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Ancient Woodland: Plant communities

Woodland variation

The different woodland habitats found in Suffolk and the plant communities they contain

Comparing:

- Deciduous vs conifer
- Soils
- Aspect
- Tree density

Areas of woodland can be found scattered throughout the East Anglian region, but there is great variation at the local level in the amount of woodland present and in the plant communities that they support.

Natural woodland evolves over long periods of time and is often considered to be 'climax' habitat – the end result of a succession of habitats that develop during prolonged periods of settled climate.

By contrast, planted woodland or 'plantations' typically show uniform tree density and height, with a resulting limit to the variety of associated plant species.

Trees dominate woodland and the classification of woodlands is largely based upon the species present.

Most obviously different are deciduous versus coniferous woodlands, but subtle differences in soil and aspect can result in different species of deciduous tree coming to dominate and this can result in differences in the ground flora.

As well as differences in the species composition, woods can differ in the density of the trees, with older, more natural woodland often having gaps provided by ageing and fallen trees, which can provide open glades, rich in wildflowers.



Oak-Ash woods

- Arger Fen & Spouse's Vale
- Bonny Wood
- Bradfield Woods
- Bull's Wood
- Captain's Wood
- Combs Wood
- Groton Wood
- Ladygate Wood
- Old Broom Nature Reserve
- Reydon Wood

This is the primary woodland type in East Anglia and particularly occurs on the boulder clays from South Norfolk to North Essex, but can also be found elsewhere. Typically, stands that are on wetter soils have a higher ash content, while drier soils have more oak. European Ash and Pedunculate Oak are the dominant species and often with European Holly and European Hazel as understorey species.



Other tree species are often present in smaller quantity and depending on soil type and can include Sycamore, Small-leaved Lime, Hornbeam, Goat Willow, both Smooth-leaved and Wych Elm and Sweet Chestnut. Some of these will have been planted, but others can be either planted or occur naturally.



Oak-Ash woods have long been managed for wood products with the two tree species being left to provide mature timber and the understorey being coppiced on a rotational basis. These management practices produce periodic clearings in the woodland before the understorey regrows and such woods are our most species-rich for wildflowers, with carpets of many species colouring the ground in late spring, especially Common Bluebells, Common Primroses, Ramsons and European Wood Anemone.



Oak-Ash woodland on wetter soils can develop a rich ground layer of ferns and sedges along open rides and glades.



Oak-Birch woods

Woodland dominated by Pedunculate Oak and Silver or Downy Birch typically develop on acidic, often dry and sandy, soils and most often appear as a succession to heathland where the heath has not been managed. Birches spread exceptional amounts of seed and birch colonisation of heathland can be a major headache for managed heath reserves. Where a woodland develops, the canopy is typically relatively low (perhaps because of the dry conditions suppressing growth) and both European Holly and Common Rowan are often present. The birches can often grow quite densely, crowding out all but Common Bracken which can cover the ground layer.



Has a poor groundlayer consisting typically of just Common Bracken, Oak-Birch woodland can look very barren in winter and early spring. © Mike Crewe 2024

If the woodland has developed on former heathland, then relics of that habitat may persist where there are gaps in the canopy. Isolated pockets of Common and Bell Heather, Heath Bedstraw and Common or Western Gorse may persist, while Common Honeysuckle can be frequent. Because of the typically dry conditions, ferns (except Bracken) are usually absent. In such wetter places, the groundlayer can contain more species and often has a good layer of ferns and sedges.



In Oak-Birch woodland that develops on wetter ground, there can be a good population of Broad Buckler Fern beneath the trees. © Mike Crewe 2024

Beech woods

The beech tree species is widespread, especially on the drier soils in the south-west of the region. Elsewhere, European Beech has been widely planted in the grounds of many a stately home, where individual trees grow large and spreading in the open, parkland environments. The species has also been planted in narrow plantations along several of the roads through Breckland and in full autumn colour or vivid green spring flush, they are a feature of the area.



European Beeches planted in parkland habitats are often more openly spaced, allowing a few grasses to form a groundlayer, especially Creeping Soft-grass, which does well in shade.



In some places, European Holly can develop as an understorey, especially in places where smaller stands of Beech are found within mosaics of other woodland types.



Other deciduous woodlands

- Groton Wood
- Wolves Wood

Smaller areas of deciduous woodland with a wider range of dominant tree species, or different species dominating are scattered around the region. Some are the result of plantings, such as Sweet Chestnut stands, while others may be relics of older habitats that are now scarce. Woodlands of Small-leaved Lime seemed to have declined with changes in management regimes, while healthy stands of Small-leaved Elm are now a rarity. Some woods planted on private estates can have unusual tree mixes.



Many woodland blocks have subtle variations in soil and moisture content, which can produce a mosaic of tree associations. Species such as Field Maple, Wild Cherry, Common Rowan and Hornbeam often occur in mixed associations, while Bird Cherry can be plentiful in some, Breckland woods.

On shooting estates, Rhododendron has been widely planted, along with evergreens, to provide cover for Pheasants. This has often denuded areas of woodland of their ground flora, and the Pheasants have caused damage to native plant populations.



Sycamore was introduced to the UK and has rapidly become a major component of wooded areas, especially where rapid, successional growth has occurred on brownfield sites and other places with disturbed ground. It often has a poor ground flora because of past soil nitrification and/or disturbance and many stands have a groundlayer dominated by Common Nettle and various brambles. However, there are some interesting stands with a Bluebell groundlayer, which may have evolved over time as a result of removal of former native trees.



Coppiced Hornbeam is occasionally seen in Suffolk, especially towards the south-west of the region.



Woodland or copses with mature Smooth-leaved Elm were once a feature, but have been wiped out by Dutch Elm Disease but a very few stands do remain. Elms still survive as suckering growth, especially in hedgerows, but they seldom reach maturity before disease knocks them to the ground again. Elms still survive as suckering growth, especially in hedgerows, but they seldom reach maturity before disease knocks them to the ground again.



Wet woodland and carr

- Newbourne Springs
- West Stow Country Park

While Oak-Ash woodland can do well on reasonably damp ground, more or less permanently wet ground in valley bottoms and bordering lakes and broads is typically colonised by woodland containing alders and willows. The term 'carr' is used to indicate low-canopy woodland or scrub in wetland habitats, with alder carr being dominated by European Alder and willow carr typically consisting of a range of shrubby willow species, typically Grey Willow in East Anglia but sometimes also including Almond, Purple or Eared Willows. Alder carr can eventually develop into alder woodland.



Patches of transitional wet woodland can develop around seepages and streams in Oak-Ash woodland. Such sites often contain Sycamore and the first European Alders and an interesting ground flora can develop in the wet mud, including various sedges and ferns. © Mike Crewe 2024

Extensive alder carr and alder woodland exists throughout the Broads and along the upper reaches of the Little Ouse and Waveney, as well as elsewhere, but is particularly a feature of the Bure and the Yare in Norfolk. A dangerous quagmire of quaking bog or 'hover' can develop around the tree roots and develops interesting plant communities dominated by various sedges and patchy stands of Common Reed. Many wetland plant species find a home in such places and are best viewed by visiting dedicated nature reserves with boardwalks that allow access into the habitats.



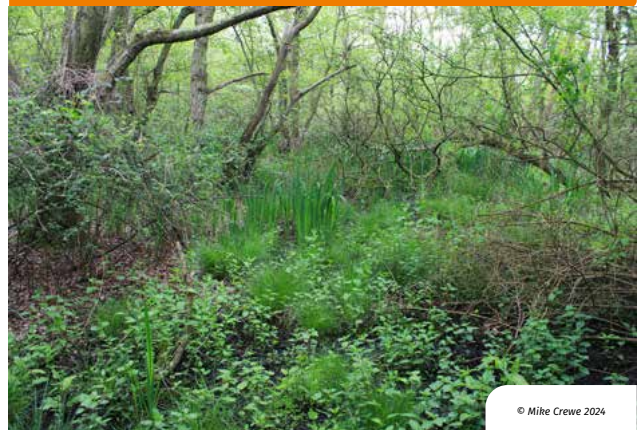
Typical wet willow carr in winter. © Mike Crewe 2024

Alder carr in spring, with a good range of sedges dominating the groundlayer.



© Mike Crewe 2024

Mature, mixed alder and willow carr and alder woodland can hold a very diverse groundlayer.



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Coniferous woods

- Dunwich Forest, Suffolk
- Rendlesham Forest, Suffolk
- Thetford Forest, Norfolk/Suffolk
- Tunstall Forest, Suffolk

Most plantation conifers do best on acid soils and this is reflected in where they are planted (as well as the fact that heathland was not farmable and therefore ripe for plantation use). Thus, plant communities tend to be those of acid grassland and this is readily demonstrable along the more open forest rides and trackways through Breckland. Extensive conifer plantation covers huge areas of Breckland and parts of the Suffolk Sandlings, that otherwise would have been heathland, while smaller scale plantings are scattered on more neutral soils throughout the region.



East Anglia's generally drier climate does not suit many of the conifers from western North America that have been so widely planted in the British uplands and most plantings have been of Scots and Corsian Pine, though there are plantations of European and Hybrid Larch, Douglas Fir and Western Red Cedar, too. In addition to plantations, introduced conifers have been planted to stabilise coastal dunes and as shelter belts in cropped areas. Specimen plantings of iconic species such as Giant Redwood and Monkey-puzzle have also been widespread on private estates and in parks.



The plant communities that develop in conifer plantations are greatly reduced by the lack of light under the trees. The dense, evergreen foliage of conifers shades out a high percentage of the light and this is even more the case in plantation forestry, where the trees tend to be planted particularly close together. Plant communities tend to reflect those that were present at the time of planting, though in a greatly reduced form, while the dense mat of shed conifer needles can not only reduce the groundlayer further, it also serves to acidify the ground, again affecting the plant species that can survive.



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Wood pasture and parkland

- Helmingham Hall
- Ickworth Park
- Staverton Park

Wood pasture refers to a suite of open woodland types that largely evolved through the human use of woodland. Woods were transformed by prolonged periods of livestock grazing, the result of which was to produce a range of habitats from open woodland to parkland. Grazing reduced the quantity of woody plants, including sapling trees and allowed more light in, opening the habitat up to colonisation by grassland species. Where tree cover remained more dense, brambles and Bracken typically became dominant.

Picture: Wood pasture dominated by Pedunculate Oak and Silver Birch, suggesting this area developed from Oak-Birch woodland. Sweet Chestnut has also been introduced. The groundlayer is dominated by grasses tolerant of heavy grazing, with patches of bramble developing, too.



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Though some parklands around stately homes were created by planting up open ground, others evolved into parkland through grazing by sheep and herds of Fallow Deer. Wood pasture was probably a dominant habitat type in lowland Britain in the past, particularly before enclosure laws. However, most wood pasture has now been lost, either reverting back to denser woodland, or becoming arable land according to later land use.

Picture: Parkland on the larger private estates typically is more open, with scattered specimen trees of Pedunculate Oak (and often Cedar of Lebanon and Holm Oak). Replacement plantings for lost specimens are protected from browsing livestock when young.



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The plant communities that might develop in wood pastures is dependent on levels of shade and soil type. The communities are highly variable and effectively represent a gradient from woodland flora to grassland flora.

Picture: The effects of livestock on trees can clearly be seen by the browse line on these Holm Oaks. Heavy grazing pressure and high nutrification from droppings can also result in extensive colonies of Common Nettle developing.



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Recommended resources

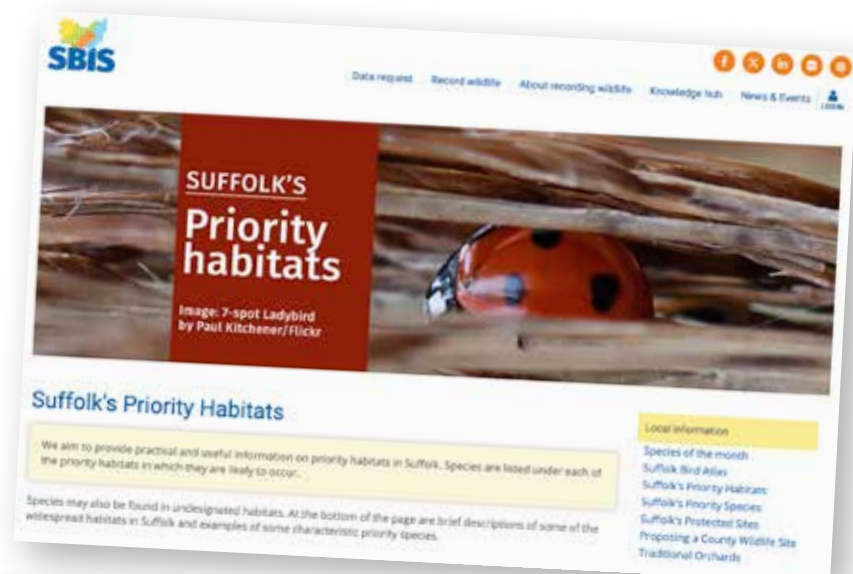


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www.webidguides.com

Suffolk's priority habitats,
information from SBIS

www.suffolkbis.org.uk/habitat



Woodland habitat descriptions
from the Suffolk Wildlife Trust

www.suffolkwildlifetrust.org/habitats/woodland

