glossary of terms and abbreviations

Aeolian	Processes pertain to the activity of the winds.
Ancient woodland	Sites that have been continuously wooded since the last ice age.
AONB	Area of Outstanding Natural Beauty
ASNW	Ancient Semi Natural Woodland – sites that have been continuously wooded since at least 1600 AD.
BAP	Biodiversity Action Plan
Biodiversity	Biological diversity - is a term used to describe the variety of life on Earth. It refers to the wide variety of ecosystems and living organisms: animals, plants, their habitats and their genes
Biomass	a renewable energy source, is biological material from living, or recently living organisms, such as wood, waste, (hydrogen) gas, and alcohol fuels.
Bog	A wetland type that accumulates acidic peat.
Boreal period	The start of the warm period after the last ice age; considered to be about 10,000 to 8,000 years before present.
Boulder clay	In geology, is a deposit of clay, often full of boulders, which is formed in and beneath glaciers and ice-sheets wherever they are found.
Calcareous	An adjective meaning mostly or partly composed of calcium carbonate, in other words, containing lime or being chalky.
Canopy	In biology, it is the aboveground portion of woodland formed by tree crowns.
Carbon neutral	Carbon produced equals carbon absorbed.
Carbon sink	A natural or artificial reservoir that accumulates and stores some carbon-containing chemical compound for an indefinite period.
Charcoal	The dark grey residue consisting of impure carbon obtained by removing water and other volatile constituents from wood. The resulting soft, brittle, lightweight, black, porous material resembles coal and is 50% to 95% carbon.

CLA	Country Land and Business Association
Clay	A naturally occurring material composed primarily of fine-grained minerals of less than 0.0002 mm in size.
Climate space	The area of land which is climatically suitable for a particular species or habitat.
Climax habitat	A community of plants and animals which, through the process of ecological succession has reached a steady state. This equilibrium occurs because the community is composed of species best adapted to average conditions in that area.
Clone	A cell, group of cells, or organism that is descended from and genetically identical to a single common ancestor.
Coppice	Growth of small trees or a forest coming from coppice stools.
Coppice stool	The stump and associated regrowth of a coppiced tree.
Coppicing	A traditional method of woodland management which takes advantage of the fact that many trees reshoot from the stump or roots if cut down. In a coppiced wood young tree stems are repeatedly cut down to near ground level. In subsequent growth years, many new shoots will emerge, and, after a number of years the coppiced tree, or stool, is ready to be harvested, and the cycle begins again.
Copse	Small woodland.
Core woodland	Part of a woodland that is remote (at least 30m) from an edge or gap in the canopy
DI	Deer Initiative
EA	Environment Agency
EBP	Essex Biodiversity Project
Ecosystem	All the organisms in a given area, along with the nonliving factors with which they interact; a biological community and its physical environment
Edge effect	The higher light levels under a woodland canopy caused by light entering from the side from the edge of the wood. Is considered to have an effect up to 30m from the edge.

Epoch	A subdivision of the geologic timescale based on rock layering.
ERP	Essex Rural Partnership
Eutrophic soil	Excessively fertile soil. Over fertilised soil.
EWF	Essex Woodland Forum – Proposed forum to take on the ownership and management of the Essex Woodland Strategy on behalf of the ERP.
EWT	Essex Wildlife Trust
FC	Forestry Commission
Fen	A type of wetland fed by mineral-rich surface water or groundwater. Characterised by their water chemistry, which is neutral or alkaline, with relatively high dissolved mineral levels but few other plant nutrients
Flush	Areas of waterlogged soil on a hillside.
Forest	Large area of land dominated by trees. Likely to include a variety of habitat types.
Forest Schools	A type of outdoor education in which school children have lessons in woodland where they learn personal, social and technical skills.
Fossil fuel	Fuel formed by natural processes such as anaerobic (without oxygen) decomposition of buried dead organisms. The age of the organisms and their resulting fossil fuels is typically millions of years. The fossil fuels include coal, petroleum, and natural gas which contain high percentages of carbon
FSC	Forest Stewardship Council – the main awarder of certificates to confirm woodland is being sustainably managed
FWAG	Farming and Wildlife Advisory Group
Gravel	Any loose rock that is between 2mm and 64mm in size.
Greenhouse gas	A gas in an atmosphere that absorbs and emits radiation within the thermal infrared range. The primary greenhouse gases in the Earth's atmosphere are water vapor, carbon dioxide, methane, nitrous oxide, and ozone.
Green infrastructure	A strategically planned and delivered network of high quality green spaces and other environmental features. Green Infrastructure

	includes parks, open spaces, playing fields, woodlands, allotments and private gardens
Growth area	An area designated by Government where development is to be targeted.
Growth point	Government initiative to support local authorities with plans for long-term sustainable growth centred on a particular location.
Hectare	The metric unit of measurement of area. 1 hectare (ha) = 10,000 square metres = an area 100m by 100m = 2.47 acres.
High forest	Woodland with a range of tree sizes from saplings to ancient trees
Holocene	The current geological epoch that is considered to have started about 12,000 before present.
Humus	Organic matter in the soil that has reached a point of stability, where it will break down no further.
Invasive species	Plants or animals that adversely affect the habitats they invade economically, environmentally, and/or ecologically. These (usually exotic) species disrupt by dominating habitats because there is no of natural control by predators.
Interior woodland	Part of a woodland that is remote (at least 30m) from an edge or gap in the canopy
Invertebrate	An animal without a backbone (e.g. insects, spiders, worms etc.)
LA	Local Authority – includes county, district, borough, unitary, town and parish
LDF	Local Development Framework – a planning document which provides details where and what type of development can potentially be developed within a local planning authority's area.
Leaching	The loss of mineral and organic solutes due to percolation from soil
Liana	Any of various long-stemmed, woody vines that are rooted in the soil at ground level and use trees, as well as other means of vertical support, to climb up to the canopy in order to get access to well-lit areas of the forest.
Loess	An aeolian sediment formed by the accumulation of wind-blown silt and lesser and variable amounts of sand and clay that are loosely cemented by calcium carbonate.

Microclimate	A local atmospheric zone where the climate differs from the surrounding area. The term may refer to areas as small as a few square meters or as large as many square kilometers.
Mire	Area of waterlogged soil.
Mor humus	A thick mat of undecomposed to partially decomposed litter that is not significantly incorporated into the mineral soil.
Mull humus	Well-decomposed organic matter that is mixed deeply into the mineral soil.
NE	Natural England
Neolithic	Period of human development between about 11,500 and 6,500 years before present.
NFU	National Farmers Union
NNR	National Nature Reserve
Oligotrophic soils	Low nutrient soils.
Orchard	An intentional planting of trees or shrubs that is maintained for food production
Parkland	Green space consisting of open grassland punctuated by mature trees and copses.
Pathogen	An infectious agent.
PAWS	Plantation on Ancient Woodland Site
Peat	A deposit of dead plant material.
Phosphate plants	Plants that thrive in soils with a high phosphate content (e.g. stinging nettle)
Plantation	An artificially established (planted) woodland.
Podzolic soil	Moderately leached soil with an accumulation of clay and iron that forms a textural layer.
Primary woodland	Woodland occupying a site which has been continuously wooded since the last ice advance even though it may have been clear-felled, provided that the clear-felling does not break the woodland continuity (i.e. the woodland regenerated or was replanted).

RCCE	Rural Community Council for Essex
Renewables	Sources of energy that are potentially infinite.
SAC	Special Area of Conservation – a European designation for areas of significance for nature conservation.
Sand	A naturally occurring granular material composed of finely divided rock and mineral particles between 0.0625mm and 2mm in size.
Section 106	A Section 106 (S106) of the Town and Country Planning Act 1990 allows a local planning authority (LPA) to enter into a legally-binding agreement or planning obligation with a landowner in association with the granting of planning permission.
Secondary woodland	Woodlands that have regrown on abandoned or neglected ground that had previously been used for agriculture, grazing or development of towns, villages, industry and roads.
Sequestration	The storage of carbon dioxide in a solid material through biological or physical processes
Shrub layer	Vegetation layer composed woody, perennial shrubs less than 3m in height and younger, smaller trees awaiting a gap in the canopy to grow to full stature.
Silt	A granular material of a grain size between sand and clay (0.0002mm to 0.0625mm) derived from soil or rock.
Soligenous mire	Area of waterlogged soil where the water is flowing.
Spinney	Small woodland.
SSSI	Site of Special Scientific Interest – a United Kingdom designation for areas of significance for nature conservation.
Suckering	New growth from the roots of existing, or recently felled trees.
Succession	The more or less predictable and orderly changes in the composition or structure of an ecological community. Succession may be initiated either by formation of new, unoccupied habitat or by some form of disturbance of an existing community.
Sustainability	The stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at

	local, national and global levels, and that does not cause damage to other ecosystems.
SWA	Small Woods Association
Topogenous mire	A type of bog that forms under climatic conditions of reduced rainfall,
Tree crown	The crown of a woody plant (tree, shrub, liana) is the branches, leaves, and reproductive structures extending from the trunk or main stems.
Understorey	The area of a woodland which grows at the lowest height level below the woodland canopy
Underwood	The productive woodland products that are not produced by high forest.
Veteran tree	A tree which, because of its great age, size or condition, is of exceptional cultural, landscape or nature conservation value.
Wetland	An area of land where the soil is saturated with moisture either permanently or seasonally.
WFE	Woodfuel East
Wildwood	Natural climax woodland ecosystem with all its associated plant and animal species for any particular locality that has not be interfered with by man.
Wood chip	A solid fuel made from chipping woody biomass.
Woodland	A groups of trees that are 0.1 hectare (1000 square metres) or larger and have a woodland character.
Woodland fragments	Small remnants of once much more extensive woodlands. Also call copse's and spinney's
Wood-lotting	The process of dividing woodlands into small individual plots and selling them.
Wood pasture	A historical land management system in which open woodland provides shelter and forage for grazing animals, as well as woodland products such as timber for construction and fuel.
Wood pellets	A type of wood fuel, generally made from compacted sawdust.
WT	Woodland Trust

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A3 Appendix 3: National Vegetation Classification (NVC) of Essex woodland types

Woodlands defined by dominant species.

A3.1. Although woodlands are described as 'lime-woods', 'chestnut woods' etc most Essex woods are not usually wholly composed of just one tree species or one mixture of tree species. Even small woods commonly vary from one part of another. The scale of variation will differ; in some woods one hectare is completely different from another (taken from Rackham 2006. These in turn are based on Rackham 1980, Peterkin 1981, and Rodwell 1998).

Lime-woods

A3.2 The NVC (National Vegetation Classification) does not recognise lime-woods as a distinct woodland type but they are considered as a variant of oak woods and ash and field maple woods. The communities that lime-woods are considered a variant of are:

- W8 (ash – field maple – dog's mercury woodland) is found on various types of calcareous soils in areas where the effects of leaching are limited. Ash, field maple and hazel are characteristic of this woodland type although they may only play a minor role as other species within the community as a whole can be locally abundant. Lime is locally dominant in the lime-woods variant. Associated species include blackthorn, dogwood, elder, guilder rose, hawthorn, privet spindle, elm, wayfaring tree, goat willow and grey willow.
- W10 (pedunculate oak – bracken – bramble) is found on base poor brown earths. Small leaved lime is prominent in the lime-woods variant. It will be associated with oak, hornbeam and there is likely to be abundant silver birch. Ash, sycamore, wych elm, holly, beech, wild cherry, wild service and crab apple are found at low frequencies as are alder and aspen on damper sites. The main understory species are hazel and hawthorn.

A3.3 Since the Neolithic lime has declined, but in some areas it is still the commonest tree in ancient woodland, for example Great Monk Wood near Coggeshall is part of one of the clusters of Lime-woods found in various parts of lowland England.

A3.4 Lime is very gregarious and is the only relatively abundant tree used as an ancient woodland indicator species. Lime is very robust and its regrowth is relatively unattractive to deer. Individuals can even survive being uprooted. Within a wood it forms solid areas of lime or at least clusters of stools and is not normally associated with wood pasture. The species' one weakness is its difficulty in growing from seed although this is partly outweighed by extreme longevity.

A3.5 Many larger stands are pure lime-woods, often on strongly acid soils (especially loess) with mor humus and brambles, or bracken; are magnificent bluebell woods. On less acid soils or where the acidic surface area is thinner lime coexists with ash forming a mull humus and having primrose and dog's-mercury understory. Most lime-woods have had a succession of standard oaks, despite the strong competition of lime.

Chestnut-woods

A3.6 The NVC does not recognise chestnut-woods in their own right but considers them as a variant of acid oak woods. The communities chestnut woods are considered a variant of are:

- W10 (pedunculate oak – bracken – bramble) is found on base poor brown earths. Sweet chestnut is prominent in the chestnut wood variant. It will be associated with oak, small leafed lime, hornbeam and there is likely to be abundant silver birch. Ash, sycamore, wych elm, holly, beech, wild cherry, wild service and crab apple are found at low frequencies as are alder and aspen on damper sites. The main understory species are hazel and hawthorn.
- W16 (oak – birch – wavy-hair grass) found on very acidic, oligotrophic soils that are typically very free draining, usually sandy and podzolic. Sweet chestnut will be prominent in the chestnut wood variant and it will be associated with oak. Birch may be abundant and beech, sycamore and whitebeam may occur sporadically. The shrub layer may contain holly, elder and rhododendron but hazel and hawthorn are rare.

A3.7 Sweet chestnut is generally considered to have been introduced by the Romans but has persisted and spread. Chestnut woods are abundant in south East England and in coastal districts from Essex to Norfolk. Many are plantations on former non-woodland sites, but others occupy ancient woods. As underwood chestnut excels wherever rot-resistant or cleavage matter, but its timber has never been much used in England due to its propensity to have shake and, or spiral grain.

A3.8 Chestnut woods usually found on acid soils. Chestnut stools in ancient woodland could result from various processes: survivals from Roman chestnut orchards; deliberate destruction of hornbeam or oak coppice and replacement with chestnut; and the tendency of chestnut to spread from planted stands (ancient or modern) and take over existing woods. There is little evidence for replanting with chestnut. Chestnut woods that are possible derivatives of Roman introduction have stools of 4.5m or more in diameter as in Stour Wood in north-east Essex. Chalkney Wood (near Earles Colne) is one of the few woods for which there are records of its underwood composition 400 years ago, then apparently had no chestnut, but it now has stools scattered among lime and hornbeam. Since the biggest stools are only just over 1m across they are probably derived from trees planted around 1700 and generations of their progeny.

Beech-woods

- A3.9 The NVC recognises there are three main beech dominated plant communities that could be found in Essex; generally in west Essex. These are described as:
- W12 (beech – dog’s mercury woodland) is found in free draining base rich calcareous soils generally associated with the steeper drift free faces of chalk escarpments. In Essex these are likely to be found in the Saffron Walden area. Beech is the dominant species although ash and sycamore are often present and occasionally pedunculate oak. Whitebeam and yew are also associated with this type of woodland. There is generally a limited shrub layer apart from near gaps in the beech canopy where species like hazel, hawthorn, field maple and, or holly may be found.
 - W14 (beech – bramble woodland) is found on brown earth soils of low base status with moderate to slightly impeded drainage, usually on superficial deposits over southern chalk. In Essex these are likely to be found in the Epping Forest area. The stands are dominated by beech, and pollards are quite common. Pedunculate oak may be associated with this woodland type and other species are scarce although birch, ash and sycamore may be found in gaps. The shrub layer is limited but may contain holly, yew, hawthorn, elder, hazel, privet and goat willow.
 - W15 (beech – wavy-hair grass) is found on base poor infertile soil, usually on podzolic soils with mor humus and free to excessive drainage. Pedunculate oak is the most common associate and there may be birch present in gaps but sycamore, whitebeam and wild cherry are scarce and ash is absent. In Essex this is likely to be found in the Epping Forest area. Usually of high forest structure; coppice is rare but some woods have been treated as wood pasture and retain old beech pollards. The shrub layer is generally poor or absent with holly the main understory species occasionally with yew.
- A3.10 Beech got to Britain in wildwood times, but appears to have been scarce for the first 2,500 years. From the Neolithic onwards it locally increased and was often dominant, but not necessarily where it is now. Beech does not readily invade felled woodland like birch, or abandoned farmland like oak; it is not a favourite hedgerow or homestead tree like elm and until recently it was not a favourite timber. It is however, a characteristic wood-pasture tree.
- A3.11 A regular succession in wood-pastures is from lime to oak to beech, and recently to holly. This is clear from both the pollen record and from written records like those for Epping Forest. Beech has disappeared as a native from much of its prehistoric range and is now only a planted tree. Most of the disappearances were before historic times, although in Writtle Forest (near Chelmsford) there were huge pollard beeches even in the fifteenth century.

A3.12 Beech is gregarious; it tends to be dominant if it occurs at all, although this is considered to be partly an artefact of management. The only part of Essex where it is considered completely native is Epping Forest. The species is not particularly fussy about soil type and can be found on acid gravels, acid clays and thin chalk soils – the main common link for a lot a native beech sites is there association with wood pasture. As an introduced tree beech will grow throughout the British Isles.

Hornbeam woods

A3.13 The NVC does not recognise hornbeam dominated plant communities as a separate category but includes them as variants within and between other categories of woodland. The categories that are considered likely to include hornbeam woods are:

- W8 (ash – field maple – dog’s mercury woodland) is found on various types of calcareous soils in areas where the effects of leaching are limited. Ash, field maple and hazel are characteristic of this woodland type although they may only play a minor role as other species within the community as a whole can be locally abundant. These species include hornbeam, blackthorn, dogwood, elder, guilder rose, hawthorn, privet spindle, wayfaring tree, goat willow and grey willow. Lime and elm may be local dominants as may sycamore in secondary woodland.
- W10 (pedunculate oak – bracken – bramble) is found on base poor brown earths. Small leafed lime is prominent in the lime-woods variant. It will be associated with oak, hornbeam and there is likely to be abundant silver birch. Ash, sycamore, wych elm, holly, beech, wild cherry, wild service and crab apple are found at low frequencies as are alder and aspen on damper sites. The main understory species are hazel and hawthorn.
- W16 (oak – birch – wavy-hair grass) found on very acidic, oligotrophic soils that are typically very free draining, usually sandy and podzolic. Hornbeam will be prominent in the hornbeam wood variant and it will be associated with oak. Birch may be abundant and beech, sycamore and whitebeam may occur sporadically. The shrub layer may contain holly, elder and rhododendron but hazel and hawthorn are rare.

A3.14 Hornbeam is strongly gregarious without being clonal, strongly coppicing, densely shading and usually dominant where it occurs. It grows on a wide range of soils, predominately on acidic clays. It grows readily from seed and is not related to ancient woodland but gets into new woods as a late successional tree. Hornbeam is the commonest woodland tree within 25 miles of London. Hornbeam appears to occupy a similar niche to lime and it is unusual for both to be found in the same wood. In Chalkney Wood (near Earls Colne) lime is dominant on the loess covered boulder clay plateau and hornbeam on the London clay and the gravelly slopes with

a broad area of overlap. Unlike lime, hornbeam is abundant in wood-pastures like Epping and Hatfield Forests.

- A3.15 In south Essex hornbeam woods can be sub-divided into two different communities pure hornbeam and oak hornbeam. The pure hornbeam is found on acid, often loessy soils and has a normal woodland structure with standard pedunculate oak (or their stumps) and ground flora dominated by bluebell and bramble. The oak-hornbeam variant are found on very acid infertile often gravely soils and usually contain a large number of standard trees commonly of sessile oak and a ground vegetation commonly dominated by bracken; this type is often a transition to oak wood on still less fertile soils.
- A3.16 There are also two other types of hornbeam wood that occur on clayey, less acid soils usually in small patches. Hornbeam-ash is often on wet sites with wood anemone and primrose forming a transition to mixed ash woodland while hornbeam-maple is on areas of better drainage and a ground flora dominated by dog's mercury that is transitional to maple woodland.

Elm-woods

- A3.17 The NVC does not recognise elm-woods in their own right but considers them as a variant of lowland ash woodland. The community elm-woods are considered a variant of is:
- W8 (ash – field maple – dog's mercury woodland) is found on various types of calcareous soils in areas where the effects of leaching are limited. Ash, field maple and hazel are characteristic of this woodland type although they may only play a minor role as other species within the community as a whole can be locally abundant. Elm is locally dominant in the elm-woods variant. Associated species include blackthorn, dogwood, elder, guilder rose, hawthorn, privet spindle, wayfaring tree, goat willow and grey willow.
 - W10 (pedunculate oak – bracken – bramble) is found on base poor brown earths. Elm is prominent in the elm-woods variant. It will be associated with oak, hornbeam and there is likely to be abundant silver birch. Ash, sycamore, holly, beech, wild cherry, wild service and crab apple are found at low frequencies as are alder and aspen on damper sites. The main understory species are hazel and hawthorn.
- A3.18 Elm-woods are of two main types. Suckering elms like the East Anglian, Cornish and English elm groups. Woods of English elm in particular were hard hit by elm disease. The non-suckering but nevertheless gregarious elms like wych-elm are less susceptible to elm disease.
- A3.19 The suckering elm-woods have clonal cycles and are often embedded in a wood of other species. Different clones vary in appearance, ecology and susceptibility to elm disease. Many clones send out suckers into the surrounding non-elm wood

well in advance of the circular front, assisting the advance of the clone the next time the wood is felled. A wood may have two distinct sizes of elms, corresponding to the elm timber trees and elm underwood when the wood was last coppiced. Ground vegetation often consists of nettles and other phosphate plants. Sometimes these are related to underlying deserted settlements, but elms have a greater power than other trees of extracting phosphate from the subsoil.

- A3.20 Non-suckering elm-woods are (where they still exist) a constituent of many ash-woods. Some have a particularly rich mixture of herbaceous plants and micro-topography allowing plants of acid, calcareous, flushed and well-drained sites to grow together.
- A3.21 The Dutch elm disease epidemic of the late twentieth century has significantly reduced the amount of elm-wood in Essex. The majority of elm-wood now consists of relatively small clonal regrowth that tends to get re-infected at regular intervals.

Ash, hazel maple woods:

- A3.22 The NVC recognises that the ash-hazel-maple dominated plant communities are quite diverse and variable but still lumps them all into a single categorisation that could be found in Essex; generally in north Essex. This is described as:
- W8 (ash – field maple – dog’s mercury woodland) is found on various types of calcareous soils in areas where the effects of leaching are limited. Ash, field maple and hazel are characteristic of this woodland type although they may only play a minor role as other species within the community as a whole can be locally abundant. These species include blackthorn, dogwood, elder, guilder rose, hawthorn, privet spindle, wayfaring tree, goat willow and grey willow. Lime and elm may be local dominants as may sycamore in secondary woodland.
- A3.23 These are the core of ancient woodland in much of lowland England. This type of woodland can vary from steep dry hazel-ash woods on the middle slopes of dry chalk valleys where dog’s mercury wilts in the summer drought; soggy ash-woods impenetrable with blackthorn on the clays; sparse ash-woods on acid fertile gravels with sheets of bluebell and patches of bracken; hazel-woods crowded with stool producing high quality of underwood; maple-woods on the boulder clays; and almost any combination of ash, hazel and field maple between these extremes. Standard timber oaks are often associated with this type of woodland as are clonal patches of aspen on waterlogged soils. They often adjoin hornbeam, lime and alder woods, often with a sudden transition.
- A3.24 Many types of ground vegetation can be found under variants of the ash-maple-hazel woods but the commonest associate is bluebell, especially under hazel woods and ash-hazel woods while maple woods tend to be carpeted by dog’s mercury.

- A3.25 Hazel woods are a relict of the early Holocene. Hazel was one of the early trees to colonise Britain and in the Boreal Period become dominant. Its longevity, dense shade and self coppicing enabled it to hold onto existing ground, but its relatively small stature meant it could not resist the invasion of taller trees for ever. It has been partly squeezed out by oak, elm, lime and later ash.
- A3.26 Ash and hazel will grow on most soils that are not too infertile. Maple is one of the few commoner trees with a definite soil preference for well drained, clayey soils with little sand although it occasionally grows even on acid soils sandy soils where the sub soil is less extreme. In clayey woods (boulder-clay or London clay) ash tends to grow on the most winter wet sites, hazel in the middle of the range and maple on the more sloping ground. Ash tends to correlate with a ground flora consisting of oxlip and meadow sweet, hazel with bluebell and maple with dog's mercury. Where there is not much maple it can often be found on both internal and external woodbanks.

Oak woods:

- A3.27 The NVC recognises there are two main oak dominated plant communities that could be found in Essex. These are described as:
- W10 (pedunculate oak – bracken – bramble) is found on base poor brown earths. Sweet chestnut is prominent in the chestnut wood variant. It will be associated with oak, small leaved lime, hornbeam and there is likely to be abundant silver birch. Ash, sycamore, wych elm, holly, beech, wild cherry, wild service and crab apple are found at low frequencies as are alder and aspen on damper sites. The main understory species are hazel and hawthorn.
 - W16 (oak – birch – wavy-hair grass) found on very acidic, oligotrophic soils that are typically very free draining, usually sandy and podzolic. Sweet chestnut will be prominent in the chestnut wood variant and it will be associated with oak. Birch may be abundant and beech, sycamore and whitebeam may occur sporadically. The shrub layer may contain holly, elder and rhododendron but hazel and hawthorn are rare.
- A3.28 Oak wood is dominated by oak, but other tree species such as birch, holly, ash and hazel may be present. Typical lowland oak woodland plants include bluebell, wood anemone, bramble, wood-rush, ferns and bracken with a large number of mosses and lichens likely to be present. The stand structure can vary from oak standards with either an underwood of oak or other species through to wood pasture and plantation. Long established pure oak woods where oak is naturally so abundant that woodsmen have not coppiced is relatively unusual in lowland England. In lowland oak woods although oak is the dominant canopy tree there tends to be much greater variety of tree species in the understory and shrub layer. Oak woods usually contain big stools, the product of centuries of coppicing. Among the intermingled trees are birch, occasionally chestnut and beech and the ground vegetation is often limited to bracken wavy-hair grass and sometimes woodrush or

bluebell. The many coppice associated plants, like foxglove, heather and cow-wheat come mainly from buried seed. In Essex patches of oak wood occupy gravely ridge-top, with chestnut and hornbeam.

Wet Woodland

- A3.29 Wet woodland occurs on poorly drained or seasonally wet soils, usually with alder, birch and willows as the predominant tree species, but sometimes including ash, oak, pine and beech on the drier riparian areas. It is found on floodplains, as successional habitat on fens, mires and bogs, along streams and hill-side flushes, and in peaty hollows. These woodlands occur on a range of soil types including nutrient-rich mineral and acid, nutrient-poor organic ones. The boundaries with dryland woodland may be sharp or gradual and may (but not always) change with time through succession, depending on the hydrological conditions and the treatment of the wood and its surrounding land. Therefore wet woods frequently occur in mosaic with other key woodland and open habitat types. Management of individual sites needs to consider both sets of requirements.
- A3.30 Wet woodlands considered characteristic to Essex tend to be either alder woods, or willow woods. Wet woodlands occur on land that has waterlogged or seasonally waterlogged soils. They are frequently associated with river valleys, flood plains, flushes and plateau woodlands

Alder woods

- A3.31 The NVC recognises there are two main alder dominated plant communities that could be found in Essex. These are described as:
- W5 (alder – greater tussock-sedge woodland) is found on base rich, moderately eutrophic, wet to waterlogged organic soils on topogenous or soligenous mires. It is associated with fen peats in open water transitions, flood plain mires and basin mires where there is a strong influx from base rich ground waters. Alder and grey willow are the most common trees with occasional downy birch but the alder becoming dominant in the longer established stands. Where the water level has risen standing dead alder are common. In drier areas there may be ash or pedunculate oak with an understorey including holly, hawthorn and guelder rose.
 - W6 (alder – common nettle woodland) is found on eutrophic moist soils, especially where there has been substantial deposition of mineral matter, or on flood plain mires where enriched waters flood fen peat. Alder is generally the most common tree all though it is sometimes replaced by crack willow on wet sites and downy birch on drier sites. Black poplar may occur with occasional sycamore, ash and oak. The understorey is predominately grey and other willows with hawthorn and elder on drier ground.

- A3.32 Alder is one of the few trees with a narrow habitat requirement for moving water. It is a familiar non-woodland tree on river banks where its water-borne seeds germinate along flood-lines. It is not otherwise particular as to soil with the pH under alder varying between around 4 to over 7. Fen alder woods are usually secondary on abandoned meadow.
- A3.33 Alder grows in ancient woodland along spring lines and flushes although there is a rarer type of alder-wood, mixed with other trees, on plateau irrigated, at least in winter, by seeps of water at contacts between boulder clay and deposits of loess or sand. Alder avoids water logged sites which tend to give rise to the aspen variant of mixed ash-wood.
- A3.34 Alderwoods of all types tend to have ransoms and sometimes nettle as ground flora and they join on to many kinds of surrounding woodland often with an intervening ash-hazel zone.

Willow Woods

- A3.35 The NVC recognises that there are two main willow dominated plant communities likely to be found in Essex. These are described as:
- W1 (Grey willow - common marshbedstraw woodland) is found on waterlogged mineral soils of moderate base status. The grey willow is often the dominant, if not the only woody plant in this community. It is associated with fen peats in open water transitions, flood plain mires and basin mires where there is an influx from base rich ground waters. Alder and grey willow are the most common trees with occasional downy birch but the alder tends to become dominant in the longer established stands
 - W2 (Grey willow - downy birch – common reed woodland) is found where the influence of base-rich and quite eutrophic water is strong in lowland fens where the peat is raised above the limited lowland flooding. The commonest colonisers in the primary succession in developing in the flood plains, basins and valley fens or where mowing marsh has been abandoned for this community are grey willow, downy birch and alder.
- A3.36 Willow woodlands tend to be rather scrubby in character and part of the early stages successional transition on flood plains, basin and valley fens in areas of impeded drainage. These woodlands are often part of a mosaic of other woodland communities and are commonly classified as part of these habitats because they tend to cover small areas around ponds or along the banks of water features.