

Suffolk County Wildlife Sites: Selection Criteria

1. Why Suffolk is Special?

IPSWICH BOROUGH COUNCIL

Although a highly urban area, the Borough of Ipswich contains a number of important BAP habitats and species. Around the fringes of the town and in some of the parks there are several ancient woods and along the Belstead Brook there are small areas of Wet Woodland. The parks also contain former ancient Parkland and to the south of Bourne Park there is an area of reedbed. Ponds and lakes in the parks provide open water habitat which, together with the Gipping and the Orwell estuary, are used by otters as well as wetland birds.

Small areas of heathland have survived around the eastern fringes on golf courses and neglected parts of industrial estates. Although these areas still support BAP species such as silver-studded blue butterfly and adder, they are under increasing pressure both from development and disturbance from recreation.

Bats (mainly pipistrelle) are found in roof spaces throughout the town with some large roosts occurring in housing estates within reach of feeding habitat on the edges of town and in the parks.

The BAP species which is of greatest importance for Ipswich is the stag beetle. Suburban garden habitats can support very good numbers and there have been a few projects to provide suitable habitat piles in the parks.

EAST SUFFOLK COUNCIL

Suffolk Coastal

Suffolk Coastal District is characterised by a diverse landscape composed of estuaries and grazing marshes, large arable fields, extensive areas of lowland heath and conifer plantations on the light soils of the Sandlings. Inland on the claylands the landscape consists mainly of a farmland landscape of arable fields interspersed with pasture and smaller hay meadows and woodland. Extensive areas of reedbeds, saline lagoons, vegetated shingle, intertidal mudflats and saltmarsh along the Suffolk coast are of international importance and as such are protected by European legislation (Habitats Directive). Starlet sea anemone (BAP species) is associated with the nationally significant resource of saline lagoon which is found on the Suffolk coast.

The Grazing Marshes associated with the river valleys support a network of ecologically valuable dykes and pockets of species-rich fen. These coastal marshes are noted for a range of BAP species including water vole, barn owl, black poplar, bittern, otter, water shrew and narrow-mouthed whorl snail.

The arable landscape further inland supports farmed BAP habitats such as cereal field margins and species-rich Hedges interspersed with grassland, including small fragments of herb-rich lowland hay meadow (BAP). Species associated with farmland which have been recorded in Suffolk Coastal District include Grey Partridge, Skylark, Brown Hare, Shepherd's Needle and Red-tipped Cudweed. Ponds are abundant in the claylands although far less frequent in the Sandlings. Parishes which have a high density of ponds are also noted for significant populations of great crested newt.

The Sandlings area of Suffolk Coastal District holds a nationally important resource of heathland with significant populations of nightjar and woodlark (both BAP) species. Good numbers of adders (a character BAP) and silver-studded blue butterfly (BAP) are also found in the heathlands along the coast. Semi-natural woodland is rare on the light soils but there are important clusters of ancient woodland and wood pasture on the edge of the claylands, in particular at Glemham, Parham, Hacheston and Wantisden.

Waveney

Waveney District Council Area has a significant stretch of coastline and several fairly large urban districts; Lowestoft, Beccles and Southwold. The coastal fringe contains two nationally important (BAP) habitats; saline lagoons at Benacre Broad, Covehithe and Easton and vegetated shingle habitat at Lowestoft Denes, Southwold Denes, Kessingland Beach and Benacre Broad. At Covehithe Broad, Southwold Common and Corton there are small areas of coastal heathland (a BAP habitat) mixed with lowland acid grassland (a BAP habitat). There are also remnants of heath inland in the north of the district at Herringfleet Hills, Somerleyton and the southern side of Fritton Lake, where there have been recent adder sightings (BAP species).

Waveney district has sizeable areas of grazing marsh and fen. Excellent examples of species-rich fen occur at Benacre, Barnby, Carlton and Oulton Broad; areas lying in the Waveney Valley. These fens provide habitat for several BAP species including three rare snails, bittern, barn owl, pipistrelle bat and also black poplar, a tree which usually occurs as isolated examples.

In large open water habitats such as the lakes at Lound Common, pillwort occurs. This is a BAP species and the only example in the county. Along the river Waveney good populations of otter are found and although declining, Water Vole is still present and at one key site, a large population of the depressed river mussel (BAP species).

The western and northern parts of the district are quite intensively farmed with large open fields. BAP habitats associated with farmland include ancient and species-rich hedgerows although not all of these are managed for conservation, cereal field margins, lowland species-

rich hay meadows, of which there is a reasonable scattering of small fields in the west of the district and also farmland ponds (eutrophic open water). Waveney district has the highest density of farm ponds in Suffolk and consequently supports good populations of great crested newt. Other species particularly associated with farmland in Waveney include brown hare and arable wild plants such as small flowered catchfly and shepherd's needle. Farmland bird populations are not as good as other parts of Suffolk due to lack of suitable habitat.

Woodland is not widespread in the district although small clusters of ancient woodland occur in parishes such as Wrentham and Redisham. Good examples of wood pasture and parkland are found at Benacre, Henham and Sotterley. Species such as spotted flycatcher, barn owl and pipistrelle bat are found here. On two roadside verges in the district the sandy stilt puffball fungus occurs, at Blyford and Reydon. This BAP species is nationally scarce.

CENTRAL SUFFOLK

Babergh District Council

A large proportion of Babergh District Council comprises an area of ancient pre 18th Century landscape (East Anglian Plain Natural Area) of arable fields and improved grassland that is interspersed with significant woodland. Clusters of ancient woodlands (many of which are designated as Sites of Special Scientific Interest (SSSI)) can be found, particularly in the parishes of Milden, Hintlesham, Polstead and Bentley. The ecological value of these woodlands is further enhanced by a network of ancient species-rich hedgerows (also a BAP habitat) that link a number of woodlands. Recent surveys (SWT) have shown that dormouse (BAP species) not only occurs in a number of woodlands in the Babergh District (e.g. Bentley Woods) but also in a significant number of ancient species-rich hedges.

The arable landscape that occurs throughout the District supports a number of BAP species and habitats particularly associated with farmland. In addition to hedges, other BAP habitats include lowland hay meadows, farmland ponds (including eutrophic open water) and cereal field margins. Species such as grey partridge, spotted flycatcher, bullfinch, turtle dove and pipistrelle bat have also been recorded within the farmed environment.

The open landscape, particularly found on the airfields at Wattisham and Little Waldingfield, support good populations of skylark, brown hare, and in the case of Waldingfield, a significant population of spreading hedge parsley, a rare arable plant.

The numerous small river valleys that occur in the Babergh District, for example, the Rivers Glem, Brett, the Belstead Brook, Flowton Brook and the tributary of the River Stour at Stutton, retain small pockets of species-rich fen and lowland hay meadows. Recent surveys of wetland BAP species, notably otter, water vole and water shrew indicate that these species occur in watercourses and nearby grazing marshes.

Although it has experienced a significant decline in its ecological value (BTO, 2003) the Stour and Orwell Estuary is still of international importance, mainly for its populations of waders and wildfowl which are dependent on the intertidal mudflats and saltmarsh.

Urban development in the Babergh District is restricted to towns such as Sudbury and Hadleigh. Semi-natural urban habitat (BAP) which occurs in gardens, allotments and other open spaces supports significant populations of BAP species including song thrush, pipistrelle bat and stag beetle.

Mid-Suffolk District Council

Mid Suffolk District lies on the East Anglian Plain and the underlying boulder clay deposits give rise to heavy clay soils which have been improved for agriculture; largely arable habitats. Mid-Suffolk has an ancient agricultural landscape with many small farms although modern farming methods have given rise to large fields, typical of those elsewhere in Suffolk. Ancient and species-rich hedgerows (a BAP habitat) dissect the agricultural and wooded habitats but vary in their wildlife value; not all are favourably managed. Other BAP habitats associated with farmland are cereal field margins and farm ponds (eutrophic open water). These ponds often support populations of great crested newt. Species associated with farmland include grey partridge, spotted flycatcher, bullfinch, turtle dove, skylark, tree sparrow, brown hare and several important arable wild plant species such as shepherds needle and cornflower.

Pockets of species-rich grassland (a BAP habitat), in particular village commons and greens, churchyards and green lanes dot the landscape. There is also a good scattering of small species-rich hay meadows; Winston Green, Debenham Meadow and Burgate Great and Little Greens. Mid Suffolk District has a reasonable percentage of woodland but it is largely scattered, though there are important clusters at Barking and Woolpit. Ancient woodlands occur, but are generally small in size. The Thornham and Shrubland Estates have a mixture of parkland (BAP habitat) and ancient woodland. Helmingham Estate has some fine parkland with many veteran trees. Parkland and ancient woodland provide a habitat for several important fungi and lichens and ancient trees with fissures and cracks provide excellent habitat for bats and birds. In the river valleys, chiefly the Waveney, Dove and Gipping pockets of woodland remain which are interspersed with a mosaic of (BAP habitat). Wet woodland is important for otter, bats, black poplar and woodland bird species.

Within the Gipping and Waveney Valleys several areas of valley fen occur. One of the best examples of a species-rich valley fen is Redgrave and Lopham Fen. Several areas of these valleys have been affected by gravel extraction. This has left areas of open water (where pits have been filled) and also some newly created reedbed habitat. Within the rivers themselves otter, water vole and water shrew are found, the latter two being rather scarce.

WEST SUFFOLK COUNCIL

Forest Heath

Forest Heath is unusual in having such a high percentage of its area designated as SSSI. This reflects the nationally important breckland habitats that support a wide range of nationally rare and BAP species. The district is split into three Natural Areas:

1. East Anglian chalk in the south around Newmarket where small areas of species-rich chalk grassland survive amongst the horse paddocks and gallops;
2. The Fens to the north west – an intensively farmed, flat landscape with little room for wildlife outside of the dykes, drains and the narrow verges of the drove roads;
3. Breckland in the centre and east with a mixture of farmed arable and conifer plantation with small areas of heath and the long lines of bent pines left from former wind breaks.

The Brecks support most of the important BAP species and habitats in the district. Species like stone curlew, nightjar and woodlark breed here in sufficient numbers for some areas to warrant international designation. The farmland also has good numbers of hares and grey partridge. In the forest plantations there is a small, declining, population of red squirrel. There are significant areas of heathland and acid grassland (BAP habitats). The light sandy soils have led to much farmland going in and out of cultivation and these ‘breck’ fields support a unique flora of tiny annual plants such as fingered speedwell that are not found elsewhere in Britain. Other BAP species such as tower mustard and red-tipped cudweed are also adapted to these disturbed light soils.

There is relatively little open water in the district but the valleys of the Little Ouse, the Lark and the Eriswell Cut-off channel all have otters. Water voles can be found alongside many of the fenland drains. Restoration work at Lakenheath washes has provided an important area of reedbed which may support bitterns in the future. These inland reedbeds will become increasingly important as sea level rise continues to threaten sites on the coast.

Where the Breckland and Fens join there are a few wetland sites that support an unusual range of flora and fauna, with species like the rare leaf beetle at Pashford Pools Fen and the greater water parsnip at Hurst Fen. These sites are drying out due to the lowering of the water table.

Most of the area is farmland but there is significant urban development around Thetford, Brandon and Newmarket as well as the military airbases at Mildenhall and Lakenheath.

There is very little ancient woodland in the area, just a few small sites on clayland in the south east corner. Parkland is also scarce with Aspoll Park at Mildenhall being the only example.

St Edmundsbury

St Edmundsbury covers a range of landscape types from the arable claylands in the south to the sandy brecks and valley fens in the north. Large areas are covered by intensive arable farming but within this there are significant pockets of ancient woodland and parkland. The majority of designated areas (County Wildlife Sites (CWS) and SSSI) in this district are ancient woodland sites. As well as the nationally important Bradfield Woods there are clusters of ancient woods around Saxham, Long Melford, Great Bradley and Boxted. These woods vary in character depending on the underlying soils and their management history. The old parklands at Ickworth, Euston and Livermere have retained many veteran trees as well as important features from 18th century landscaping.

There are relatively few river valleys and although there is little wetland habitat around the upper reaches of the Stour, the Lark, Little Ouse and Black Bourn have retained some rich water meadows. To the north-east a few valley fens have remained at Thelnetham, Hopton and Market Weston. On farmland, the heavier clays in this area provide suitable ponds for great crested newts. Along the rivers both otters and water vole are found with better numbers here than in the rest of Suffolk. There are black poplars scattered throughout the district.

In the north-west the lighter, chalky soils and pine plantations show the start of the brecks with important heathy open habitats at Lackford, West Stow and Barnham and areas of chalk grassland in the open rides of the Kings Forest at Wordwell.

The Lark valley has important areas of open water attracting many wildfowl at sites like the lakes at Lackford and Livermere.

The arable landscape which occurs throughout the District supports a number of BAP species and habitats particularly associated with farmland. In some areas the network of woods, small fields and hedges has survived, but in much of the district intensive farming has resulted in the removal of hedges creating vast open fields. Other BAP habitats include farmland ponds (including eutrophic open water BAP) and cereal field margins. Species such as grey partridge, spotted flycatcher, bullfinch, turtle dove and pipistrelle bat are found within the farmed environment.

Although the vast majority of the area is rural there are urban habitats in Bury and Haverhill. Semi-natural urban habitat (BAP) which occurs in gardens, can support populations of BAP species such as song thrush and pipistrelle bat whilst allotments and other open spaces may harbour important populations of reptiles and amphibians.

2. Procedure for Site Selection

A CWS panel that includes technical expertise from Natural England, Suffolk Wildlife Trust, Suffolk Biodiversity Information Service and Suffolk County Council carries out selection of County Wildlife Sites (CWS) in Suffolk. The panel evaluates proposed CWS against agreed selection criteria to ensure that the site meets the threshold for selection. The panel meets twice a year to assess potential CWS and amendments to existing sites as appropriate.

Site selection criteria have been drawn up in accordance with recommendations in the Wildlife Sites Handbook¹.

Sites are assessed against the primary and secondary habitat criteria set out in section 3 and then specific habitat criteria set out in sections 4.

Occasionally it may be appropriate to designate a CWS for the presence of particular species in their own right.

3. Habitat Criteria

The habitat criteria are based on Radcliffe's habitat attributes² that evaluate sites on the basis of their biological interest being of substantive nature conservation value. These criteria may favour or count against a site's selection as a CWS.

Meeting just one of the Habitat Primary Criteria can be sufficient to warrant designation as a CWS

3.1 Primary criteria

- **Size** – The importance and value of a site usually increases with size. Larger sites are more able to resist change and therefore remain as a viable unit. While a site's size may affect its sustainability this does not preclude selection of small sites of high quality
- **Diversity** – Sites that have a variety of habitats are often of high wildlife value, particularly where they include a range of successional stages and/or ecological gradients. Individually, none of the habitats may meet the selection criteria for CWS status, but their combined value may be high enough for selection
- **Naturalness** – It is generally considered that the more natural a site is, the higher its value. However, in Suffolk, as with most of the UK, very few sites with the exception of dynamic coastal habitats are truly natural and the most important habitats are either semi-natural e.g. hay meadows and ancient woods, or even man-made e.g. urban sites. In many cases, this attribute therefore relates to a site's state under traditional management

1 The Wildlife Trusts 1997 section 3.5.1

2 As set out in the Nature Conservation review and in Section 3 of the Wildlife Sites Handbook – The Wildlife Trusts 1997

- **Rarity** – All habitats that are nationally/internationally rare should be considered. Suffolk is a stronghold for some habitats e.g. vegetated shingle, and these habitats may be locally frequent, but their wider importance should not be overlooked. Other habitats may be rare in Suffolk e.g. chalk grassland and should be considered in the context of their local significance
- **Fragility** – Some sites may be very susceptible to damage by interference e.g. urban sites where development of surrounding land may isolate or encroach on the site. Others sites may be fragile due to rapid succession e.g. waste ground that rapidly scrubs up. The first is really an assessment of threat and would not be used as a sole selection criterion. The second suggests that the value of a site may be short lived. While both factors may affect selection, sites should be generally be designated according to their current wildlife value
- **Typicalness** – some habitats are intrinsically species-poor but are locally distinctive e.g. windblown coastal scrub, nutrient rich flushes associated with red crag and dry grassland associated with sands and gravels. These habitats are characteristic of the county's natural areas and are therefore included in the CWS system

3.2 Secondary criteria

These criteria should only be considered once the primary criteria have been applied. They can provide additional information on the value of sites but will not be used for selection in their own right.

- **Recorded history** – The value of a site can be more accurately assessed if there has been a history of biological recording and evidence of site continuity
- **Position in ecological unit** – Sites that are linked to or near other wildlife areas are generally more valuable and can play an important role in creating wildlife corridors and buffers
- **Potential value** – the use of potential value as a criterion for site selection can cause problems, as it can be argued that with appropriate management any site potentially has high wildlife value. However, in some cases it may be useful, especially where there is an opportunity to enhance existing semi-natural habitats
- **Intrinsic appeal** – Some sites may have high-perceived intrinsic appeal and /or recreational value. In addition sites may have a high education value. While the importance of these values should not be underestimated they should always be considered as supplementary to the sites nature conservation value

4. Specific Habitat Criteria

Following assessment of sites against primary and secondary habitat criteria (section 3), sites are considered against appropriate specific habitat criteria. Qualifying sites will have at least one of the attributes.

N.B. Numbering of the attributes is for identification purposes only, and is not a reflection of the relative importance of attributes.

See appendices for details on rare, scarce and Biodiversity Action Plan (BAP) species and definitions of BAP habitats.

4.1 Woodland

1	Ancient woodland with predominantly native broadleaf trees	All woods indicated in English Nature's Suffolk Ancient Woodland Inventory or from historical records qualify even where they have been replanted with conifers. Many remnants of ancient woodland are less than 2ha and were not included in the original Ancient Woodland Inventory. They will be added to the register as part of the AWI update process and may also be considered for designation as CWS
2	A herb layer of native plants typical of semi-natural broadleaf woodland that covers the greater part of the site	See Appendices
3	Presence of rare or scarce species and/or significant populations of Suffolk BAP species	See Appendices
4	Diverse physical and age structure, and other typical woodland features associated with ancient woodlands	Presence of understorey, glades, rides and perimeter shrubs. Presence of seedlings, saplings, mature and over mature specimens. Presence of ponds, watercourses, earthworks especially associated with boundaries, pollards. High proportion of dead wood both standing and fallen. Evidence of historical traditional management (coppicing). Active traditional management.
5	Woodland includes or is entirely a good example of a Suffolk BAP habitat	e.g. Wet woodland See Appendices
6	Woodland type typical of a Natural area or that is locally distinctive	

4.2 Grassland – Neutral, Calcareous, Acid and Breckland

1	Unimproved/semi-improved, dry acid grassland (or dry but non acid grassland associated with red crag/sand and gravels in Suffolk)	See Appendices
2	Unimproved/semi-improved, neutral grassland	See Appendices
3	Unimproved/semi-improved, calcareous grassland	See Appendices
4	Unimproved/semi-improved grassland typical of Breckland	See Appendices
5	Unimproved appropriately species-rich wet grassland, marsh or mire (including coastal grazing marsh)	See Appendices
6	Presence of rare or scarce species and/or significant populations of Suffolk BAP species	See Appendices
7	A good example of a Suffolk BAP habitat	e.g. lowland acid grassland, lowland hay meadow See Appendices
8	Semi-improved relatively species-poor grassland that is important as habitat for other species e.g. breeding waders on grazing marshes	

4.3 Wood Pasture and Parkland

1	Ancient native trees in permanent grass where there is survey evidence of rare/scarce/BAP species associated with ancient trees	See Appendices
2	Presence of rare or scarce species and/or significant populations of Suffolk BAP species	See Appendices
3	A good example of Suffolk BAP habitat	See Appendices

4.4 Open, Standing Water (ponds, lakes, pits, dykes and ditches)

1	Species-rich marginal vegetation	
2	Species-rich aquatic vegetation	
3	Presence of rare or scarce species and/or significant populations of Suffolk BAP species	See Appendices
4	A good example of Suffolk BAP habitat	See Appendices

4.5 Running Open Water

These criteria incorporate Environment Agency CWS criteria

1	Appropriately species-rich emergent /aquatic flora	
2	Presence of rare or scarce species and/or significant populations of Suffolk BAP species	See Appendices
3	Fish (from electro-fishing surveys) based on presence of rare native species, lack of influence from stocking, consistency of recording and self sustaining populations	
4	Presence of rare invertebrates species and/or sections of river where there is a high invertebrate diversity	
5	Records of water vole, water shrew and /or the status of otters is noted in the summary of conservation interest of each river	
6	A good example of a Suffolk BAP habitat	See Appendices

4.6 Reedbed and Fen (e.g. Tall and herb-rich fen, swamp and fen meadow)

1	A good example of a reed and/or sedge bed	
2	A good example of tall fen with typical wetland	
3	Presence of rare or scarce species and/or significant populations of Suffolk BAP species	See Appendices
4	A good example of fen habitat including fen meadow	
5	A good example of a Suffolk BAP habitat See Appendices	

4.7 Heathland

1	A significant area of heathland vegetation communities such as shrub heath, acid grassland, lichen heath and mosaics thereof	
2	Presence of rare or scarce species and/or significant populations of Suffolk BAP species	See Appendices
3	A good example of a Suffolk BAP habitat	See Appendices

4.8 Coastal Habitats

1	Significant examples of semi-natural vegetation communities associated with the coast e.g. shingle, saline lagoons, saltmarsh, sand dunes and cliffs	
2	Presence of rare or scarce species and/or significant populations of Suffolk BAP species	See Appendices
3	Coastal habitat that is borderline CWS quality, but provides valuable buffering or connections with high quality habitat	
4	A good example of a Suffolk BAP habitat	See Appendices

4.9 Scrub

There are occasions when scrub is of CWS status in its own right (as opposed to being part of a mosaic) e.g. coastal scrub providing feeding stations for winter migrant birds. In such instances, scrub will be considered on a case-by-case basis, with its individual merits determining whether it be assigned CWS status.

4.10 Bog and Flush

The majority of bogs and flushes occur within other wet grassland /fen/woodland habitats and are therefore be covered by relevant habitat criteria. However, there are occasional cases where a bog or flush (e.g. a red crag issue) may occur within otherwise degraded habitat e.g. improved grassland, and may support significant flora or fauna. In these instances the bog or flush may be designated as CWS.

4.11 Arable Habitats

Sites may be designated if they support populations of rare, scarce and/or significant populations of BAP species associated with arable habitats. Designation of some arable sites is inappropriate due to their transitory nature e.g. set-aside fields which have a significant but temporary value for farmland birds.

4.12 Hedgerows including Pollards

Hedgerows may be designated if they support significant populations of rare, scarce and/or significant populations of BAP species. They may also be designated for their role in connecting habitats e.g. between woodlands with Dormice. Exceptional examples of Suffolk BAP habitat may also qualify.

4.13 Habitat Mosaics

Few sites consist solely of one discreet habitat type e.g. heathlands are usually made up of a mix of dwarf shrubs and acid grassland. Although the majority of CWS can be classified under one major habitat heading, there are many sites where the value is due to an intricate mosaic of several types.

These habitat mosaics can have a very high value for wildlife, providing a diversity of vegetation structure that supports a wide range of flora and fauna some of which may be rare, scarce or BAP. They may include gradients between wet and dry, light and shade, open and sheltered habitats. Mosaics can include examples of improved/semi-improved grassland, mature trees, woodland (ancient and secondary), scrub, hedge, marshy grassland/swamp and open water (standing or running). CWS status of mosaics will be assessed on a case-by-case basis. In some cases a priority site may be buffered by other semi-natural habitats which might not qualify for designation in their own right, but add significantly to the value of the core

4.14 Orchards

An orchard is understood to be a group of top fruit (and nut trees) that's purpose is or has been domestic or commercial fruit production. A significant number of trees will be veteran e.g. large size for their species, decay, dead wood, sap runs, epiphytes and saprophytes.

1	Features commonly characteristic of an orchard	A site would be expected to have one or more of the following 'orchard' features: Pond/moat, association with traditional farmstead, hedges containing nut or fruit trees e.g Myrobalan, evidence of previous occupation/horticultural use e.g walled garden remains, old and established populations of planted spring bulbs such as aconite, daffodil, star of Bethlehem and snowdrop.
2	The presence of a rare/scarce and /or significant populations of BAP species	
3	Significant assemblages of epiphytes/saprophytes associated with living and dead wood and appropriate orchard species present	
4	The presence of a herb-rich ground flora	

Appendix 1: Habitats

Cereal Field Margins

For the purposes of this Action Plan the term ‘cereal field margin’ refers to strips of land lying between cereal crops and the field boundary and which may extend for a limited distance into the crop, which are deliberately managed to create conditions which benefit key farmland species. They can take a variety of forms, the principal types being:

1. A ‘Wildlife Strip’ 6m wide adjacent to a cereal crop, together with a 1m ‘Sterile Strip’ between the wildlife strip and the crop. The wildlife strip is cultivated once a year but not cropped; the Sterile Strip is maintained so as to prevent aggressive arable weeds spreading into the adjacent cereal crop.
2. A ‘Conservation Headland’ between 6m and 12m wide forming the outer margin of the crop which may be separated from an adjacent field boundary or other vegetation by a 1m Sterile Strip. The Conservation Headland is cropped with cereals but is managed with reduced inputs of pesticides so as to favour wild arable plants and invertebrates.
3. A combined Wildlife Strip and Conservation Headland, separated by a Sterile Strip and managed as described above.
4. Game crops, stubble or grassland fallows lying between annually cropped land and the field boundary.

The focus on cereal rather than arable field margins in this action plan reflects the dominance of cereals among arable crops.

Rare arable flowers found in cereal margins in Suffolk include Ground-pine *Ajuga chamaepitys*, Cornflower *Centaurea cyanus*, Corn Parsley *Petroselinum segetum*, Corn Buttercup *Ranunculus arvensis*, Shepherd’s-needle *Scandix pecten-veneris* and Narrow-fruited Cornsalad *Valerianella dentata*. Arable wild flowers are of conservation concern because of enormous national declines in their distribution and abundance. Nationally, some 300 species of plants can occur in arable fields.

Ancient/Species rich hedgerows

Ancient hedgerows, which support a greater diversity of plants and animals than subsequent hedges, may be defined as those, which were in existence before the Enclosure Acts, passed mainly between 1720 and 1840. By the time of the Parliamentary enclosures, most of the East Anglian Plain was already enclosed and well hedged, but large numbers of common pastures and greens were enclosed in the late 18th and early 19th centuries. Large areas of Breckland and the Suffolk Coast and Heaths were enclosed at this time. These hedges were planted as single species, (usually Hawthorn).

Species-rich hedgerows contain five or more native woody species on average in a thirty-metre length. Hedges, which contain fewer woody species but a rich basal flora, should also be included. The Hedgerow Regulations 1997 define ‘important’ hedgerows as those

with seven woody species, or six woody species plus other defined features; a stricter guideline than the five woody species in the National Biodiversity Action Plan.

Key National Biodiversity Action Plan species in Suffolk which use hedges (including associated features such as grassy verges) are Brown hare, Skylark, Grey partridge, Song thrush, Linnet, Turtle Dove, Corn bunting, Tree sparrow, Bullfinch, and Pippistrelle bat. Other fauna using hedges include small mammals, including Dormice in the south of the county, hibernating reptiles and amphibians, and invertebrates beneficial for crop pest management.

Coastal and flood plain grazing marsh

Grazing marsh is defined as periodically inundated pasture, or meadow with ditches which maintain the water levels, containing standing brackish or fresh water. Almost all areas are grazed and some cut for hay or silage. Sites may contain seasonal water-filled hollows and permanent ponds with emergent swamp communities, but not extensive areas of tall fen species like reeds; although they may merge with fen and reed swamp communities.

Lowland heathland

In Suffolk, many heaths have a mix of dwarf shrubs interwoven with acid grassland. In Breckland the habitat is very complex as the mix of chalky and sandy soils is reflected in a diverse range of heath and dry grassland communities unique in Britain.

Fens

Fens are peatlands that receive water from the ground as well as from rainwater and river flooding. They fall into two types based on water movement and two other categories dependent on where the water is derived from or has travelled through: base-rich or poor rocks. Habitats covered by this Plan include rushy pastures and fen meadows. All sites with substantial fen interest should be regarded as eligible for inclusion in this Action Plan. Overlap may be particularly marked with the following habitats: grazing marsh; reedbeds; lowland heath; mesotrophic lakes and aquifer fed naturally fluctuating water bodies; and wet woodland.

Reedbeds

Reedbeds are characterised by a dominance of Reeds *Phragmites australis* and occur in a wide range of permanently and periodically waterlogged habitats. Stands occur around lakes and ponds, in estuaries and on saltmarsh, and along dykes and canals. Other communities not dominated by reed are included in the fen action plan.

Saline Lagoons

Lagoons are essentially bodies of saline water, natural or artificial, partially separated from the adjacent sea. They retain a proportion of their sea water at low tide and may develop as brackish, full saline or hyper-saline water bodies.

In Suffolk there are four types of brackish lagoon: firstly, small rivers that have been ponded back by shingle bars, over which the sea occasionally transgresses (for example Benacre, Easton and Covehithe Broads); secondly pools enclosed and isolated within a shingle beach (such as at Shingle Street); thirdly, shallow pools on clay (often former grazing marshes) trapped behind ridges of shingle e.g. behind the Walberswick/Dunwich shingle ridge; and fourthly, brackish bodies of water behind sea walls fed by percolation, sea spray or sluices (e.g. lagoons on Havergate Island). Both the latter formations are fed by rain water through the shingle and tend to be very saline.

There are 26 species of flora and fauna that are indicative of brackish lagoons. Of these 14 are present or have been recorded, in the brackish lagoons of Suffolk. Of particular note are the Starlet Sea Anemone *Nemastomella vectensis*, which occurs in very high densities (up to 10,000 individuals per m²), the snails *Hydrobia ventrosa* and *H. neglecta*, the lagoon cockle, *Cerastoderma glaucum* and the crustacean *Gammarus insensibilis*.

Eelgrass beds

Three species of Eelgrass (*Zostera*) occur in the UK. These are: *Z. noltii*, the Dwarf Eelgrass, which is found highest on the shore; *Z. angustifolia*, the Narrow-leaved Eelgrass, which is found on the lower shore and *Z. marina*, Eelgrass, which is predominantly sub littoral. All three species are considered to be scarce. Preferred habitats are intertidal or shallow subtidal sands/muds which are sheltered from significant wave action.

Wet Woodlands

Wet woodlands can be found in a variety of situations where a high water table results from poorly drained or seasonally wet soils. Wet woodland habitats may be identified as containing a range of National Vegetation Classification (NVC) stand types. In Suffolk the following are likely to occur:

- Grey willow – common marsh-bedstraw woodland
Salix cinerea – *Galium palustre* woodland (W1)
- Grey willow – downy birch – common reed woodland
Salix cinerea – *Betula pubescens* – *Phragmites australis* woodland (W2)
- Downy birch – purple moor-grass woodland *Sphagnum* sub-community
Betula pubescens – *Molinia caerulea* woodland, *Sphagnum* sub-community (W4c)
- Alder – greater tussock sedge woodland
Alnus glutinosa – *Carex paniculata* woodland (W5)
- Alder – common nettle woodland
Alnus glutinosa – *Urtica dioica* woodland (W6)

These stands are found on flood plains as successional habitats on fens and mires, along rivers and streams, by flushes and in peaty hollows. The wet woodlands on the boulder clay in Suffolk tend to be considered as part of the ash – field maple – dog's mercury woodland *Fraxinus excelsior* – *Acer campestre* – *Mercurialis perennis* woodlands (W8 in the

NVC) and are excluded from this habitat plan. These will form part of the wood pasture/ parkland and mixed woodland plans.

The habitat supports a number of important BAP species in Suffolk. It is believed to be of primary importance for the weevil *Melanapion minimum* and a jumping weevil *Rhynchaenus testaceus*. It is of subsidiary importance for two birds (spotted flycatcher *Muscicapa striatus* and the song thrush *Turdus philomenos*) and the lesser horseshoe bat *Rhinolophus hipposideros*. Wet woodlands are believed to be used by a number of other BAP species that include a leaf-rolling weevil *Byctiscus populi*, the liverwort veilwort *Pallavicinia lyelli* and the otter *Lutra lutra*.

Lowland Wood pastures and parkland

In Suffolk there are both the remnants and the active practice of a tradition of using the same land to grow trees and graze animals. Today this land is defined as wood-pasture (*Silva pastillis*).

In many cases today's parklands have evolved through a complex series of changes starting with the medieval deer park. Consequently much of the parkland we see today is quite different to its medieval origins. New species of trees and shrubs have been introduced into this country and there have been fashions for designed landscapes. This rich variety of historic landscapes has created a wealth of habitats and niches for wildlife.

Lowland woodland-pasture and parkland habitats may be identified as containing a range of National Vegetation

Classification (NVC) stand types. In Suffolk, the following are likely to occur:

- Oak – Bracken – Bramble woodland
Quercus robur – *Pteridium aquilinum* – *Rubus fruticosus* woodland (W10)
- Oak – Birch – Wavy hair-grass woodland
Quercus robur – *Betula spp.* – *Deschampsia flexuosa* woodland (W16)
- Ash – Field Maple – Dog's Mercury woodland
Fraxinus excelsior – *Acer campestre* – *Mercurialis perennis* woodland (W8)

It should be recognised that lowland wood-pasture and parkland are habitats in their own right. This ecosystem is likely to be of interest for invertebrates (especially the saproxylics), epiphytes, bryophytes, fungi, bats and woodland birds.

Lowland Hay meadows

This plan incorporates a number of unimproved grassland types in Suffolk. Of particular ecological value are the typical species-rich hay meadows associated with Boulder Clay soils of the county. Often termed 'Old Meadow', these grasslands are characterised by a long history of traditional management i.e. lack of disturbance by ploughing or the use of agricultural chemicals. The plan however, is not restricted to grasslands cut for hay, but also takes into account unimproved neutral pasture where livestock grazing is the main land use.

Lowland dry acid grassland

This plan includes all the acid grassland which occurs in Suffolk as an integral part of the Sandlings and Breckland heathland landscape. Smaller areas of acid grassland can also be found on stretches of vegetated shingle along the coast.

Acid grassland is characterised by a species-poor plant community dominated by sheep's fescue, sheep's sorrel and common bent. Other species which are often present in the sward include sand sedge, wavy hair grass, tormentil, and heath bedstraw. The summer-parched soils in Suffolk often support stands of acid grassland which are rich in both mosses and lichens. In addition, acid grassland in Suffolk is noted for a number of rare and nationally scarce spring annual plants. These include several clovers e.g. clustered and suffocated, mossy stonecrop and in the Breckland area, a number of early flowering plants such as spring and breckland speedwells. Birds of conservation concern which are associated with acid grassland include woodlark, stone curlew and nightjar. Many of the invertebrates occurring in acid grassland are species which do not occur elsewhere. Ground-dwelling and burrowing invertebrates particularly favour the open acid grassland swards which typically contain bare sandy areas.

Eutrophic open water

The national action plan covers natural and man made still waters such as gravel pits, reservoirs and lakes but it excludes small pools, field ponds and brackish waters. There are no accurate estimates of the amount of this habitat in the UK but it is likely to be around 1785 sq. km.

As an addition to the national action plan this Local BAP includes small ponds as well as large areas of open water. Actions with respect to ponds cannot strictly be reported as part of the process of the HAP. Eutrophic standing waters are important for certain priority BAP species e.g. Great crested newt, otter, water vole and rare snails as well as local character species e.g. water shrew.

Urban

Suffolk is not generally thought of as an urban county. However, there are many built up areas that contain a variety of valuable urban wildlife sites. These include SSSIs, Local Nature Reserves and County Wildlife Sites.

However, nature conservation in towns and cities is not only about providing for wildlife. Wildlife can also play an important part in people's life and therefore should not be restricted to nature reserves and the countryside. As 54% of people in Suffolk live in towns (with populations over 10,000) the need for a healthy environment in urban areas is particularly important. Parks, cemeteries, canals, allotments, 'derelict' land and gardens can support a huge range of animals and plants and play a crucial role in maintaining the wildlife resource of towns and cities. These places are accessible to all age groups and cultures and can provide ideal places to learn about biodiversity. The character of urban areas is continually altering, through landscape improvements, development and

the changing demands on land. If we are to retain the wildlife in urban areas, it must be recognised, valued, protected and managed as a vital component of the townscape.

Lowland mixed deciduous woodland

Ancient Semi-natural woodland contains some of the most important assemblages of wildlife of any habitat. A large proportion of the Lowland Mixed deciduous woodland in the county falls into this category.

Not all Ancient Woodland sites support mixed deciduous woodland, this woodland type is also found on recent sites and in secondary woodlands. Some recent woodland sites may be of significant conservation importance.

- **Ancient Woodland** – Land that has had continuous woodland cover since at least 1600 and may be:
- **Ancient Semi-natural Woodland** – Ancient Semi-natural Sites that have retained the original native tree and shrub cover that has not been planted, although it may have been managed by coppicing or felling and allowed to regenerate naturally.
- **Ancient Replanted Woodland** – Ancient woodland sites where the original tree cover has been felled and replaced by planting, usually with conifers and usually last century.

This Habitat Action Plan covers woodland growing on the full range of soil conditions, from acidic to base-rich, and includes most of the semi-natural Ancient Woodland Sites in Suffolk. Most woodlands were traditionally coppice with standards, particularly those on moderately acid to base-rich soils. Coppicing ceased gradually with the discovery of coal as a fuel source. *Quercus robur* is by far the commoner oak (although *Quercus petraea* may be abundant locally in a few sites) and may occur with virtually all combinations of other locally native tree species. Most sites are relatively small and have clearer vegetational boundaries compared with some of the recent planted woodlands.

Lowland mixed broadleaf woodland is characterised by the following National Vegetation Classification (NVC) codes, (Rodwell 1991); these plant communities are characterised by W8 *Fraxinus excelsior* – *Acer campestre* – *Mercurialis perennis* woodland W10 *Quercus robur* – *Pteridium aquilinum* – *Rubus fruticosus* woodland and lesser amounts of W16 *Quercus spp.* – *Betula spp.* – *Deschampsia flexuosa* woodland (mainly sub-community a. *Quercus robur*). Locally, it may form a mosaic with other types, including patches of beech woodland, and small areas of wet woodland. Rides and edges may grade into grassland and scrub types.

Coastal vegetated shingle

Coastal shingle can occur in a number of geomorphological forms. In Suffolk two main types are found – embayment beach ridge plains represented by Thorpeness and Kessingland where a series of relict storm beach ridges and an active shore system partly or wholly infills a former embayment; and barrier spits where a single spit made up of relict storm ridges and a shore system lies parallel to the open coast, partially blocking a harbour and

estuary, such as at Orford Ness. Loosely barriers can be categorised as having a landward sloping, backshore component and beaches an absence of rear landward slopes.

Shingle deposits are principally made up of coarse clastic sediments and can be defined (Udden-Wentworth) as sediment with particle sizes in the range of 2 to 200 mm, i.e. between that of boulders and sand. All shingle beaches consist of a mixture of these particle sizes, some being well sorted, some poorly sorted. In terms of particle size, shingle beaches can be classified into three types – those composed entirely of gravel (Orford Ness); those with the upper foreshore composed of gravel and the lower foreshore of sand separated with a marked break of slope (Thorpeness); and those where there is no clear spatial separation between gravel and sand (Sizewell, Dunwich).

Shingle beaches form on wave dominated shorelines where suitably sized material is available and where there is an occurrence of a high wave energy environment. However most of these beaches are within reach of storm waves so vegetation is restricted to temporary and strandline communities. Of the classic communities which develop out of reach of the normal tide there are only between 4000 ha and 5000 ha in Britain. Over half of this occurs on two sites – Orford Ness and Dungeness.

Colonisation of shingle is dependant on three main factors – degree of disturbance and mobility of shingle due to factors such as wave action; presence or absence of fines in the shingle matrix; and the availability of moisture.

Appendix 2: Species lists

Bap Priority Species

Scientific name

Aceras anthropophorum
Alauda arvensis
Anisus vorticulus
Arabis glabra
Arvicola terrestris
Austropotamobius pallipes
Barbastella barbastellus
Battarraea phalloides
Botaurus stellaris
Buellia asterella
Bufo calamita
Buglossoporus pulvinus/ quercinus
Burhinus oedicephalus
Callicera spinolae
Caloplaca luteoalba
Caprimulgus europaeus
Carduelis cannabina
Centaurea cyanus
Cerceris quinquefasciata
Clubiona rosserae
Cryptocephalus exiguus
Emberiza schoeniclus
Euroleon nostras
Filago lutescens
Idaea ochrata
Lepus capensis
Lucanus cervus
Lullula arborea
Lutra lutra
Miliaria calandra
Muscardinus avellanarius
Muscicapa striata
Nematostella vectensis
Neomys fodiens
Passer montanus
Perdix perdix
Phocoena phocoena
Pilularia globulifera
Pipistrellus pipistrellus
Plebejus argus
Populus nigra subsp. betulifolia
Pseudanodonta complanata
Pulmonaria obscura
Pyrrhula pyrrhula
Rhinolophus hipposideros
Scandix pecten-veneris
Sciurus vulgaris
Segmentina nitida
Silene gallica

Common name

Man Orchid
 Skylark
 Ramshorn snail
 Tower mustard
 Water vole
 White-clawed crayfish
 Barbastelle bat
 Sandy stiltball
 Bittern
 Starry Breck-lichen
 Natterjack toad
 Oak polypore
 Stone curlew
 Golden Hoverer
 Orange-fruited elm-lichen
 Nightjar
 Linnet
 Cornflower
 a solitary wasp
 a spider
 a leaf beetle
 Reed bunting
 Ant-lion
 Red-tipped cudweed
 Bright wave
 Brown hare
 Stag beetle
 Woodlark
 Otter
 Corn bunting
 Dormouse
 Spotted flycatcher
 Starlet sea anemone
 Water Shrew
 Tree sparrow
 Grey partridge
 Harbour porpoise
 Pillwort
 Pipistrelle bat
 Silver-studded blue
 Native Black Poplar
 Depressed river mussel
 Unspotted/Suffolk Lungwort
 Bullfinch
 Lesser horseshoe bat
 Sheperd's needle
 Red squirrel
 Shining ram's-horn snail
 Small-flowered catchfly

County Wildlife Site Selection Criteria

Sium latifolium
 Sterna albifrons
 Streptopelia turtur
 Tolypella intricata
 Torilis arvensis
 Triturus cristatus
 Turdus philomelos
 Tyto alba
 Vertigo angustior
 Vertigo moulinsiana
 Vipera berus

Greater water-parsnip
 Little Tern
 Turtle dove
 Tassel stonewort
 Spreading hedge-parsley
 Great crested newt
 Song thrush
 Barn Owl
 Narrow-mouthed whorl snail
 Desmoulin's whorl snail
 Adder

Plant lists

RDB1	
Artemisia campestris L.	Field Mugwort
Scleranthus perennis ssp. prostratus Sell	Perennial Knawel
Veronica praecox All.	Breckland Speedwell
Veronica triphyllos L.	Fingered Speedwell
RDB2	
Chenopodium vulvaria L.	Stinking Goosefoot
Dryopteris cristata (L.) A.Gray	Crested Buckler-fern
Filago lutescens Jordan	Red-tipped Cudweed
Herniaria glabra L.	Smooth Rupture-wort
Himantoglossum hircinum (L.) Sprengel	Lizard Orchid
Muscari neglectum Guss. ex Ten.	Grape-hyacinth
Ophrys sphegodes Miller	Early Spider-orchid
Orchis militaris L.	Soldier Orchid
Orobanche purpurea Jacq.	Yarrow Broomrape
Teucrium scordium L.	Water Germander
Veronica spicata ssp. spicata	Breckland Spiked Speedwell
Veronica verna L.	Spring Speedwell
RDB3	
Anisantha tectorum (L.) Nevski	Drooping Brome
Festuca longifolia Thuill.	Blue Fescue
Hypochaeris maculata L.	Spotted Cat's-ear
Peucedanum officinale L.	Hog's Fennel
Phleum phleoides (L.) Kartsen	Purple-stem Cat' s-tail
Poa infirma	Early Meadow-grass
Silene otites (L.) Wibel	Spanish Catchfly
Thymus serpyllum L.	Breckland Thyme
pRDB3	
Calamagrostis stricta (Tinirn) Koeler	Narrow Small-reed
Chenopodium chenopodioides (L.) Aellen	Saltmarsh Goosefoot
Corynephorus canescens (L.) P.Beauv.	Grey Hair-grass
Pulmonaria obscura Dumort.	Unspotted Lungwort

Nationally Scarce

<i>Aceras anthropophorum</i> (L.) Aiton	Man Orchid
<i>Ajuga chamaepitys</i> (L.) Schreber	Ground-pine
<i>Alopecurus bulbosus</i> Gouan	Bulbous Foxtail
<i>Althaea officinalis</i> L.	Marsh-mallow
<i>Apera spica-venti</i> (L.) P.Beauv.	Loose Silky-bent
<i>Arabis glabra</i> (L.) Bernh.	Tower Mustard
<i>Bupleurum tenuissimum</i> L.	Slender Hare's-ear
<i>Carex appropinquata</i> Schum.	Fibrous Tussock-sedge
<i>Carex divisa</i> Hudson	Divided Sedge
<i>Carex elongata</i> L.	Elongated Sedge
<i>Carex ericetorum</i> Pollich	Rare Spring-sedge
<i>Centaurea cyanus</i> L.	Cornflower
<i>Ceratophyllum submersum</i> L.	Soft Hornwort
<i>Cicuta virosa</i> L.	Cowbane
<i>Clinopodium calamintha</i> (L.) Stace	Lesser Calamint
<i>Crassula tillaea</i> Lester-Garl.	Mossy Stonecrop
<i>Cuscuta europaea</i> L.	Greater Dodder
<i>Dactylorhiza traunsteineri</i> (Sauter exReichb.) Soo	Narrow-leaved Marsh-orchid
<i>Daphne mezereum</i> L.	Mezereon
<i>Dianthus deltoides</i> L.	Maiden Pink
<i>Epipactis phyllanthes</i> G.E.Smith	Green-flowered Helleborine
<i>Euphrasia pseudokernerii</i> Pugsley	an eyebright
<i>Festuca arenaria</i> Osbeck	Rush-leaved Fescue
<i>Frankenia laevis</i> L.	Sea-heath
<i>Fritillaria meleagris</i> L.	Fritillary
<i>Fumaria densiflora</i> DC.	Dense-flowered Fumitory
<i>Fumaria parviflora</i> Lam.	Fine-leaved Fumitory
<i>Fumaria vaillantii</i> Lois.	Few-flowered Fumitory
<i>Galium parisiense</i> L.	Wall Bedstraw
<i>Gymnocarpium robertianum</i> (Hoffm.) Newman	Limestone Fern
<i>Helleborus foetidus</i> L.	Stinking Hellebore
<i>Hordelymus europaeus</i> (L.) Jessen	Wood Barley
<i>Hordeum marinum</i> Hudson	Sea Barley
<i>Hypochaeris glabra</i> L.	Smooth Cat's-ear
<i>Inula crithmoides</i> L.	Golden-Samphire
<i>Lathyrus aphaca</i> L.	Yellow Vetchling
<i>Lathyrus japonicus</i> Willd.	Sea Pea
<i>Lathyrus palustris</i> L.	Marsh Pea
<i>Lepidium latifolium</i> L.	Dittander
<i>Limonium humile</i> Miller	Lax-flowered Sea-lavender
<i>Linum perenne</i> L.	Perennial Flax
<i>Marrubium vulgare</i> L.	White Horehound
<i>Medicago minima</i> (L.) L.	Bur Medick
<i>Medicago polymorpha</i> L.	Toothed Medick
<i>Medicago sativa</i> ssp. <i>falcata</i> (L.) Arcang.	Sickle Medick
<i>Melampyrum cristatum</i> L.	Crested Cow-wheat
<i>Minuartia hybrida</i> (Villars) Schischkln	Fine-leaved Sandwort
<i>Myriophyllum verticillatum</i> L.	Whorled Water-milfoil
<i>Orobanche rapum-genistae</i> Thuill.	Greater Broomrape
<i>Parapholis incurva</i> (L.) C.E.Hubb.	Curved Hard Grass
<i>Persicaria laxiflora</i> (Weihe) Opiz	Tasteless Water-pepper
<i>Peucedanum palustre</i> (L.) Moench	Milk Parsley
<i>Pilularia globulifera</i> L.	Pillwort
<i>Poa bulbosa</i> L.	Bulbous Meadow-grass

County Wildlife Site Selection Criteria

Polygonum oxyspermum Meyer & Bunge ex Ledeb.
Potamogeton coloratus Hornem.
Potamogeton compressus L.
Potamogeton trichoides Cham. & Schldl.
Primula elatior (L.) Hill
Puccinellia fasciculata (Torrey) E.Bickn.
Puccinellia rupestris (With.) Fern. & Weath.
Ruppia cirrhosa (Petagna) Grande
Sarcocornia perennis (Miller) A.J Scott
Scandix pecten-veneris L.
Silene conica L.
Silene gallica L.
Sium latifolium L.
Sonchus palustris L.
Spartina maritima (Curtis) Fern.
Stratiotes abides L.
Suaeda vera Forsskaol ex J.Gmelin
Thelypteris palustris Schott
Thesium humifusum DC.
Torilis arvensis (Hudson) Link
Trifolium glomeratum L.
Trifolium ochroleucon Hudson
Trifolium squamosum L.
Trifolium suffocatum L.
Ulmus plotii Druce
Verbascum pulverulentum Villars
Vicia bithynica (L.) L.
Vicia lutea L.
Vicia parviflora Cav.
Vulpia ciliata ssp. *ambigua* (Le Gall) Stace & Auq.
Vulpia fasciculata (Forsskaol) Fritsch
Vulpia unilateralis (L.) Stace
Zostera angustifolia (Hornem.) Reichh.
Zostera marina L.
Zostera noltii Hornem.

Ray's Knotgrass
Fen Pondweed
Grass-wrack Pondweed
Hairlike Pondweed
Oxlip
Borrer's Saltmarsh-grass
Stiff Saltmarsh-grass
Spiral Tasselweed
Perennial Glasswort
Shepherd' s-needle
Sand Catchfly
Small-flowered Catchfly
Great Water-parsnip
Marsh Sow-thistle
Small Cord-grass
Water-soldier
Shrubby Seablite
Marsh Fern
Bastard-toadflax
Spreading Hedge-parsley
Clustered Clover
Sulphur Clover
Sea Clover
Suffocated Clover
Plot's Elm
Hoary Mullein
Bithynian Vetch
Yellow Vetch
Slender Tare
Purple Fescue
Dune Fescue
Mat-grass Fescue
Narrow-leaved Eelgrass
Eelgrass
Dwarf Eelgrass

Suffolk Rarities

Achillea ptarmica L.
Alchemilla filicaulis ssp. *vestita* (Buser) Bradshaw
Alisma lanceolatum With.
Allium oleraceum L.
Alopecurus aequalis Sobol.
Anagallis minima (L.) E.H.Krause
Anagallis tenella (L.) L.
Apium inundatum (L.) H.G.Reichb.
Asperula cynanchica L.
Astragalus danicus Retz.
Baldellia ranunculoides (L.) Parl.
Berberis vulgaris L.
Blackstonia perfoliata (L.) Hudson
Blechnum spicant (L.) Roth
Blysmus compressus (L.) Panzer ex Link
Botrychium lunaria (L.) Sw.
Brachypodium pinnatum (L.) P.Beauv.
Butomus umbellatus L.
Calystegia soldanella (L.) R.Br.

Sneezewort
Lady's Mantle
Narrow-leaved Water-plantain
Field Garlic
Orange Foxtail
Chaffweed
Bog Pimpernel
Lesser Marshwort
Squinancywort
Purple Milk-vetch
Lesser Water-plantain
Barberry
Yellow-wort
Hard Fern
Flat-sedge
Moonwort
Tor-grass
Flowering Rush
Sea Bindweed

<i>Campanula glomerata</i> L.	Clustered Bellflower
<i>Campanula latifolia</i> L.	Giant Bellflower
<i>Carex acuta</i> L.	Slender Tufted-sedge
<i>Carex binervis</i>	Smith Green-ribbed Sedge
<i>Carex curta</i> Gooden.	White Sedge
<i>Carex diandra</i> Schiank	Lesser Tussock-sedge
<i>Carex echinata</i> Murray	Star Sedge
<i>Carex elata</i> All.	Tufted Sedge
<i>Carex extensa</i> Gooden.	Long-bracted Sedge
<i>Carex hostiana</i> DC.	Tawny Sedge
<i>Carex lasiocarpa</i> Ehrh.	Slender Sedge
<i>Carex pulicaris</i> L.	Flea Sedge
<i>Carex rostrata</i> Stokes	Bottle Sedge
<i>Carex strigosa</i> Hudson	Thin-spiked Wood-sedge
<i>Carex vesicaria</i> L.	Bladder-sedge
<i>Carex viridula</i> ssp. <i>brachyrrhyncha</i> (Celak.) B.Schmid	Long-stalked Yellow Sedge
<i>Carex viridula</i> ssp. <i>oedocarpa</i> (Andersson) B.Schmid	Common Yellow Sedge
<i>Carex viridula</i> ssp. <i>viridula</i> Merat	Small-fruited Yellow Sedge
<i>Centaureum pulchellum</i> (Sw.) Druce	Lesser Centaury
<i>Ceterach officinarum</i> DC.	Rustyback
<i>Cirsium dissectum</i> (L.) Hill	Meadow Thistle
<i>Cirsium eriophorum</i> (L.) Scop.	Woolly Thistle
<i>Cladium mariscus</i> (L.) Pohl	Great Fen-sedge
<i>Coeloglossum viride</i> (L.) Hartman	Frog Orchid
<i>Colchicum autumnale</i> L.	Meadow Saffron
<i>Convallaria majalis</i> L.	Lily of the Valley
<i>Crambe maritima</i> L.	Sea-kale
<i>Crepis biennis</i> L.	Rough Hawk's-beard
<i>Crithmum maritimum</i> L.	Rock Samphire
<i>Cuscuta epithymum</i> (L.) L.	Dodder
<i>Dactylorhiza incarnata</i> (L.) Soo	Early Marsh-orchid
<i>Dactylorhiza incarnata</i> ssp. <i>ochroleuca</i> (Boll) P.Hunt &	Cream-flowered Early Marsh Orchid
<i>Danthonia decumbens</i> (L.) DC.	Heath-grass
<i>Drosera rotundifolia</i> L.	Round-leaved Sundew
<i>Eleocharis uniglumis</i> (Link) Schultes	Slender Spike-rush
<i>Eleogiton fluitans</i> (L.) Link	Floating Club-rush
<i>Epilobium palustre</i> L.	Marsh Willowherb
<i>Epipactis helleborine</i> (L.) Crantz	Broad-leaved Helleborine
<i>Epipactis palustris</i> (L.) Crantz.	Marsh Helleborine
<i>Epipactis purpurata</i> Smith	Violet Helleborine
<i>Erica tetralix</i> L.	Cross-leaved Heath
<i>Eriophorum angustifolium</i> Honek.	Common Cottongrass
<i>Eryngium maritimum</i> L.	Sea Holly
<i>Euphorbia paralias</i> L.	Sea Spurge
<i>Filipendula vulgaris</i> Moench	Dropwort
<i>Fumaria muralis</i> ssp. <i>boraei</i> (Jordan) Pugsley	Few-flowered Fumitory
<i>Gagea lutea</i> (L.) Ker Gawler	Yellow Star-of-Bethlehem
<i>Galium odoratum</i> (L.) Scop.	Woodruff
<i>Genista anglica</i> L.	Petty Whin
<i>Genista tinctoria</i> L.	Dyer's Green weed
<i>Gentianella amarella</i> (L.) Boerner	Autumn Gentian
<i>Geranium columbinum</i> L.	Long-stalked Crane' s-bill
<i>Geranium sanguineum</i> L.	Bloody Crane's-bill
<i>Gnaphalium sylvaticum</i> L.	Heath Cudweed
<i>Gymnadenia conopsea</i> ssp. <i>densiflora</i> (Wahlenb.) Camus, Bergon	Marsh Fragrant Orchid

County Wildlife Site Selection Criteria

Helianthemum nummularium (L.) Miller
Helleborus viridis L.
Hippocrepis comosa L.
Hypericum elodes L.
Hypericum maculatum ssp. obtusiusculum (Tourlet) Hayek
Isolepis setacea (L.) R.Br.
Juncus compressus Jacq.
Juncus squarrosus L.
Lathraea squamaria L.
Lathyrus hirsutus L.
Limonium binervosum agg. G.E.Sm.
Linum bienne Miller
Lithospermum officinale L.
Luzula forsteri (Smith) DC.
Luzula sylvatica (Hudson) Gaudin
Lythrum portula (L.) D.Webb
Melampyrum pratense L.
Menyanthes trifoliata L.
Moenchia erecta (L.) Gaertner, Meyer & Scherb.
Monotropa hypopitys L.
Myosurus minimus L.
Myrica gale L.
Narcissus pseudonarcissus ssp. pseudonarcissus L.
Neottia nidus-avis (L.) Rich.
Oenanthe aquatica (L.) Poiret
Oenanthe crocata L.
Oenanthe fluviatilis (Bab.) Coleman
Oenanthe pimpinelloides L.
Ophrys insectifera L.
Orchis mono L.
Oreopteris limbosperma (Bellardi ex All.) Holub
Osmunda regalis L.
Papaver hybridum L.
Parnassia palustris L.
Pedicularis palustris L.
Pedicularis sylvatica L.
Persicaria bistorta (L.) Samp.
Persicaria minor (Hudson) Opiz
Petroselinum segetum (L.) Koch
Pimpinella major (L.) Hudson
Pinguicula vulgaris L.
Platanthera chlorantha (Custer) Reichb.
Polygala serpyllifolia
Polygala vulgaris L.
Polygonatum multiflorum (L.) All.
Polygonum rurivagum Jordan ex Boreau
Populus nigra ssp. betulifolia (Pursh) W.Wett-t.
Potamogeton alpinus Balbis
Potamogeton berchtoldii Fieber
Potamogeton friesii Rupr.
Potamogeton gramineus L.
Potamogeton obtusifolius Mert. & Koch
Potamogeton perfoliatus L.
Potamogeton polygonifolius Pourret
Potamogeton praelongus Wulfen
Common Rock-rose
Green Hellebore
Horseshoe Vetch
Marsh St. John's-wort
Imperforate St. John's-wort
Bristle Club-rush
Round-fruited Rush
Heath Rush
Toothwort
Hairy Vetchling
Rock Sea Lavender agg.
Pale Flax
Common Gromwell
Southern Wood-rush
Great Wood-rush
Water Purslane
Common Cow-wheat
Bogbean
Upright Chickweed
Yellow Bird's-nest
Mousetail
Bog Myrtle
Daffodil
Bird's-nest Orchid
Fine-leaved Water-dropwort
Hemiock Water-dropwort
River Water-dropwort
Corky-fruited Water-dropwort
Fly Orchid
Green-winged Orchid
Lemon-scented Fern
Royal Fern
Rough Poppy
Grass of Parnassus
Marsh Lousewort
Lousewort
Common Bistort
Small Water-pepper
Corn Parsley
Greater Burnet-saxifrage
Common Butterwort
Greater Butterfly-orchid
Hose Heath Milkwort
Common Milkwort
Solomon's-seal
Cornfield Knotgrass
Black Poplar
Red Pondweed
Small Pondweed
Flat-stalked Pondweed
Various-leaved Pondweed
Blunt-leaved Pondweed
Perfoliate Pondweed
Bog Pondweed
Long-stalked Pondweed

Potamogeton pusillus L.	Lesser Pondweed
Potentilla palustris (L.) Scop.	Marsh Cinquefoil
Ranunculus arvensis L.	Corn Buttercup
Ranunculus baudotii Godron	Brackish Water-crowfoot
Ranunculus lingua L.	Greater Spearwort
Ranunculus parviflorus L.	Small-flowered Buttercup
Rumex maritimus L.	Golden Dock
Rumex palustris Smith	Marsh Dock
Ruppia maritima L.	Beaked Tasselweed
Salix myrsinifolia Salisb.	Dark-leaved Willow
Salix repens L.	Creeping Willow
Samolus valerandi L.	Brookweed
Sanguisorba officinalis L.	Great Burnet
Scabiosa columbaria L.	Small Scabious
Schoenus nigricans L.	Black Bog-rush
Scirpus sylvaticus L.	Wood Club-rush
Sedum anglicum Hudson	English Stonecrop
Sorbus torminalis (L.) Crantz	Wild Service-tree
Spiranthes spiralis (L.) Chevall	Autumn Lady's-tresses
Stachys officinalis (L.) Trev.St.Leon.	Betony
Stellaria palustris Retz	Marsh Stitchwort
Thalictrum minus ssp. minus L.	Lesser Meadow Rue
Trichophorum cespitosum (L.) Hartman	Deergrass
Trifolium ornithopodioides L.	Bird's-foot clover
Tulipa sylvestris L.	Wild Tulip
Ulex minor Roth	Dwarf Gorse
Umbilicus rupestris (Salisb.) Dandy	Navel wort
Utricularia vulgaris L.	Greater Bladderwort
Valerianella dentata (L.) Pollich	Narrow-fruited Cornsalad
Veronica scutellata L.	Marsh Speedwell
Viola palustris L.	Marsh Violet
Viola tricolor ssp. curtisii (E.Forster) Syme	Breckland pansy

Appendix 3: Habitat related species

Coastlands and maritime

Main species

<i>Althaea officinalis</i>	Marsh-mallow
<i>Ammophila arenaria</i>	Marram
<i>Apium graveolens</i>	Wild Celery
<i>Armeria maritima</i>	Thrift
<i>Atriplex glabriuscula</i>	Babington's Orache
<i>Atriplex littoralis</i>	Grass-leaved Orache
<i>Atriplex portulacoides</i>	Sea Purslane
<i>Atriplex prostrata</i>	Spear-leaved Orache
<i>Cakile maritima</i>	Sea Rocket
<i>Calystegia soldanella</i>	Sea Bindweed
<i>Cochlearia anglica</i>	English Scurvygrass
<i>Cochlearia danica</i>	Danish Scurvygrass
<i>Crambe maritima</i>	Sea-kale
<i>Euphorbia paralias</i>	Sea Spurge
<i>Glaucium flavum</i>	Yellow Horned Poppy
<i>Glaux maritima</i>	Sea-milkwort
<i>Honckenya peploides</i>	Sea Sandwort
<i>Juncus maritimus</i>	Sea Rush
<i>Lathyrus japonicus</i>	Sea Pea
<i>Lepidium latifolium</i>	Dittander
<i>Limonium vulgare</i>	Common Sea-lavender
<i>Parapholis incurva</i>	Curved Hard Grass
<i>Plantago maritima</i>	Sea Plantain
<i>Puccinellia distans</i>	Reflexed Saltmarsh-grass
<i>Puccinellia fasciculata</i>	Borrer's Saltmarsh-grass
<i>Puccinellia rupestris</i>	Stiff Saltmarsh-grass
<i>Salicornia europaea</i> agg.	a glasswort
<i>Sarcocornia perennis</i>	Perennial Glasswort
<i>Sedum anglicum</i>	English Stonecrop
<i>Seriphidium maritimum</i>	Sea Wormwood
<i>Silene uniflora</i>	Sea Champion
<i>Sonchus palustris</i>	Marsh Sow-thistle
<i>Spartina maritima</i>	Small Cord-grass
<i>Spergularia marina</i>	Lesser Sea-spurrey
<i>Spergularia media</i>	Greater Sea-spurrey
<i>Suaeda maritima</i>	Annual Sea-blite
<i>Triglochin maritimum</i>	Sea Arrowgrass
<i>Vicia lutea</i>	Yellow Vetch
<i>Zostera angustifolia</i>	Narrow-leaved Eelgrass
<i>Zostera marina</i>	Eelgrass
<i>Zostera noltii</i>	Dwarf Eelgrass

Scarce species

<i>Atriplex laciniata</i>	Frosted Orache
<i>Carex extensa</i>	Long-bracted Sedge
<i>Cerastium diffusum</i>	Dark-green Mouse-ear
<i>Crithmum maritimum</i>	Rock Samphire
<i>Eryngium maritimum</i>	Sea Holly
<i>Frankenia laevis</i>	Sea-heath
<i>Inula crithmoides</i>	Golden-samphire
<i>Limonium humile</i>	Lax-flowered Sea-lavender
<i>Moenchia erecta</i>	Upright Chickweed
<i>Parapholis strigosa</i>	Hard Grass
<i>Polygonum oxyspermum</i>	Ray's Knotgrass
<i>Raphanus raphanistrum</i> subsp. <i>maritimus</i>	Sea Radish
<i>Ruppia cirrhosa</i>	Spiral Tasselweed
<i>Ruppia maritima</i>	Beaked Tasselweed
<i>Sagina maritima</i>	Sea Pearlwort
<i>Suaeda vera</i>	Shrubby Seablite
<i>Vulpia fasciculata</i>	Dune Fescue

Cultivated/disturbed ground

Main species

<i>Apera spica-venti</i>	Loose Silky-bent
<i>Cerastium arvense</i>	Field Mouse-ear
<i>Cerastium glomeratum</i>	Sticky Mouse-ear
<i>Chaenorhinum minus</i>	Small Toadflax
<i>Chrysanthemum segetum</i>	Corn Marigold
<i>Euphorbia exigua</i>	Dwarf Spurge
<i>Fumaria muralis</i> subsp. <i>boraei</i>	Few-flowered Fumitory
<i>Kickxia elatine</i>	Sharp-leaved Fluellen
<i>Kickxia spuria</i>	Round-leaved Fluellen
<i>Lamium hybridum</i>	Cut-leaved Dead-nettle
<i>Legousia hybrida</i>	Venus's-looking-glass
<i>Lepidium heterophyllum</i>	Smith's Pepperwort
<i>Lepidium rudemale</i>	Narrow-leaved Pepperwort
<i>Minuartia hybrida</i>	Fine-leaved Sandwort
<i>Misopates orontium</i>	Weasel's-snout
<i>Papaver argemone</i>	Prickly Poppy
<i>Papaver dubium</i> subsp. <i>lecoqii</i>	Yellow-juiced Poppy
<i>Papaver hybridum</i>	Rough Poppy
<i>Scandix pecten-veneris</i>	Shepherd's-needle
<i>Sherardia arvensis</i>	Field Madder
<i>Silene noctiflora</i>	Night-flowering Catchfly
<i>Stachys arvensis</i>	Field Woundwort
<i>Viola tricolor</i>	Wild Pansy

Scarce species

<i>Alyssum alyssoides</i>	Small Alison
<i>Anisantha tectorum</i>	Drooping Brome
<i>Anthemis arvensis</i>	Corn Chamomile
<i>Apera interrupta</i>	Dense Silky-bent
<i>Centaurea cyanus</i>	Cornflower
<i>Filago lutescens</i>	Red-tipped Cudweed
<i>Fumaria bastardii</i>	Tall Ramping-fumitory
<i>Fumaria densiflora</i>	Dense-flowered Fumitory
<i>Fumaria parviflora</i>	Fine-leaved Fumitory
<i>Fumaria vaillantii</i>	Few-flowered Fumitory
<i>Lithospermum arvense</i>	Field Gromwell
<i>Myosurus minimus</i>	Mousetail
<i>Petroselinum segetum</i>	Corn Parsley
<i>Polygonum rurivagum</i>	Cornfield Knotgrass
<i>Ranunculus arvensis</i>	Corn Buttercup
<i>Ranunculus parviflorus</i>	Small-flowered Buttercup
<i>Silene conica</i>	Sand Catchfly
<i>Silene gallica</i>	Small-flowered Catchfly
<i>Torilis arvensis</i>	Spreading Hedge-parsley
<i>Valerianella dentata</i>	Narrow-fruited Cornsalad
<i>Veronica agrestis</i>	Green Field-speedwell
<i>Veronica polita</i>	Grey Field-speedwell
<i>Veronica praecox</i>	Breckland Speedwell
<i>Veronica triphyllos</i>	Fingered Speedwell
<i>Veronica verna</i>	Spring Speedwell
<i>Viola tricolor</i> subsp. <i>curtisii</i>	Seaside Pansy

Fens

Main species

<i>Anagallis tenella</i>	Bog Pimpernel
<i>Carex elata</i>	Tufted Sedge
<i>Carex hostiana</i>	Tawny Sedge
<i>Carex paniculata</i>	Greater Tussock-sedge
<i>Cladium mariscus</i>	Great Fen-sedge
<i>Galium uliginosum</i>	Fen Bedstraw
<i>Juncus subnodulosus</i>	Blunt-flowered Rush
<i>Samolus valerandi</i>	Brookweed
<i>Schoenus nigricans</i>	Black Bog-rush
<i>Valeriana dioica</i>	Marsh Valerian

Scarce species

<i>Blysmus compressus</i>	Flat-sedge
<i>Carex flava</i> agg. <i>a</i> sedge	
<i>Carex pulcaris</i>	Flea Sedge
<i>Carex viridula</i> subsp. <i>brachyrrhyncha</i>	Long-stalked Yellow Sedge
<i>Carex viridula</i> subsp. <i>oedocarpa</i>	Common Yellow Sedge
<i>Epipactis palustris</i>	Marsh Helleborine
<i>Eriophorum angustifolium</i>	Common Cottongrass
<i>Gymnadenia conopsea</i> subsp. <i>densiflora</i>	Fragrant orchid
<i>Menyanthes trifoliata</i>	Bogbean
<i>Myrica gale</i>	Bog Myrtle
<i>Parnassia palustris</i>	Grass of Parnassus
<i>Pedicularis palustris</i>	Marsh Lousewort
<i>Pedicularis sylvatica</i>	Lousewort
<i>Pinguicula vulgaris</i>	Common Butterwort
<i>Salix repens</i>	Creeping Willow

Tall herb & fern

Main species

<i>Filipendula ulmaria</i>	Meadowsweet
<i>Lotus pedunculatus</i>	Large Bird's-foot-trefoil
<i>Lysimachia vulgaris</i>	Yellow Loosestrife
<i>Thalictrum flavum</i>	Common Meadow-rue
<i>Valeriana officinalis</i>	Common Valerian
<i>Vicia cracca</i>	Tufted Vetch

Scarce species

<i>Achillea ptarmica</i>	Sneezewort
<i>Cirsium dissectum</i>	Meadow Thistle
<i>Lathyrus palustris</i>	Marsh Pea
<i>Osmunda regalis</i>	Royal Fern
<i>Sanguisorba officinalis</i>	Great Burnet

Mire/bog

Main species

<i>Juncus acutiflorus</i>	Sharp-flowered Rush
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Scarce species

<i>Drosera rotundifolia</i>	Round-leaved Sundew
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Heathland

Main species

<i>Aira caryophylla</i>	Silver Hair-grass
<i>Aira praecox</i>	Early Hair-grass
<i>Calluna vulgaris</i>	Heather
<i>Campanula rotundifolia</i>	Harebell
<i>Carex arenaria</i>	Sand Sedge
<i>Carex pilulifera</i>	Pill Sedge
<i>Ceratocarpus claviculata</i>	Climbing Corydalis
<i>Crassula tillaea</i>	Mossy Stonecrop
<i>Cynoglossum officinale</i>	Hound's-tongue
<i>Erica cinerea</i>	Bell Heather
<i>Erigeron acer</i>	Blue Fleabane
<i>Filago minima</i>	Small Cudweed
<i>Galium saxatile</i>	Heath Bedstraw
<i>Hypericum humifusum</i>	Trailing St. John's-wort
<i>Hypericum pulchrum</i>	Slender St. John's-wort
<i>Hypochaeris glabra</i>	Smooth Cat's-ear
<i>Jasione montana</i>	Sheep's-bit
<i>Marrubium vulgare</i>	White Horehound
<i>Medicago minima</i>	Bur Medick
<i>Molinia caerulea</i>	Purple Moor-grass
<i>Myosotis discolor</i>	Changing Forget-me-not
<i>Myosotis ramosissima</i>	Early Forget-me-not
<i>Ornithopus perpusillus</i>	Bird's-foot
<i>Polygala serpyllifolia</i>	Heath Milkwort
<i>Potentilla argentea</i>	Hoary Cinquefoil
<i>Senecio sylvaticus</i>	Heath Groundsel
<i>Solidago virgaurea</i>	Goldenrod
<i>Spergularia rubra</i>	Sand Spurrey
<i>Teesdalia nudicaulis</i>	Shepherd's Cress
<i>Teucrium scorodonia</i>	Wood Sage
<i>Ulex gallii</i>	Western Gorse
<i>Veronica officinalis</i>	Heath Speedwell
<i>Vicia lathyroides</i>	Spring Vetch
<i>Viola canina</i>	Heath Dog-violet

Scarce species

<i>Carex ericetorum</i>	Rare Spring-sedge
<i>Dactylorhiza maculata</i> subsp. <i>ericetorum</i>	Heath spotted-orchid
<i>Danthonia decumbens</i>	Heath-grass
<i>Dianthus deltoides</i>	Maiden Pink
<i>Erica tetralix</i>	Cross-leaved Heath
<i>Festuca filiformis</i>	Fine-leaved Sheep's-fescue
<i>Festuca longifolia</i>	Blue Fescue
<i>Genista anglica</i>	Petty Whin
<i>Gnaphalium sylvaticum</i>	Heath Cudweed
<i>Hypericum elodes</i>	Marsh St John's-wort
<i>Isolepis setacea</i>	Bristle Club-rush
<i>Juncus squarrosus</i>	Heath Rush
<i>Thelypteris palustris</i>	Marsh Fern
<i>Thymus serpyllum</i>	Breckland Thyme

Open water

Main species

<i>Butomus umbellatus</i>	Flowering Rush
<i>Ceratophyllum demersum</i>	Rigid Hornwort
<i>Ceratophyllum submersum</i>	Soft Hornwort
<i>Hottonia palustris</i>	Water-violet
<i>Hydrocharis morsus-ranae</i>	Frogbit
<i>Myriophyllum spicatum</i>	Spiked Water-milfoil
<i>Myriophyllum verticillatum</i>	Whorled Water-milfoil
<i>Nuphar lutea</i>	Yellow Water-lily
<i>Potamogeton lucens</i>	Shining Pondweed
<i>Potamogeton natans</i>	Broad-leaved Pondweed
<i>Ranunculus sp.</i>	Crowfoots (species required)
<i>Rumex hydrolapathum</i>	Water Dock
<i>Rumex palustris</i>	Marsh Dock
<i>Sagittaria sagittifolia</i>	Arrowhead
<i>Schoenoplectus lacustris</i>	Common Club-rush
<i>Schoenoplectus tabernaemontani</i>	Grey Club-rush
<i>Utricularia vulgaris</i>	Greater Bladderwort
<i>Zannichellia palustris</i>	Horned Pondweed

Scarce species

<i>Alisma lanceolatum</i>	Narrow-leaved Water-plantain
<i>Apium inundatum</i>	Lesser Marshwort
<i>Nymphoides peltata</i>	Fringed Water-lily
<i>Potamogeton sp.</i>	Pondweeds (species required)
<i>Oenanthe fluviatilis</i>	River Water-dropwort
<i>Stratiotes aloides</i>	Water-soldier

Swamp, marginal and waterside

Main species

<i>Bidens cernua</i>	Nodding Bur-marigold
<i>Bidens tripartita</i>	Trifid Bur-marigold
<i>Caltha palustris</i>	Marsh Marigold
<i>Cardamine amara</i>	Large Bitter-cress
<i>Catabrosa aquatica</i>	Whorl-grass
<i>Epilobium palustre</i>	Marsh Willowherb
<i>Equisetum telmateia</i>	Great Horsetail
<i>Hippuris vulgaris</i>	Mare's-tail
<i>Hydrocotyle vulgaris</i>	Marsh Pennywort
<i>Iris pseudacorus</i>	Yellow Iris
<i>Lythrum salicaria</i>	Purple-loosestrife
<i>Myosotis laxa</i>	Tufted Forget-me-not
<i>Myosotis scorpioides</i>	Water Forget-me-not
<i>Myosoton aquaticum</i>	Water Chickweed
<i>Oenanthe aquatica</i>	Fine-leaved Water-dropwort
<i>Oenanthe fistulosa</i>	Tubular Water-dropwort
<i>Oenanthe lachenalii</i>	Parsley Water-dropwort
<i>Phragmites australis</i>	Common Reed
<i>Rorippa amphibia</i>	Greater Yellow-cress
<i>Rorippa sylvestris</i>	Creeping Yellow-cress
<i>Sagina nodosa</i>	Knotted Pearlwort
<i>Scrophularia auriculata</i>	Water Figwort
<i>Scutellaria galericulata</i>	Skullcap
<i>Stachys palustris</i>	Marsh Woundwort
<i>Stellaria uliginosa</i>	Bog Stitchwort
<i>Veronica anagallis-aquatica</i>	Blue Water-speedwell
<i>Veronica catenata</i>	Pink Water-speedwell
<i>Veronica scutellata</i>	Marsh Speedwell

Scarce species

<i>Apium inundatum</i>	Lesser Marshwort
<i>Cicuta virosa</i>	Cowbane
<i>Juncus compressus</i>	Round-fruited Rush
<i>Oenanthe crocata</i>	Hemlock Water-dropwort
<i>Persicaria laxiflora</i>	Tasteless Water-pepper
<i>Persicaria minor</i>	Small Water-pepper
<i>Peucedanum palustre</i>	Milk Parsley
<i>Potentilla palustris</i>	Marsh Cinquefoil
<i>Rorippa palustris</i>	Marsh Yellow-cress
<i>Sium latifolium</i>	Great Water-parsnip

Woodland

Main species

<i>Adoxa moschatellina</i>	Moschatel	<i>Orchis mascula</i>	Early-purple Orchid
<i>Agrimonia procera</i>	Fragrant Agrimony	<i>Oxalis acetosella</i>	Wood-sorrel
<i>Ajuga reptans</i>	Bugle	<i>Paris quadrifolia</i>	Herb Paris
<i>Allium ursinum</i>	Ramsons	<i>Platanthera chlorantha</i>	Greater Butterfly-orchid
<i>Anemone nemorosa</i>	Wood Anemone	<i>Polypodium vulgare</i> agg.	Polypody
<i>Athyrium filix-femina</i>	Lady Fern	<i>Polystichum aculeatum</i>	Hard Shield-fern
<i>Campanula trachelium</i>	Nettle-leaved Bellflower	<i>Polystichum setiferum</i>	Soft Shield-fern
<i>Carex pallescens</i>	Pale Sedge	<i>Potentilla sterilis</i>	Barren Strawberry
<i>Carex pendula</i>	Pendulous Sedge	<i>Primula elatior</i>	Oxlip
<i>Carex pseudocyperus</i>	Cyperus Sedge	<i>Primula vulgaris</i>	Primrose
<i>Carex sylvatica</i>	Wood-sedge	<i>Prunus avium</i>	Wild Cherry
<i>Carpinus betulus</i>	Hornbeam	<i>Ranunculus auricomus</i>	Goldilocks Buttercup
<i>Chrysosplenium alternifolium</i>	Alternate-leaved Golden Saxifrage	<i>Rhamnus cathartica</i>	Buckthorn
<i>Chrysosplenium oppositifolium</i>	Opposite-leaved Golden Saxifrage	<i>Rosa arvensis</i>	Field Rose
<i>Circaea lutetiana</i>	Enchanter's-nightshade	<i>Ruscus aculeatus</i>	Butcher's-broom
<i>Clematis vitalba</i>	Traveller's Joy	<i>Sanicula europaea</i>	Sanicle
<i>Cornus sanguinea</i>	Dogwood	<i>Sedum telephium</i>	Orpine
<i>Crataegus laevigata</i>	Midland Hawthorn	<i>Sorbus aucuparia</i>	Rowan
<i>Dactylorhiza fuchsii</i>	Common Spotted-orchid	<i>Sorbus torminalis</i>	Wild Service-tree
<i>Daphne laureola</i>	Spurge-laurel	<i>Stachys officinalis</i>	Betony
<i>Dipsacus pilosus</i>	Small Teasel	<i>Stellaria neglecta</i>	Greater Chickweed
<i>Dryopteris carthusiana</i>	Narrow Buckler-fern	<i>Tilia cordata</i>	Small-leaved Lime
<i>Epipactis helleborine</i>	Broad-leaved Helleborine	<i>Veronica montana</i>	Wood Speedwell
<i>Euonymus europaeus</i>	Spindle	<i>Viburnum lantana</i>	Wayfaring-tree
<i>Euphorbia amygdaloides</i>	Wood Spurge	<i>Viburnum opulus</i>	Guelder-rose
<i>Fragaria vesca</i>	Wild Strawberry	<i>Viola reichenbachiana</i>	Early Dog-violet
<i>Frangula alnus</i>	Alder Buckthorn	<i>Viola riviniana</i>	Common Dog-violet
<i>Galium odoratum</i>	Woodruff		
<i>Geum rivale</i>	Water Avens		
<i>Hyacinthoides non-scripta</i>	Bluebell	Scarce species	
<i>Hypericum hirsutum</i>	Hairy St. John's-wort	<i>Blechnum spicant</i>	Hard Fern
<i>Iris foetidissima</i>	Stinking Iris	<i>Campanula latifolia</i>	Giant Bellflower
<i>Lamiaeum galeobdolon</i>	Yellow Archangel	<i>Carex strigosa</i>	Thin-spiked Wood-sedge
<i>Listera ovata</i>	Common Twayblade	<i>Convallaria majalis</i>	Lily of the Valley
<i>Lithospermum officinale</i>	Common Gromwell	<i>Epipactis purpurata</i>	Violet Helleborine
<i>Luzula pilosa</i>	Hairy Wood-rush	<i>Gagea lutea</i>	Yellow Star-of-Bethlehem
<i>Lysimachia nemorum</i>	Yellow Pimpernel	<i>Helleborus viridis</i>	Green Hellebore
<i>Lysimachia nummularia</i>	Creeping-Jenny	<i>Hordelymus europaeus</i>	Wood Barley
<i>Malus sylvestris sens. str.</i>	Crab Apple	<i>Luzula sylvatica</i>	Great Wood-rush
<i>Melica uniflora</i>	Wood Melick	<i>Melampyrum pratense</i>	Common Cow-wheat
<i>Mercurialis perennis</i>	Dog's Mercury	<i>Narcissus pseudonarcissus</i>	Daffodil
<i>Milium effusum</i>	Wood Millet	<i>Neottia nidus-avis</i>	Bird's-nest Orchid
<i>Myosotis sylvatica</i>	Wood Forget-me-not	<i>Pimpinella major</i>	Greater Burnet-saxifrage
		<i>Quercus petraea</i>	Sessile Oak
		<i>Scirpus sylvaticus</i>	Wood Club-rush

Grassland and marsh

Main species

<i>Allium vineale</i>	Wild Onion	<i>Orobanche minor</i>	Common Broomrape
<i>Anacamptis pyramidalis</i>	Pyramidal Orchid	<i>Persicaria bistorta</i>	Common Bistort
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass	<i>Pimpinella saxifraga</i>	Burnet-saxifrage
<i>Anthyllis vulneraria</i>	Kidney Vetch	<i>Plantago media</i>	Hoary Plantain
<i>Astragalus danicus</i>	Purple Milk-vetch	<i>Polygala vulgaris</i>	Common Milkwort
<i>Blackstonia perfoliata</i>	Yellow-wort	<i>Potentilla erecta</i>	Tormentil
<i>Briza media</i>	Quaking-grass	<i>Primula veris</i>	Cowslip
<i>Bupleurum tenuissimum</i>	Slender Hare's-ear	<i>Ranunculus flammula</i>	Lesser Spearwort
<i>Cardamine pratensis</i>	Cuckoo-flower	<i>Ranunculus sardous</i>	Hairy Buttercup
<i>Carex caryophylla</i>	Spring Sedge	<i>Rhinanthus minor</i>	Yellow-rattle
<i>Carex disticha</i>	Brown Sedge	<i>Salvia verbenaca</i>	Wild Clary
<i>Carex panicea</i>	Carnation Sedge	<i>Sanguisorba minor</i> subsp. <i>minor</i>	Salad Burnet
<i>Carlina vulgaris</i>	Carline Thistle	<i>Saxifraga granulata</i>	Meadow Saxifrage
<i>Centaurea scabiosa</i>	Greater Knapweed	<i>Scabiosa columbaria</i>	Small Scabious
<i>Cirsium acaule</i>	Dwarf Thistle	<i>Senecio aquaticus</i>	Marsh Ragwort
<i>Clinopodium acinos</i>	Basil Thyme	<i>Senecio erucifolius</i>	Hoary Ragwort
<i>Clinopodium ascendens</i>	Common Calamint	<i>Silaum silaus</i>	Pepper-saxifrage
<i>Clinopodium calamintha</i>	Lesser Calamint	<i>Silene vulgaris</i>	Bladder Champion
<i>Clinopodium vulgare</i>	Wild Basil	<i>Sison amomum</i>	Stone Parsley
<i>Conopodium majus</i>	Pignut	<i>Succisa pratensis</i>	Devil's-bit Scabious
<i>Cruciata laevipes</i>	Crosswort	<i>Tanacetum vulgare</i>	Tansy
<i>Cynosurus cristatus</i>	Crested Dog's-tail	<i>Thalictrum minus</i>	Lesser Meadow-rue
<i>Dactylorhiza incarnata</i>	Early Marsh-orchid	<i>Thymus polytrichus</i>	Wild Thyme
<i>Dactylorhiza praetermissa</i>	Southern Marsh-orchid	<i>Thymus pulegioides</i>	Large Thyme
<i>Eleocharis palustris</i>	Common Spike-rush	<i>Torilis nodosa</i>	Knotted Hedge-parsley
<i>Euphrasia officinalis</i> agg.	Eyebright	<i>Trifolium fragiferum</i>	Strawberry Clover
<i>Filipendula vulgaris</i>	Dropwort	<i>Trifolium glomeratum</i>	Clustered Clover
<i>Galium mollugo</i>	Hedge Bedstraw	<i>Trifolium medium</i>	Zigzag Clover
<i>Galium verum</i>	Lady's Bedstraw	<i>Trifolium micranthum</i>	Slender Trefoil
<i>Helianthemum nummularium</i>	Common Rock-rose	<i>Trifolium ochroleucon</i>	Sulphur Clover
<i>Helictotrichon pratense</i>	Meadow Oat-grass	<i>Trifolium ornithopodioides</i>	Bird's-foot clover
<i>Helictotrichon pubescens</i>	Downy Oat-grass	<i>Trifolium scabrum</i>	Rough Clover
<i>Inula conyzae</i>	Ploughman's-spikenard	<i>Trifolium striatum</i>	Knotted Clover
<i>Knautia arvensis</i>	Field Scabious	<i>Trifolium subterraneum</i>	Subterranean Clover
<i>Koeleria macrantha</i> sens. lat.	Crested Hair-grass	<i>Trifolium suffocatum</i>	Suffocated Clover
<i>Lathyrus nissolia</i>	Grass Vetchling	<i>Triglochin palustre</i>	Marsh Arrowgrass
<i>Leontodon hispidus</i>	Rough Hawkbit	<i>Verbascum nigrum</i>	Dark Mullein
<i>Leontodon saxatilis</i>	Lesser Hawkbit	<i>Vicia sativa</i> subsp. <i>nigra</i>	Narrow-leaved Vetch
<i>Leucanthemum vulgare</i>	Oxeye Daisy	<i>Viola hirta</i>	Hairy Violet
<i>Linum catharticum</i>	Fairy Flax		
<i>Lotus corniculatus</i>	Bird's-foot-trefoil		
<i>Lotus glaber</i>	Narrow-leaved Bird's-foot-trefoil		
<i>Lychnis flos-cuculi</i>	Ragged Robin		
<i>Malva moschata</i>	Musk-mallow		
<i>Medicago arabica</i>	Spotted Medick		
<i>Medicago sativa</i> subsp. <i>falcata</i>	Sickle Medick		
<i>Nepeta cataria</i>	Cat-mint		
<i>Ononis repens</i>	Common Restharrow		
<i>Ononis spinosa</i>	Spiny Restharrow		
<i>Ophioglossum vulgatum</i>	Adder's-tongue		
<i>Orchis morio</i>	Green-winged Orchid		
<i>Origanum vulgare</i>	Wild Marjoram		
<i>Orobanche elatior</i>	Knapweed Broomrape		
		Scarce species	
		<i>Aceras anthropophorum</i>	Man Orchid
		<i>Asperula cynanchica</i>	Squinancywort
		<i>Botrychium lunaria</i>	Moonwort
		<i>Campanula glomerata</i>	Clustered Bellflower
		<i>Colchicum autumnale</i>	Meadow Saffron
		<i>Euphrasia confusa</i>	an eyebright
		<i>Fritillaria meleagris</i>	Fritillary
		<i>Genista tinctoria</i>	Dyer's Greenweed
		<i>Gentianella amarella</i>	Autumn Gentian
		<i>Hippocrepis comosa</i>	Horseshoe Vetch
		<i>Linum perenne</i>	Perennial Flax
		<i>Thesium humifusum</i>	Bastard-toadflax

Chalk Grassland

Main species

<i>Anacamptis pyramidalis</i>	Pyramidal Orchid
<i>Anthyllis vulneraria</i>	Kidney Vetch
<i>Astragalus danicus</i>	Purple Milk-vetch
<i>Astragalus glycyphyllos</i>	Wild Liquorice
<i>Blackstonia perfoliata</i>	Yellow-wort
<i>Briza media</i>	Quaking-grass
<i>Centaurea scabiosa</i>	Greater Knapweed
<i>Cirsium acaule</i>	Dwarf Thistle
<i>Clinopodium acinos</i>	Basil Thyme
<i>Clinopodium vulgare</i>	Wild Basil
<i>Filipendula vulgaris</i>	Dropwort
<i>Galium verum</i>	Lady's Bedstraw
<i>Helianthemum nummularium</i>	Common Rock-rose
<i>Helictotrichon pratense</i>	Meadow Oat-grass
<i>Helictotrichon pubescens</i>	Downy Oat-grass
<i>Inula conyzae</i>	Ploughman's-spikenard
<i>Koeleria macrantha sens. lat.</i>	Crested Hair-grass
<i>Linum catharticum</i>	Fairy Flax
<i>Origanum vulgare</i>	Wild Marjoram
<i>Orobanche elatior</i>	Knapweed Broomrape
<i>Plantago media</i>	Hoary Plantain
<i>Sanguisorba minor</i> subsp. <i>minor</i>	Salad Burnet
<i>Scabiosa columbaria</i>	Small Scabious
<i>Silaum silaus</i>	Pepper-saxifrage
<i>Thymus polytrichus</i>	Wild Thyme
<i>Thymus pulegioides</i>	Large Thyme
<i>Viola hirta</i>	Hairy Violet

Scarce species

<i>Aceras anthropophorum</i>	Man Orchid
<i>Asperula cynanchica</i>	Squinancywort
<i>Botrychium lunaria</i>	Moonwort
<i>Campanula glomerata</i>	Clustered Bellflower
<i>Euphrasia confusa</i>	an eyebright
<i>Gentianella amarella</i>	Autumn Gentian
<i>Hippocrepis comosa</i>	Horseshoe Vetch
<i>Linum perenne</i>	Perennial Flax
<i>Thesium humifusum</i>	Bastard-toadflax

Boulder Clay grassland

<i>Aceras anthropophorum</i>	Man Orchid	<i>Leucanthemum vulgare</i>	Oxeye Daisy
<i>Agrimonia eupatoria</i>	Agrimony	<i>Linum catharticum</i>	Fairy Flax
<i>Agrimonia procera</i>	Fragrant Agrimony	<i>Luzula campestris</i>	Field Wood-rush
<i>Anacamptis pyramidalis</i>	Pyramidal Orchid	<i>Melampyrum cristatum</i>	Crested Cow-wheat
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass	<i>Ononis repens</i>	Common Restharrow
<i>Briza media</i>	Quaking Grass	<i>Ononis spinosa</i>	Spiny Restharrow
<i>Carex hirta</i>	Hairy Sedge	<i>Ophioglossum vulgatum</i>	Adder's-tongue
<i>C. flacca</i>	Glaucous Sedge	<i>Ophrys apifera</i>	Bee Orchid
<i>C. divulsa</i>	Grey Sedge	<i>Orchis morio</i>	Green-winged Orchid
<i>Centaurea nigra</i>	Common Knapweed	<i>Plantago media</i>	Hoary Plantain
<i>Clinopodium vulgare</i>	Wild Basil	<i>Primula veris</i>	Cowslip
<i>Conopodium majus</i>	Pignut	<i>Rhinanthus minor</i>	Yellow-rattle
<i>Cruciata laevipes</i>	Crosswort	<i>Sanguisorba minor</i>	Salad Burnet
<i>Cynosurus cristatus</i>	Crested Dog's-tail	<i>Senecio erucifolius</i>	Hoary Ragwort
<i>Dactylorhiza fuchsii</i>	Common Spotted Orchid	<i>Silaum silaus</i>	Pepper-saxifrage
<i>Galium mollugo</i>	Hedge Bedstraw	<i>Sison amomum</i>	Stone Parsley
<i>Genista tinctoria</i>	Dyer's Greenweed	<i>Tragopogon pratensis</i>	Goat's-beard
<i>Hordeum secalinum</i>	Meadow Barley	<i>Trifolium fragiferum</i>	Strawberry Clover
<i>Knautia arvensis</i>	Field Scabious	<i>Trifolium ochroleucon</i>	Sulphur Clover
<i>Lathyrus aphaca</i>	Yellow Vetchling	<i>Trisetum flavescens</i>	Yellow Oat-grass
<i>Lathyrus pratensis</i>	Meadow Vetchling	<i>Vicia cracca</i>	Tufted Vetch

Other

Main species

<i>Arabis hirsuta</i>	Hairy Rock-cress
<i>Arenaria serpyllifolia</i> subsp. <i>leptoclados</i>	Small Thyme-leaved Sandwort
<i>Astragalus glycyphyllos</i>	Wild Liquorice
<i>Atriplex littoralis</i>	Grass-leaved Orache
<i>Berberis vulgaris</i>	Barberry
<i>Calamagrostis epigejos</i>	Wood Small-reed
<i>Cichorium intybus</i>	Chicory
<i>Echium vulgare</i>	Viper's Bugloss
<i>Fumaria capreolata</i> subsp. <i>babingtonii</i>	Ramping Fumitory
<i>Geranium lucidum</i>	Shining Crane's-bill
<i>Muscari neglectum</i>	Grape-hyacinth
<i>Mycelis muralis</i>	Wall Lettuce
<i>Phleum arenarium</i>	Sand Cat's-tail
<i>Phleum phleoides</i>	Purple-stem Cat's-tail
<i>Phyllitis scolopendrium</i>	Hart's-tongue
<i>Populus nigra</i> subsp. <i>betulifolia</i>	Black Poplar
<i>Reseda lutea</i>	Wild Mignonette
<i>Rosa rubiginosa</i> agg.	Sweet-briar
<i>Rosa tomentosa</i>	Harshy Downy-rose
<i>Rumex pulcher</i>	Fiddle Dock
<i>Saxifraga tridactylites</i>	Rue-leaved Saxifrage
<i>Stellaria pallida</i>	Lesser Chickweed
<i>Tamus communis</i>	Black Bryony
<i>Verbascum pulverulentum</i>	Hoary Mullein
<i>Viscum album</i>	Mistletoe

Scarce species

<i>Allium oleraceum</i>	Field Garlic
<i>Arabis glabra</i>	Tower Mustard
<i>Cirsium eriophorum</i>	Woolly Thistle
<i>Corynephorus canescens</i>	Grey Hair-grass
<i>Cuscuta epithymum</i>	Dodder
<i>Cuscuta europaea</i>	Greater Dodder
<i>Euphrasia nemorosa</i>	an eyebright
<i>Galium parisiense</i>	Wall Bedstraw
<i>Geranium columbinum</i>	Long-stalked Crane's-bill
<i>Geranium sanguineum</i>	Bloody Crane's-bill
<i>Herniaria glabra</i>	Smooth Rupture-wort
<i>Lathyrus aphaca</i>	Yellow Vetchling
<i>Melampyrum cristatum</i>	Crested Cow-wheat
<i>Poa bulbosa</i>	Bulbous Meadow-grass
<i>Rosa pimpinellifolia</i>	Burnet Rose
<i>Silene otites</i>	Spanish Catchfly
<i>Vicia parviflora</i>	Slender Tare

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