

Little Ouse Headwaters Project

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Landscape Character Assessment

Final Report

September 2011



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Acknowledgements

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Drawing Number 1: Natural and Cultural Heritage

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Non Technical Summary

This landscape character assessment for the Little Ouse Headwaters Project was carried out during 2011. It covers an area defined by the Little Ouse catchment and the parishes of Redgrave, South Lopham, Blo' Norton, Hinderclay, Thelnetham, Hopton and Garboldisham combined.

The purpose of the assessment is to provide an understanding of the variety of landscape within the area and to record what is special and distinctive in order to inform and provide a framework for future conservation work.

The assessment subdivides the Study Area into landscapes which have a distinct and recognisable character and describes the landscape features and patterns within them.

It firstly identifies landscape types that are generic and may also be found elsewhere in Suffolk and Norfolk e.g. valley floor landscapes or plateau landscapes. Six types have been identified and described.

It then defines changes in character along the length of the Little Ouse and its tributaries which are unique and recognisable. The main Little Ouse valley is divided into three 'reaches' and four separate tributary valleys (namely Botesdale, Thelnetham, Hopton and Garboldisham valleys) are also defined and described. For completion the upper reaches of the Waveney Valley which lies adjacent is also described.

In relation to the landscape types, past and present forces for change are discussed and broad management guidance provided. For the unique sections of the river valley and tributaries, the distinctive sense of place, special qualities and particular issues are discussed followed by a 'to do list' of possible conservation initiatives.

Finally this study takes a step back and considers the Study Area in the round and sets out a number of themes ranging from habitat restoration and collaborative management to interpretation and access for the Study Area as a whole, which may assist in the development of a whole valley restoration plan in future.

1.0 Introduction

1.1 Appointment

- 1.1.1 Alison Farmer Associates was appointed by the Little Ouse Headwaters Project in December 2010 to undertake a landscape character assessment of the project area. This work was carried out as part of a recently awarded HLF grant for use in furthering the aims of the Project over the next three years, including the purchasing of sites and managing areas for wildlife, access and activities.
- 1.1.2 The Little Ouse Headwaters Project charity was set up in 2002 by local residents to restore, conserve and promote the enjoyment of the wildlife and landscape of the Little Ouse Valley on the Suffolk and Norfolk border. The main priority of the Project is landscape and wildlife conservation but also includes researching a better understanding of the area's archaeology and local history and promoting public access and enjoyment.
- 1.1.3 This report sets out the landscape character assessment including the approach used, the resulting landscape character descriptions and landscape guidance to assist with future management. This report also seeks to place the Little Ouse river valley within the context of its wider catchment.

1.2 The Brief and Scope of Work

- 1.2.1 The aim of the project was to provide the LOHP with a detailed understanding of the landscape. The initial Study Area comprised the Parishes of Redgrave, South Lopham, Blo' Norton, Hinderclay, Thelnetham, Hopton and Garboldisham.
- 1.2.2 At the start of the project this initial Study Area was broadened to include a wider area defined by the catchment of the Little Ouse River. The final Study Area was therefore a combination of the catchment and parishes and its extent can be found on drawing number 1.
- 1.2.3 Initially the brief was to define local landscape character areas only, however following the widening of the Study Area, discussion with the client, and initial site work, it became apparent that a landscape 'types' classification for the whole Study Area would be valuable and in relation to defining local character areas it was most useful to define river corridor character areas in accordance with the approach endorsed by the Environment Agency (see section 3.2.1 for details). The landscape character types¹ and river corridor character areas² can be found on drawing number 2.
- 1.2.4 The overall scope of work included four broad stages – firstly a familiarisation stage including a site visit and gathering background data from the client team; secondly a desk study stage where digital data and background documents were reviewed and landscape character types and river corridor character areas defined in draft; thirdly site assessment where the draft character types/areas are verified in the field notes taken along with a photographic record; fourthly a write up phase where the written descriptions for landscape types and areas are developed.

¹ Landscape character types (LCTs) are distinct types of landscape that are relatively homogenous in character. They are generic in nature in that they may occur in different areas in different parts of the country, but where ever they occur they share broadly similar combinations of geology, topography, drainage patterns, vegetation and historical land use and settlement pattern.

² River corridor character areas (RCCAs) are single unique areas and are geographically specific. They comprise sections of the main river valley or its tributary valleys and comprise one or more landscape types e.g. a tributary valley may comprise Wooded Valley Meadowlands and Fen and Valley Settled Farmlands landscape types.

1.2.5 Key sources of information used during the course of this study have included:

- GIS datasets supplied by Suffolk Country Council
- East of England Regional Typology³,
- Suffolk County Typology⁴
- Breckland District landscape assessment⁵.
- The Frith and the Little Ouse and Waveney valley fens: origin and history⁶

1.3 Structure of the Report

1.3.1 This report is divided into four sections as follows:

- Section 2 sets out an overview of the Study Area including information on geology, soils, habitats, evolution;
- Section 3 details the landscape character types and river corridor character area descriptions.
- Section 4 provides an overview of the future management of the wider catchment area.

³ <http://landscape-east.org.uk/east-england-landscape-typology>

⁴ http://www.suffolklandscape.org.uk/landscape_map.aspx

⁵ <http://www.west-norfolk.gov.uk/default.aspx?page=24590>

⁶ Professor Richard West (FRS) 2006, paper given at the Little Ouse Headwaters Project Annual Talk

2.0 Overview of Study Area

2.1 Geology, Soils and Drainage

- 2.1.1 The geology and drainage of the Little Ouse area is fundamental to an understanding of its varied character - it is primarily the complex geology and spring fed hydrology which combine to give a rare set of habitats, and patterns of land cover, historic settlement and unique sense of place.
- 2.1.2 The underlying geology in the Study Area is chalk overlain by glacial drift deposits - heavy bolder clay on the plateau and lighter sands on the valley sides and floor. Recent research undertaken by Professor Richard West⁷ has presented the theory that sand within the Little Ouse Valley and particularly around The Frith and Hinderclay Fen formed as a result of a glacial lake created by the ice sheet which is thought to have reached the area around Brandon and caused the backing up of river waters. Following the retreat of the ice the Little Ouse river has flowed westwards again but the former lake sediments are reflected in the sandy soils along the valley sides.
- 2.1.3 Over time valley fens have developed on the valley floor as a result of the springs which emerge on the valley side from the underlying chalk. The spring water is naturally relatively infertile and neutral or alkaline and this, along with the creation of waterlogged conditions, has resulted in the formation of peat. This then gives rise to the unusual juxtaposition of wetland habitats adjacent to drier heath habitats - a hallmark of the Little Ouse river valley today.
- 2.1.4 The source of the Little Ouse lies in the tributary valley of Botesdale to the south of the main valley. At The Frith the river makes a sharp right angled turn, within 150m from the source of the Waveney River. From here the Little Ouse flows in a westerly direction while the Waveney flows in an easterly direction. This unusual arrangement is also thought to reflect the influences of glacial activity as noted above.
- 2.1.5 Flowing into the Little Ouse are three tributary valleys namely Thelnetham and Hopton to the south and Garboldisham to the north.
- 2.1.6 In the east the Little Ouse valley is flanked by settled valley sides and a higher clay capped plateau. To the west it is flanked by landscapes comprising sandy soils, signifying the start of the Brecklands.

2.2 The Cultural Landscape and Historic Evolution

- 2.2.1 The Little Ouse and Waveney Rivers form the historic border between Norfolk and Suffolk. On the Suffolk side the Little Ouse Valley is covered by the parishes of Redgrave, Hinderclay, Thelnetham and Hopton while on the Norfolk side are the parishes South Lopham, Blo' Norton, and Garboldisham.
- 2.2.2 The valley floor landscapes along the Little Ouse have a distinctive history. The waterlogged landscapes along the floodplain were too poor for food crops and therefore were used as a source of fuel (peat digging), animal bedding, harvesting reed and sedge for thatching and grazing of cattle on the drier margins with areas of woodland used for coppicing and fuel. As a result the Parish boundaries often come together in these 'fen' landscapes so that each community had access to these different landscape resources. In addition the settlement pattern on the valley sides and network of lanes which led down onto the valley floor reflect this important

⁷ Professor Richard West (FRS) 2006, paper given at the Little Ouse Headwaters Project Annual Talk, The Frith and the Little Ouse and Waveney valley fens: origin and history

relationship. The use of the valley floor and watercourses for the supply of natural materials resulted in the manipulation of water channels and in some cases early channel straightening.

- 2.2.3 On the valley sides, within the Little Ouse catchment, there is evidence of the pairing of medieval churches and manorial halls which occurred mainly in prime valley side locations close to a water supply. The halls were often surrounded by water-filled moats in the 13th and 14th centuries as an indication of their status, but the actual hall and church clusters are probably older originating perhaps in the Late Saxon period. Examples include Hinderclay church and hall complex and Blo' Norton church and hall.
- 2.2.4 In the 20th century many of the valley floor fen landscapes dried out as a result of the lowering the water table through improved drainage and water abstraction from a public water supply borehole at Redgrave. Woodlands have been left unmanaged, wet meadows under grazed and some areas of meadow converted to arable. Other activities on the valley floors and sides affected the nature conservation value of the area including the planting of non native trees, pig and poultry farming which has enriched the peat deposits and the conversion of meadow to arable. During the 20th century there is evidence of more prolific straightening or manipulation of the river watercourses. Settlements on the valley sides have developed with some notable areas of peripheral growth or have had infill development. This is also apparent on the lanes along the valley sides where once isolated dwellings are joined together by infill development and there has been the gradual urbanisation.
- 2.2.5 In the late 20th century and into the 21st century there have been a number of restoration projects which have included the reinstatement of traditional management, grazing, peat scraping to expose fresh wet peat and the alterations to the water table (including the closure of the public water supply borehole at Redgrave). This has resulted in rehydration of the fens and the gradual return of their valued wildlife.
- 2.2.6 Beyond the river valleys in the sandy landscapes to the west and plateau landscapes to the north and south the historic evolution of the landscape has been quiet different and is reflected in the historic settlement pattern as well as field enclosure, distribution of woodland and greens/commons as well as moated manor sites. The distribution of valued cultural heritage sites across the Study Area can be found on Drawing Number 1.

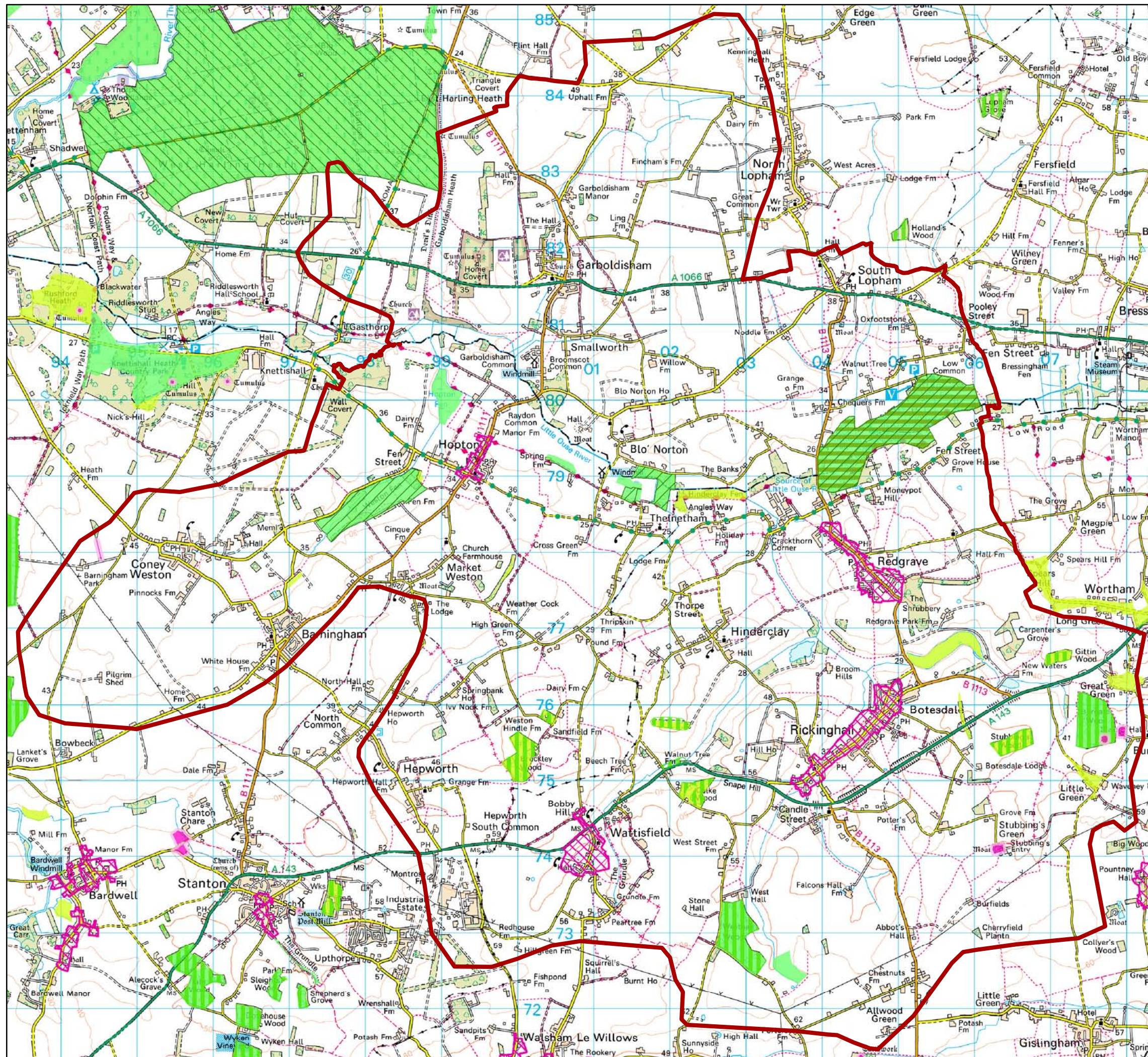
2.3 Habitats and Current Land Uses

- 2.3.1 The river corridor of the Waveney and Little Ouse was once the biggest area of valley fen in England, uniting the great wildernesses of Breckland and Broadland. Centuries of use for peat cutting, reed and sedge harvesting and grazing created a mosaic of habitats where wildlife flourished alongside people and domestic animals. These fens have two key features which distinguish them from floodplain meadows and wetlands such as the Broads - firstly there is an absence of ditches (they comprise undrained peatland) and secondly they contain a mosaic of small, shallow peat pits and a ramifying network of peat extraction paths reflecting their historic exploitation.
- 2.3.2 However, this unique and characteristic pattern has changed as a result of the following activities:
- Creation of ditches and drainage of the valley floor resulting in the lowering of the water table and the drying out of wetland areas
 - Extraction of water resulting in further lowering of the valley floor water table

Little Ouse Headwaters Project

Drawing 1:
Natural and Cultural Heritage

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Study Area

Natural Heritage

Special Protection Area (SPA)

Special Area of Conservation (SAC)

National Nature Reserve

Site of Special Scientific Interest (SSSI)

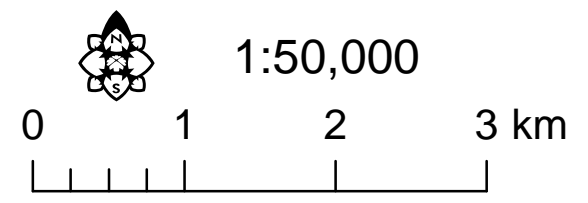
County Wildlife Site

Ancient Woodland

Cultural Heritage

Scheduled Monument

Conservation Area



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- Straightening of channel and deepening of the river resulting in a loss of natural river dynamics and characteristic meanders
- Intensification of agriculture resulting in the conversion of meadows to arable
- Lack of grazing resulting in the development of woodland with the penetration of the peat by tree roots and its oxidation resulting in a decline of structure
- Diffuse pollution from adjacent land management activity
- Enrichment of the peat from livestock rearing including pig rearing and poultry.

2.3.3 Despite these significant changes little pockets of land around the Little Ouse and Waveney headwaters still have wildlife which is recognised as being internationally important with habitats ranging from fen, woodland carr, meadow, heath as well as areas of productive farmland including arable and livestock rearing.

2.3.4 Within the wider Study Area ecological interest is generally confined to ancient woodland and remnant areas of green/common. Natural heritage assets in the Study Area are shown on Drawing Number 1.

2.4 Sites Managed by LOHP

2.4.1 Since its creation in 2002 the LOHP has purchased and leased land within the Little Ouse Valley in order to further its aim of connecting the valley wetlands together. It now manages eleven sites within the Ouse Valley namely: The Frith, Blo' Norton Little Fen, The Lows, Hinderclay Fen, Blo' Norton Fen, Betty's Fen, Webbs Fen, Bleyswycks Bank, Parkers Piece, Broomscot Common and Scarfe Meadows. These coupled with the sites managed by Suffolk Wildlife Trust (Thelnetham Middle Fen, Thelnetham Old Fen and Redgrave and Lopham Fen) and other SSSI and CWS sites managed by private landowners means that a significant part of the river corridor is sensitively managed for nature conservation.

2.5 Current Recreation Activity

2.5.1 There are a number of notable recreation opportunities within or just outside of the Study Area which bring people to the area as follows:

- Redgrave and Lopham Fen National Nature Reserve
- Angles Way long distance route passes through the length of the Valley Study Area connecting Great Yarmouth with Thetford.
- National Cycle Route 30 (Two Rivers) connects Great Yarmouth with Kings Lynn via Diss
- Knettishall Country Park
- Bressingham Steam Railway

3.0 Landscape Assessment

3.1 Existing Landscape Classifications

- 3.1.1 Landscape Character Assessment is a useful tool, recognised by Government and promoted by Natural England, to identify the special character that gives a landscape its sense of place and through this understanding, inform planning and management of future change. Landscape Character Assessment recognises that all landscapes matter, not only designated areas.
- 3.1.2 The Study Area is covered by three existing character assessments which identify landscape character types namely the East of England Regional Typology⁸, the Suffolk County typology⁹ and the Breckland District landscape assessment¹⁰. The former two classifications are derived from Land Description Units¹¹ and have been used as the basis for the typology for the Study Area. Reference has also been made to the landscape descriptions given in the Breckland study.
- 3.1.3 In order to create a seamless landscape typology for the Study Area information contained in the existing assessments has been brought together. The boundaries of the character types from the Suffolk County and Regional typologies have been adopted for use in this study and refined where necessary to reflect local variations in character. The same character types occur in both the Suffolk and Regional studies although the names given to them vary. The relationship between the types in these two assessments is clarified in the table below. Six character types cover the Study Area and are illustrated on drawing number 2.

Suffolk County Typology	East of England Regional Typology (Norfolk)
Ancient Plateau Claylands	Wooded Plateau Claylands
Rolling Valley Farmlands and Furze	Valley Settled Farmlands
Wooded Valley Meadowlands and Fens	Valley Meadowlands
Plateau Estate Farmlands	Plateau Estate Farmlands
Estate Sandlands	Forested Estate Sandlands
Plateau Claylands	Settled Plateau Claylands

3.2 Approach to Character Assessment

- 3.2.1 This assessment is based on national guidance¹² and on the approach adopted by the Environment Agency when considering the character of river corridors. This latter approach seeks to divide the river length into a series of recognisable 'reaches' or river corridor areas. The assessment undertaken as part of this study has defined both landscape character types (based on existing assessments) and river corridor character areas (RCCAs). The landscape types are generic and occur repeatedly

⁸ <http://landscape-east.org.uk/east-england-landscape-typology>

⁹ http://www.suffolklandscape.org.uk/landscape_map.aspx

¹⁰ <http://www.west-norfolk.gov.uk/default.aspx?page=24590>

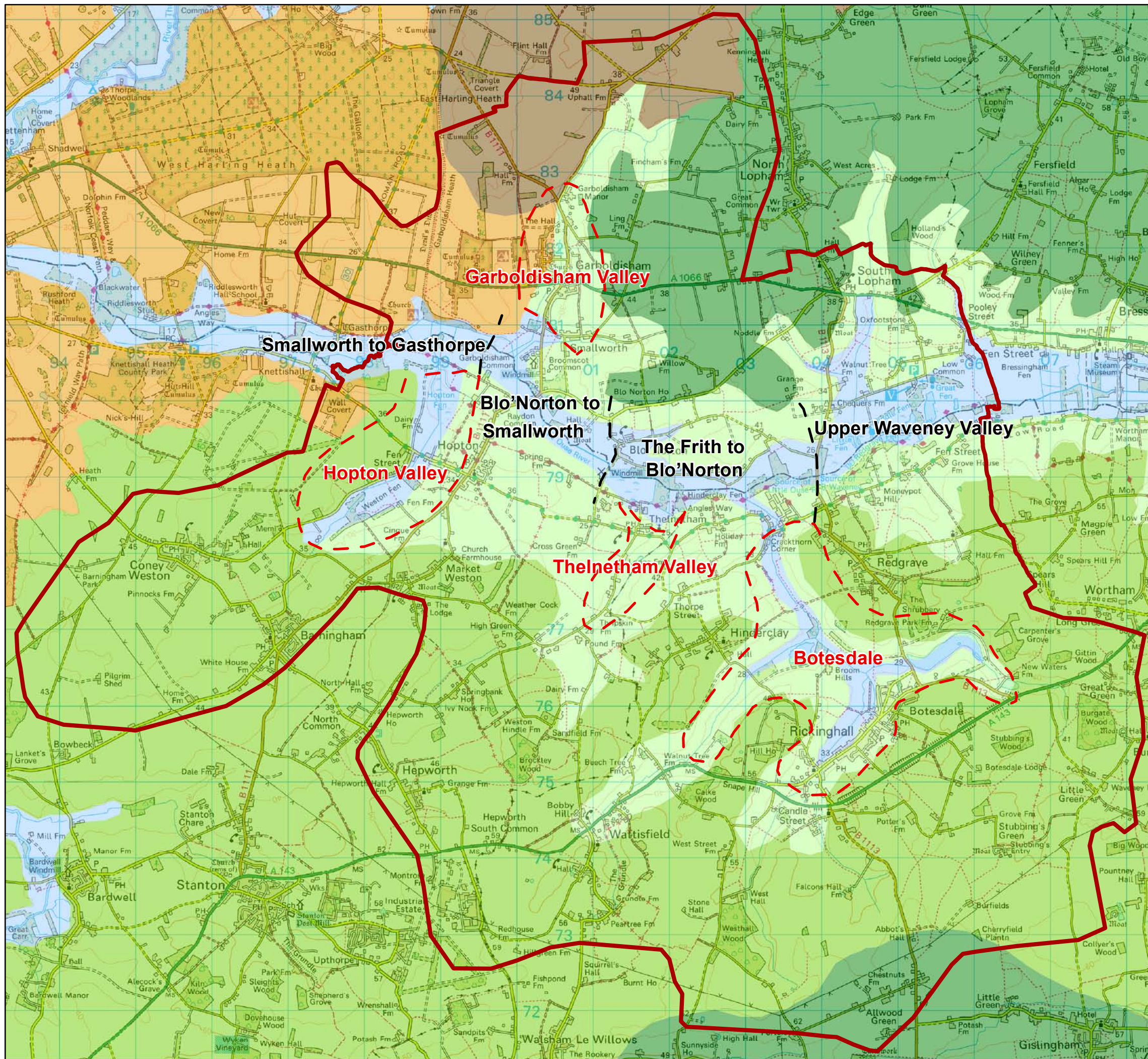
¹¹ LDUs are distinct and relatively homogenous units of land, each defined by a series of definitive attributes, so called because they define the extent of each spatial unit.

¹² Landscape Character Assessment – Guidance for England and Scotland, Countryside Agency/Scottish Natural Heritage, 2002.

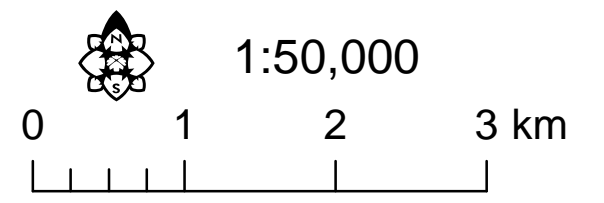
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Drawing 2:
Landscape Character

September 2011



- Study Area
- River Corridor Character Areas**
 - Main Valley Landscapes
 - Tributary Valley Landscapes
- Landscape Character Types**
 - Wooded Valley Meadowlands and Fen
 - Valley Settled Farmlands
 - Ancient Plateau Claylands
 - Plateau Claylands
 - Estate Sandlands
 - Plateau Estate Farmlands



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across the area and indeed more widely in Suffolk and Norfolk. They help provide an overview of the whole catchment and through analysis of character and forces for change help to structure particular management needs. River Corridor Character Areas on the other hand are geographically specific and provide information on discrete areas along the main river and its tributary valleys which have their own sense of place and local identity. Each RCCA may be made up of a single landscape type or of several types for example a valley unit comprising the valley floor and sides. Written descriptions for RCCAs provide information on their special qualities and key issues specific to that locality. From this initiatives and priorities have been identified which focus on the management of the valley floor and sides where the LOHP concentrates its work.

- 3.2.2 By considering the landscape both as landscape types and RCCAs, information can be provided for land management as well as access, interpretation and planning.

3.3 Landscape Character Types

- 3.3.1 The six landscape character types which occur within the Study Area (see drawing number 2) are described below.
- 3.3.2 The descriptions utilise information from existing character assessments. The key characteristics set out what is typically found within the landscape type. This is followed by more specific written descriptive text which has been developed and refined to reflect the character of the landscape within the Study Area.

Wooded Valley Meadowlands and Fen

Key characteristics

- **A small scale narrow linear landscape of shallow and narrow valley floors.**
- Extensive areas of **peat deposits and complex soil pattern.**
- Land use is predominately **cattle grazed pastures.**
- Areas of **unenclosed “wild fen”** with an **absence of ditches** and mosaic of **shallow peat extraction pits.**
- **Fields are typically small to medium** in size and bounded by **hedges containing hedgerow trees and/or drainage ditches.**
- The fields are of varied shape and form resulting in an **irregular** pattern of enclosure.
- **Plantation and carr woodland** along watercourses.
- **Limited settlement and few metalled roads.**
- **White bridges** across the rivers are also a unifying feature.
- **Views are often channelled** along narrow rural roads or restricted by waterside vegetation and woodland resulting in a **skyline which is predominantly tree-lined or areas where there are glimpsed views to the valley sides.**
- Although not remote, the pastoral character, lack of settlement and low levels of vehicle movement combine to form an **intimate, tranquil landscape.**
- **Tangible sense of relative wildness/remoteness** particularly in woodland areas.

Location

Within the Study Area this character type forms a linear valley floor landscape in the Little Ouse and Waveney valleys and also the tributary valleys of Hopton and Botesdale.

Geology, soils, landform and drainage

Topographically this is a flat or slightly undulating landscape forming the valley floor. It is underlain by solid Chalk but dominated by drift deposits of silty clay, sand and gravel and where there is poor drainage extensive areas of peat have built up over time.

For the most part views are framed by the topography of the valley sides and by woodland on the valley floor. Where the floodplain is wider or woodland cover less, views become more open and there are occasional glimpses to settlement or church towers on the valley sides. The subtle sense of enclosure and the often restricted nature of views has a strong influence on character – contributing to the small scale of this landscape type.

Landuse and enclosure pattern

Historically the dominant use of these damp valley floor landscapes was as animal pastures, with the un-drainable areas left as semi-wild fens or marshes used for peat extraction for fuel. A number of these valley fens and wet meadows have remained unaltered but most have been drained giving rise to improved grassland/pasture divided by drainage ditches and in places some conversion to arable farming. In some instances former fen areas/meadows have become derelict/ungrazed and here wet woodland or alder carr has developed. This, coupled with small poplar or cricket bat willow plantations, contributes to a well wooded character in parts of this landscape. More recently, government funded environment schemes, have lead to the reversion of some pasture/woodland areas to former fen habitat.

Overall this landscape has a strongly pastoral character. Fields are generally small to medium scale and frequently have sinuous boundaries delineated by hedges and hedgerow trees or by straighter drainage ditches. Grazing cattle and sheep are frequently in view.

Areas of open water occur in areas of former sand and gravel extraction or as part of an historic moated site/historic parkland (e.g. fishing lakes between Broomhill and Hinderclay in Botesdale, Redgrave Park in Botesdale and Blo Norton Hall in the Little Ouse valley). These open water sites contribute to the nature conservation and recreational value of this landscape type.

Historic/Settlement

Historically this is not a settled landscape due to the risk of flooding. Where settlement occurs it comprises isolated farms or houses situated on slightly raised islands within the valley floor e.g. Blo' Norton Hall, or on the very edges of the valley floor where the land is rising e.g. along Fen Road and Fen Lane.

There are few metalled roads in this landscape although the edges of this area are often flanked by rural lanes which run parallel to the valley and where they cross the valley at right angles to the water course, crossing points are marked by simple white railed bridges.

From the valley floor there are views to settlement on the adjoining valley sides and particularly to church towers and extant windmills which act as local landmarks and aid orientation. In places farming related development has extended onto the valley floor altering the character of the landscape and blurring the distinction between the valley floor and valley sides e.g. around Crackthorn Bridge.

This pastoral landscape has an intimate, tranquil character, the dense vegetation found in carr woodlands giving rise to a sense of remoteness.

Past and Present Forces for Change

- Decline in grazing by cattle on wet meadows resulting in scrub/woodland invasion.
- The creation of new woodlands using non native species.
- The introduction of horse grazing and pony paddocks with associated fencing.
- Neglect of hedgerow networks.
- Drainage of wet areas and the conversion of meadow to arable resulting in the gradual fragmentation and breaking up of once extensive sweep of fen.
- Restoration and maintenance of valley fens for wildlife conservation.
- Loss of key views to landmarks on valley sides/valley floor due to woodland.
- Silting up of water channels, ditches and dykes and ponds.
- Sand and gravel extraction (e.g. in Botesdale) and farming related development (e.g. poultry farming) altering the character of the valley floor.

Management Strategy/Guidance

- Avoid new development within the valley floor and on the valley sides which visually intrudes/detracts from the tranquillity, undeveloped character and remoteness.
- Maintain characteristic white bridges across watercourses.
- Ensure the restoration and maintenance of valley fens for wildlife conservation - undertake the infilling of drainage ditches in order to aid recreation of fen habitat where it will join existing fen sites and reverse past fragmentation.
- Maintain important views to key landmarks and open up views through strategic removal of woodland.
- Restore and maintain grazing with cattle and sheep to ensure the continuation of traditional agricultural practices integral to the character and condition of important wildlife sites in this landscape.
- In places less critical for connecting fen sites, restore and retain the characteristic pattern of drainage, particularly ditches, and ensure they deliver ecological benefits.
- Support arable reversion through agri-environment schemes, or with the expansion of livestock enterprises in order to restore the pastoral character of this landscape.
- Consider the varied pattern of openness and enclosure within the valley floor ensuring the continued management of wet woodland and hedgerows where they contribute to biodiversity and create varied character and frame views.
- Ensure effective visitor management including clearly marked routes, signage and interpretation, car parking and facilities and consideration of health and safety issues close to areas of open water/poor drainage.

Valley Settled Farmlands

Key characteristics

- Underlying geology **comprises chalky till and glaciofluvial drift.**
- Topography **is gently undulating** and ranges from 20-50metres AOD.
- Landcover is **predominately arable**, with distinctive areas of pasture and sandy acidic heathland.
- **Field patterns are variable but predominately medium in scale** and often geometric in pattern.
- **Mature oaks** associated with patchy remnant field boundary hedgerows.
- **Woodland occurs in discrete blocks** often on the upper slopes of the valley sides forming a treed horizon.
- Settlement pattern is defined by frequent **dispersed farmsteads and hamlets** and occasional **linear or nucleated villages.**
- **Local vernacular architecture includes red pantiles and timber framed buildings** with render and brick skins.
- **Church towers** associated with settlement and extant windmills on junction of the valley side and valley floor are **local landmarks.**
- **Views are contained by landform**, field boundaries and woodland and occasionally open up across the valley floor or to adjacent plateau landscapes.
- A **tamed rural landscape**, with a generally tranquil quality.

Location

Within the Study Area this character type forms the valley sides of the Little Ouse and Waveney valleys and their tributaries and forms a transition between the valley and the surrounding plateau landscapes.

Geology, soils, landform and drainage

The underlying geology of chalky till and glaciofluvial drift creates well drained soils and distinctive river terraces and slopes and a gently undulating topography.

The elevation of the valley sides results in views across the valley, over the more wooded valley floor. On the upper valley side slopes views become open in the transition between the valley and plateau landscapes.

Landuse and enclosure pattern

The glaciofluvial drift has resulted in some acid soils supporting distinctive areas of dry heath which in the past were exploited as commons by farmers living nearby, as a source of low-quality sheep or rabbit grazing and especially gorse being cut for cattle fodder e.g. Broomscot Common. Some survive as unimproved open areas which today are dominated by poor dry grassland, with gorse (or furze) often in abundance and form a strong visual contrast to other more intensively farmed land or the wet fens on the valley floor which often lie immediately adjacent. Some of these heaths were enclosed and converted to farmland through agricultural improvements from the 18th-century onwards and are characterised by straight hedgerow boundaries or pine lines and here outdoor pig farming is common.

Where the soils are better quality, there are older farm units with predominately arable land use and some patches of pasture. These fields are characterised by more sinuous and older field boundaries than on former heath/commons, usually at right-angles to the watercourses, giving a co-axial character to much of the landscape. Field boundaries comprise multi species hedgerows including oak, ash, field maple and hawthorn as well as some areas of elm.

This landscape has a good tree cover and a few fragmented woodlands on the valley sides often on the upper slopes which form a treed horizon.

Historic/Settlement

The river terraces and valley sides were a focus for settlement providing dry sites that could be easily be cleared and farmed while living in close proximity to sources of water on the valley floor and woodland on the adjacent plateau clay soils. Key valley side settlements include Botesdale, Thelnetham, Hopton and Garboldisham many of which are conservation areas. These settlements all have churches which act as local landmarks and were in some cases associated with manorial halls. The halls were often surrounded by water-filled moats in the 13th or 14th centuries as an indication of their status, but the actual 'hall-and-church' clusters are probably older.

Past and Present Forces for Change

- Expansion of land under conservation management e.g. restoration of heaths.
- Expansion of settlements and infill development along roads altering historic pattern.
- Construction of large agricultural buildings and expanding farming business.
- Expansion of garden curtilage resulting in the urbanisation of rural lanes.
- Change of land use including planting of vineyards and biomass crops e.g. Botesdale.
- Visual clutter created by development of horse paddocks and outdoor pig farming.
- Recreation pressure on the poorest land e.g. Wortham Ling.
- Conversion of farm buildings to residential use.

Management Strategy/Guidance

- Ensure that new development is sensitively located and avoids adverse impacts on the setting of existing landmark buildings and historic landscape patterns.
- Avoid development which adversely affects the character and form of existing valley side settlement or results in ribbon development and the gradual urbanisation along rural lanes which visually intrudes/detracts from the tranquillity, undeveloped character and remoteness.
- Avoid large-scale agricultural buildings on or near valley sides and ensure careful siting, appropriate form, orientation and colour where this type of development is necessary.
- Where conversion and extension of historic barns is required care should be taken to retain vernacular character and the contribution the historic building makes to the wider landscape.
- Ensure that new or expanded curtilage to existing properties is designed to fit into the local context using traditional boundary treatments and native planting.
- Seek to minimise the impacts of horse paddocks on the landscape by encouraging limited use of post and rail fencing, tape and the careful siting of other associated features such as shelter and storage areas.
- Undertake a detailed hedgerow, tree and woodland survey to identify recent and ancient plantings and the coincidence between species mix and soil type in order to inform any hedge/tree restoration and management work.
- Maintain and increase the stock of hedgerow trees and coppice elm.
- Maintain the area of woodland cover; siting of any new woodland should be based on information from historic research and avoid blocking views to landmarks.
- Maintain a mosaic of bare ground and varying sward heights and scrub on the small heathland sites.

Ancient Plateau Claylands

Key characteristics

- Thick underlying deposits of **glacial Lowestoft Till** create elevated plateau.
- **Gently undulating landform.**
- Landcover is **predominately arable** with scattering of small mixed woodlands.
- Field pattern of **ancient enclosure often irregular** defined by hedgerows and some straight-edged fields associated with late enclosure of woods and greens.
- **Ancient woodlands** are a defining characteristic and provide some sense of enclosure.
- **Low density, dispersed settlement pattern** of loosely clustered villages, hamlets and isolated farmsteads of medieval origin.
- **Villages** associated with churches, manor sites and medieval greens.
- **Strong local vernacular** reflected in farm buildings and settlements.
- **Halls, surrounded by landscape parks** and woodland impart a designed character.
- **Network of winding lanes** and paths associated with hedges create visual intimacy.
- **The skyline is prominent, sometimes interrupted by woodland** but often affording wide-open views with limited inter-visibility to adjacent character types.
- This **landscape feels still** having a remote almost empty character in places.

Location

Within the Study Area this character type forms an upland plateau landscape to the south of the Little Ouse and covers the largest geographical area within the Little Ouse river catchment.

Geology, soils, landform and drainage

This landscape occurs towards the edges of the great plateau of glacial till or boulder clay deposited by the retreating ice-sheet of the Anglian Glaciation around 430,000 years ago. The top of the plateau is generally flat or only gently undulating, but towards the edges stream action has made it more dissected. The soils are mainly heavy, seasonally-waterlogged soils.

This landscape often feels open and there is potential for distant though intermittent views which are sometimes contained by landform and copses of ancient woodland. It is essentially a simple, tamed agricultural landscape.

Landuse and enclosure pattern

Arable farmland is the predominant land cover in this landscape within a medium scale field pattern defined by hedgerows. Close to settlement there is evidence of smaller scale common fields reflecting piecemeal enclosure before the 18th century. In places the removal of hedges to amalgamate fields to accommodate large machines of modern arable farming has greatly weakened the earlier field patterns, leading to the creation of more open landscapes and a larger scale pattern e.g. south of Hinderclay and east of Hepworth. The older hedges are usually substantial and contain numerous trees, especially ash and oak.

Ancient woodlands (many of which are SSSIs) occur in this landscape type and are a defining element e.g. Westhall Wood, Calke Wood, Burgate Wood and Stubbing's Wood. These woods contain oak, ash, field maple, hornbeam and small-leaved lime and help to provide visual structure to this otherwise open landscape. There has also been woodland associated with parkland e.g. Redgrave.

Extant or former greens are also characteristic and within the Study Area comprise two small triangular greens at road junctions e.g. Burgate Little Green and Burgate Great Green.

In some of the flattest areas of upland World War II airfields have occurred e.g. south of Hepworth and west of Hopton Valley.

Historic/Settlement

Settlement is medium density comprising a dispersed pattern of clustered villages which may be nucleated e.g. Market Weston or linear in form e.g. Hinderclay and are of medieval origin. A number of settlements in this landscape are Conservation Areas e.g. Redgrave and Wattisfield. Often the settlements are surrounded by trees and are well integrated into the landscape. There are also moated manor sites many of which are Scheduled Monuments.

There are a substantial number of traditional timber-framed buildings of medieval and Tudor date. These usually have plastered and colour-washed exteriors under peg-tiled or thatched roofs. Construction techniques include queen-post roofs. Some houses had fashionable brick facades added in the 19th century. Red brick and slate roofs were commonly used for 19th-century and later buildings. Where churches do occur they are often dressed stone and flint.

The low population density and the rural road network, of minor roads and lanes, contribute to the tranquil character. The A143 cuts through this area and is busy – resulting in the loss of tranquillity in the vicinity.

Past and Present Forces for Change

- Intensive arable farming resulting in loss of field boundaries and habitat diversity.
- Lack of management of hedgerow trees – areas of stag head oaks.
- Proliferation of fencing around settlement with increase in horse paddocks.
- Expansion of garden curtilage.
- Settlement expansion eroding the characteristic form and vernacular styles.
- Redevelopment of former airfield sites e.g. South of Hepworth.
- Pressure for wind turbines.
- Herbicide and pesticide runoff into drainage ditches which feed tributaries of rivers.
- Increased traffic on major roads affecting tranquillity.

Management Strategy/Guidance

- Avoid new development (including large scale agricultural buildings) which visually intrude/detract from the tranquillity, undeveloped character and remoteness found within this and adjacent valley landscapes.
- Ensure that new or expanded curtilage to existing properties uses traditional boundary treatments and native planting typical of the area.
- Seek to minimise the impacts of horse paddocks on the landscape by encouraging limited use of post and rail fencing, tape and the careful siting of other associated features such as shelter and storage areas.
- Where redevelopment of former airfields is proposed seek to retain cultural heritage features and ensure appropriate planting and mitigation.
- Encourage appropriate ongoing management of native hedgerows in order to improve connectivity of wildlife sites and create wildlife corridors and encourage the management of stag head oaks along lanes and the planting of new oak/ash trees.
- Seek opportunities to create grassland margins to crop fields and rural lanes to enhance biodiversity and reduce surface runoff.
- Maintain the small scale, rural character of the road network, resisting change due to signage or traffic calming/edge treatments which could have an urbanising influence.
- Maintain and restore historic greens and commons.
- Encourage the appropriate management of woodlands using traditional techniques. Also and seek appropriate opportunities for the creation of new broadleaved woodlands, that compliment and enhance local character.

Plateau Claylands

Key characteristics

- An **expansive, elevated, gently rolling plateau** landscape.
- Thick underlying deposits of **glacial Lowestoft Till** create **heavy clay soils**.
- **Mixture of enclosure patterns** including ancient irregular hedges and larger scale straight rectilinear patterns reflecting late enclosure of common/greens.
- **Arable land use predominates** giving rise to uniformity.
- **Linear villages with multiple nuclei**, landscape scattered with farmsteads and hamlets.
- **Evidence of former commons** in place names and straight roads.
- **Large modern agricultural buildings** a recurrent feature.
- **Almost no woodland** with small copses in villages, around farmsteads and ponds.
- **Fields often defined by** open **ditches and contain field ponds**.
- **A working landscape** on which suburbanisation is beginning to make an impact.

Location

Within the Study Area this character type forms an upland plateau landscape to the north of the Little Ouse and covers the second largest geographical area within the Little Ouse river catchment. An additional small area of this landscape type also occurs in the southern fringes of the Study Area.

Geology, soils, landform and drainage

This landscape occurs on the great plateau of glacial till or boulder clay deposited by the retreating ice-sheet of the Anglian Glaciation. The plateau is generally flat or only gently rolling, but can be locally concave. The edges of the plateau are dissected small tributary streams which give important physical variation to the landscape.

The soils are mainly heavy, seasonally waterlogged, clay soils and are drained by ditches which delineate individual fields. Fields also frequently contain ponds

Landuse and enclosure pattern

Historically this landscape was poorly drained and important for dairying in the 17th and 18th centuries. Subsequent drainage allowed more arable production and further post war drainage has resulted in large scale field amalgamation and boundary loss. Field ponds, which are a reoccurring feature of this landscape type, are a remnant from the former livestock farming and flax production.

Today the characteristic land cover is arable farmland divided by a medium to large scale field pattern which in places is fragmented. Hedges are therefore variable in their visual impact, often gappy and many are nothing more than lines of suckering elms. Boundary trees, especially ash and oak (often pollarded) are, however, present in many of the hedges.

Lopham Common (former heathland area as seen on Faden's 1797 Map of Norfolk) to the west of South Lopham remains only in name having been enclosed and used for arable and horse grazing. Here the field pattern is visually weak, defined by ditches or post and wire/rail fencing.

There is very little woodland with only a scattering of small copses and occasional plantations associated with farmsteads and field ponds.

The overall experience is of open views that are only sometimes confined by hedges and trees. Slight changes in slope can have a profound effect on what and how much of the landscape can be seen and in the small valleys it is possible to find quite confined landscapes

with intimate views. However the lasting impression is generally the wide, open views of arable land with small clusters of trees and houses on the horizon.

Historic/Settlement

Settlement pattern is defined by frequent dispersed farmsteads and hamlets and more occasionally linear or nucleated villages associated with the rural road network, notably South and North Lopham. South Lopham displays a range of timber framed buildings, in addition to later infill which has resulted in a 'ribbon' of development connecting it to North Lopham. The Norman tower of South Lopham Church is a prominent feature.

The A1066 cuts through this area and is busy – resulting in the loss of tranquillity in the vicinity.

Past and Present Forces for Change

- Improved drainage resulting in arable land use and field amalgamation.
- Arable cultivation and agricultural intensification resulting in field boundary loss and potential for herbicide and pesticide runoff into drainage ditches which feed into tributaries of rivers.
- Enclosure and attendant loss of common at Lopham Common.
- Settlement expansion eroding the characteristic settlement form and vernacular styles and urbanisation of rural lanes due to garden curtilage treatment.
- Change of land use to horse paddocks with proliferation of fencing.
- Conversion and expansion of farmsteads for residential uses.
- Large-scale agricultural buildings in open countryside and obscuring of views to key church landmarks.
- Planting of poplar windbreaks blurs distinction of this landscape with adjoining river valleys.
- Loss of field ponds due to lack of management – woodland growth and drying out.
- Large scale barn development Increased traffic on major roads affecting tranquillity.

Management Strategy/Guidelines

- Conserve and enhance hedgerow trees through appropriate arboricultural management and reinforce through new mixed native hedgerow planting.
- Conserve the existing small scale rural pattern of settlement, monitoring edge and expansion and potential suburbanising influences.
- Maintain rural road network and discourage traffic/road widening pressures which could have an urbanising influence e.g. traffic calming, road signage.
- Seek opportunities for creation of cereal field margins to enhance biodiversity of this intensive agricultural landscape.
- Investigate opportunities for heathland/common re-creation to reintroduce this historic land cover element and provide habitat creation opportunities.
- Maintain areas of woodland at their current extent to conserve the historically open character of the plateau.
- Maintain and restore the stock field ponds in this landscape.

Estate Sandlands

Key characteristics

- **Flat or very gently rolling plateaux** of **freely-draining sandy soils**, overlying drift deposits of either glacial or fluvial origin .
- **Absence of watercourses** except for main river valleys where this landscape forms the valley sides.
- Land cover is variable, ranging from **intensively farmed arable fields, pig farming, and areas of conifer plantation**.
- Strongly **geometric structure** of fields enclosed in the 18th & 19th century in variable condition.
- **Belts of twisted Scots pine**, marking field boundaries and aligning roads.
- Generally a landscape **without ancient woodland**.
- A number of **historic sites** including Scheduled Monuments (tumuli).
- The **skyline is prominent** and for the most part wooded, defined by the solid lines of the coniferous blocks and shelter belt planting.
- **Rural lanes have wide grass and treed verges** often containing bracken.
- **Movement is variable** - A roads and secondary routes bring a strong sense of movement but away from these corridors the areas remains still and peaceful.
- Some **large open remote areas** with few metalled roads or dwellings.

Location

Within the Study Area this character type forms a small area to the west of Garboldisham. It therefore forms the western valley sides of the Garboldisham tributary valley and links the Little Ouse Headwaters area with the Brecklands further west.

Geology, soils, landform and drainage

Consists of flat or very gently rolling plateaux of freely-draining sandy soils, overlying drift deposits of either glacial or fluvial origin, sometimes chalky in parts of the Brecks. The drift deposits have given rise to the dominant brown sand soil - a droughty soil which without irrigation is prone to wind erosion.

Views both within this landscape and to adjacent areas are variable. In places they are distant, to wooded skylines and elsewhere they are framed or contained by woodland blocks.

Landuse and enclosure pattern

Historically the dry mineral soils of this landscape type and the general absence of watercourses would have supported extensive areas of heathland or acid grassland used either for sheep grazing (e.g. Garboldisham Heath and Gasthorpe Heath). Many of the heaths were enclosed in the period of agricultural improvement in the 18th and 19th centuries and survive only as place-names. The resulting enclosure pattern defined by hedgerows, has the strongly geometric structure that results from the map-based work of surveyors. The creation of farmland out of the former heaths resulted in the widespread planting of tree belts and rectilinear plantations. The characteristic 'pine lines' of Breckland originated as managed hedges, many of which have now grown out into lines of very striking twisted trees. The grassing banks and field edges are very important to the conservation of the remnant Breckland grass-heath habitats. In the late 20th century the introduction of irrigation has further changed the agricultural potential of this land and irrigated vegetable crops are now an important part of the local economy.

Immediately to the north of the Study Area is an extensive area of forestry which reflects the planting up of large estates by the Forestry Commission after the First World War. This woodland is designated as part of the Breckland Forest SSSI and the linear plantations within the Study Area to the south of the SSSI form important corridors connecting this SSSI to other wooded areas within the Little Ouse valley floor.

Historic/Settlement

The scarcity of water in these landscapes meant that they were not favoured for settlement. They were managed as marginal areas to settlements in the adjacent and better-watered valleys.

This landscape contains a number of historic features including a tumuli and two historic route ways including the Devils Ditch (now a public right of way) and the route of a Roman Road which cuts across the area in a north south direction.

Past and Present Forces for Change

- Agricultural intensification and loss of heathland/common.
- Conversion of estates to plantation woodland and loss of semi-natural habitat.
- Felling of conifer plantations and changes to planting through new Forest Design Plans.
- Loss of hedgerows due to poor management.
- Soil erosion and limited ecological value along field margins.
- Agri environment schemes for the creation of heathland and cultivated arable margins for annual plants.

Management Strategy/Guidelines

- Ensure that historical features/earthworks are not lost or degraded through agricultural cultivation, planting or erosion.
- Reduce soil erosion by minimising exposure of bare soil associated with crop growth. Ensure soils are protected from erosion by the retention of historic Scots Pine wind breaks and shelter belts of native trees.
- Maintain the historic Scots Pine shelterbelts and prolong/sustain their life through appropriate arboriculture management.
- Ensure that any further provision of footpaths or recreation areas does not conflict with the sensitive species and habitats within the Breckland Farmland.
- Ensure that the species mix of the plantations, incorporating broadleaf woodland and conifer species is maintained.
- Retain woodland which forms the wooded backdrop to Garboldisham when viewed from the east.
- Consider opportunities to re-create heathland in former areas of Garboldisham and Gasthope Common.

Plateau Estate Farmlands

Key characteristics

- **Elevated land, with a gently rolling topography**, associated with low glacial plateaux.
- **Workable sandy soils** supporting **arable cultivation** with only fragments of lowland heath now remaining.
- Small **patches of ancient woodland** also survive in places.
- Discrete **tree belts, coverts and occasional mixed plantations**, often associated with areas of 18th and 19th century parkland.
- Mainly **late enclosure** of common fields and rough grazing land.
- **Field pattern is irregular and large in scale**, separated by hedgerows and occasional hedgerow trees.
- **Low density of settlement** comprising primarily estate farms and there has been little 20th century development.
- Many buildings of **brick and clay tile construction**.
- There are many small 18th- 19th & 20th century **parklands** in this landscape, often with associated large country houses.
- **Estate farms** and parkland give rise to a visually well ordered landscape.
- This is a **tranquil rural landscape**, which in places, can feel rather empty and remote.

Location

Within the Study Area this landscape type occurs to the north of Garboldisham Valley and forms a relatively small discrete area.

Geology, soils, landform and drainage

The landform is a gently rolling or flat plateau formed from a mixture of glacial deposits. These chalky clay tills and sandy drift deposits have given rise to mainly free-draining loam and mineral soils. This landscape forms a transition between the Brecks and the claylands.

Landuse and enclosure pattern

A medium to large scale, ordered, arable landscape, for the most part associated with an open, rolling plateau. The planned character of the fields is very obvious, with large rectangular units surrounded by straight hedges. This regular pattern results from the parliamentary enclosure of common fields and of numerous commons and heaths in the first two decades of the 19th century.

The enclosure of heathland and low-value farmland gave opportunities for the creation of some areas of parkland in the 18th and 19th centuries e.g. Garboldisham (and Quidenham Park - outside the Study Area). Today the agriculture is largely arable with grassland confined to parklands and occasional paddocks. Arable production is a mixture of combinable and a strong element of vegetable production and outdoor pigs. The presence of pig production can have a profound visual impact in some places.

Woodland cover is scattered, mostly in the form of rectangular plantations and coverts reinforcing the planned character of this landscape. Hedges are mixed although often dominated by unmanaged elm typical of these light soils.

Historic/Settlement

The Plateau Estate Farmlands are relatively unsettled with a scattering of estate farmsteads.

Past and Present Forces for Change

- Enclosure of heathland and agricultural intensification and field boundary loss.
- Development of pig farming.

- Conversion and expansion of farmsteads for residential uses.
- Large-scale agricultural buildings in open countryside.
- Development of farm reservoirs.

Management Strategy/Guidelines

- The changes in cropping practices such as outdoor pig production, have had a significant effect on the landscape. The siting and style of structures subject to planning control, such as static feed bins for pigs, poly tunnels or reservoirs should be appropriately conditioned to minimise their landscape impact.
- Opportunities should be explored for the creation of grassland margins to crops fields to enhance biodiversity.
- Restore the quality of elm hedges with coppice management.
- Restore, maintain and enhance the network of tree belts and pattern of small plantations found across much of this landscape type.

3.4 River Corridor Character Areas (RCCA)

3.4.1 The Little Ouse valley, Waveney Valley and their tributaries have been divided into eight River Corridor Character Areas which reflect local variations in landscape character along the course of the rivers. The Upper Waveney Valley flowing eastwards is defined as its own river corridor character area, while the Little Ouse flowing west is sub-divided into three sections namely:

- The Frith to Blo' Norton
- Blo' Norton to Smallworth
- Smallworth to Gasthorpe

3.4.2 The tributary valleys have also been defined as:

- Botesdale
- Thelnetham Valley
- Hopton Valley
- Garboldisham Valley

3.4.3 Each is described below in terms of location and relevant character types, a summary description/sense of place, the special qualities, key issues, and initiatives and priorities.

Main Valley Landscapes

Upper Waveney Valley

Relevant Landscape Types

Wooded Valley Meadowlands and Fen
Valley Settled Farmlands

Context

This valley section is located in the Parishes of South Lopham and Redgrave and forms the upper reaches and source of the Upper Waveney. The valley floor comprises an extensive area of fen landscape (Redgrave and Lopham Fen) designated as a National Nature Reserve and managed by Suffolk Wildlife Trust. There are no sites owned./managed by the LOHP as this valley landscape lies outside the project area. Nevertheless the Upper Waveney Valley lies adjacent and contiguous to the LOHP Study Area and is therefore relevant when considering the landscape as a whole. This RCCA includes the tributary valley of South Lopham known as Worby's Drain, which extends to the north.

Representative Views:



Summary Description/Sense of Place

This area forms one of the most important wetlands in Europe and has international protection and comprises wet heathland, open water, scrub and woodland. The underlying acid and alkaline geology has resulted in habitats which support species now rare in Britain.

The nature reserve which covers the majority of the valley floor within the Study Area is managed as a Nature Reserve by Suffolk Wildlife Trust. Over recent years it has undergone significant restoration and parts of it are now grazed by a herd of resilient Polish Konik ponies, beef cattle and hebridean sheep.

This area of valley has a strong historical association with the adjacent settlements of Redgrave and South Lopham and the fens are still administered by the respective parishes.

Special Qualities and Features

- Broad section of valley with gently rising valley sides.
- Notable areas of open water.
- Significant areas of species rich meadows and limited arable.
- Visitor centre and car parking as part of National Nature Reserve.
- Largest remaining river valley fen in England - designated a Special Area of Conservation and SSSI.
- Tranquil, quiet environment and secretive quality.
- Views to South Lopham church (listed).

- Redgrave village is a Conservation Area which extends into this valley landscape around Gallows Hill.

Key Issues

- Past river engineering resulting in natural watercourse and associated habitats.
- Arable land use has encroached from the south.
- Loss of field boundaries.
- Climate change and dry summers resulting in drying out.
- Planting of poplars along watercourse and as windbreaks on the valley sides.
- Large scale barns and planting of leylandii.
- Grown out hedgerows - no longer stock proof and replacement with post and wire fencing.
- Horsiculture/pony paddocks in places on the valley sides.
- Some urbanisation of lanes due to linear development.
- Development of large scale farm buildings.
- Occasional low level military aircraft undermine tranquillity.

Initiatives and Priorities

- Seek opportunities for the restoration of naturalistic watercourses and habitat re-creation.
- Avoid development on the valley sides which is visually prominent.
- Seek opportunities to reduce sub-urban boundary treatments to properties along the valley side rural lanes.
- Improve the access between Redgrave and Lopham Fen NNR and The Frith and Little Ouse Valley across the busy B1113.
- Discourage the planting of poplar as windbreaks on the valley sides where they blur the distinction between the valley floor and valley side landscapes.
- Seek opportunities to remove non native planting especially leylandii where it is particularly visible on the valley sides.
- Manage hedgerows and encourage hedge laying to improve stock proofing and reduce the visual impact of post and wire fencing.
- Raise water levels and promote wetland restoration, especially in Worbys Drain where compatible with adjacent land use.

The Frith to Blo' Norton

Relevant Landscape Types

Wooded Valley Meadowlands and Fen
Valley Settled Farmlands

Context

This valley section is located in the Parishes of South Lopham, Redgrave, Hinderclay and Blo' Norton and forms the upper reaches of the Little Ouse. The valley floor comprises a patchwork of fen landscapes and meadows. A number of sites in this section of valley are owned and/or managed by the LOHP namely The Frith, Blo' Norton Little Fen, The Lows, Hinderclay Fen, Blo' Norton Fen, Webbs Fen, Betty's Fen and Parkers Piece. In addition to this Suffolk Wildlife Trust manage two sites – Thelnetham Middle Fen and Old Fen. The sites at the western end of this section fall within the Waveney and Little Ouse Valley Fens SSSI and SAC. Hinderclay Fen and parts of Blo' Norton and The Frith are designated CWS.

Representative Views:



Summary Description/Sense of Place

This area has a strongly wooded character resulting in an enclosed and often inward looking landscape. It comprises a matrix of wet carr, fen and meadows on the valley floor and dry heath and adjacent fields of arable on the valley sides (including cereals, sugar beet, potatoes and horticultural crops).

The valley floor itself is unsettled but there is a strong historic connection between the valley floor and adjacent valley side settlements including Blo' Norton, Thelnetham as well as South Lopham and Redgrave. This area more than most has suffered from fragmentation of the fens with the break up of the Thelnetham-Hinderclay complex which would probably have been continuous upstream to The Frith.

Special Qualities and Features

- Occasional views across the river meadows from valley side roads.
- Unusual drift geology and soils resulting in juxtaposition of acid grassland/heath and wet fen habitats.
- Mature hedgerow oaks.
- Commemorative pine circle planted by Victorians on The Frith.
- Significant areas of carr woodland - historically would have been open fen important for providing peat for fuel - surface is still pitted.
- Strong sense of relative wildness and seclusion within the valley floor due to wet rushy pastures and woodland cover.
- Remnant areas of wet pasture which have never been ploughed but have suffered from lack of grazing.

- Only section of river that has not been straightened and still has meanders is at Bleyswycks Bank.

Key Issues

- Past river engineering resulting in loss of natural watercourse .
- Habitat fragmentation and isolation of valued sites e.g. Buggs Hole Fen.
- Urbanisation of lanes along the valley sides due to infill development, boundary/curtilage treatment, kerbs and signage.
- Land south of Parkers Piece and west of Middle Fen falls within the SSSI Waveney and Little Ouse Valley Fens but is not managed by either the SWT or LOHP.
- Visual impact of poultry farming on valley floor and valley sites including buildings, car parking, perimeter fencing, leylandii and urbanisation of lanes.
- Diffuse pollution from adjoining land uses affecting water quality and nature conservation value of meadows and fen.
- Ploughing and improvement of former acid heath with nature conservation interest reduced to field margins.
- Loss of pollarding tradition to field and hedgerow trees resulting in lack of tree management.
- Crossing point over B1113 - busy road.
- Limited connectivity between The Lows and sites to the west.
- Areas of former peat digging leaves some areas of deep water which presents access and safety issues.
- Disturbance to ground nesting birds by dogs.
- Silting up of ditches and loss of open water habitats.
- Enrichment of peat and visual clutter as a result of pig rearing.
- Few views of the churches at Thelnetham and Blo'Norton from the valley floor due to tree growth around the churches.
- Occasional low level military aircraft undermine tranquillity.

Initiatives and Priorities

- Seek opportunities for the restoration of naturalistic watercourses and habitat re-creation.
- Protect and create occasional views across the valley meadows and woodland from valley side roads whilst retaining the heavily wooded and mainly enclosed character of this part of the valley.
- Seek to create views to church towers of Thelnetham and Blo'Norton from the valley floor reinforcing the historical links between the river fens and adjacent settlement.
- Monitor and manage parking pressures along lanes at access points onto the valley floor.
- Liaise with owners of existing sites which are SSSI but not managed by LOHP or SWT regarding management practices and possible opportunities for access.
- Seek opportunities for new footpath access between The Lows and Hinderclay Fen.
- Seek opportunities to reinstate field boundaries and hedges to the north of Hinderclay Fen.
- Seek the creation of wetland buffer zones along watercourses particularly at the confluences with the Botesdale and Thelnetham tributaries especially where the tributaries pass through intensive farming areas.
- Seek to minimise the visual impacts of intensive poultry and pig farming on this area - consider the development of joint management plans with large landowners to achieve nature conservation benefits.

Blo' Norton to Smallworth

Relevant Landscape Types

Wooded Valley Meadowlands and Fen
Valley Settled Farmlands

Context

This valley section is located in the Parishes of Hopton, Thelnetham, Garboldisham and Blo' Norton and forms a section of the Little Ouse main valley between Garboldisham and Blo' Norton. Within this area there are currently two sites managed by the LOHP namely Scarfe Meadows and Broomscot Common (CWS). There are no sites managed by the Suffolk or Norfolk Wildlife Trusts but three further CWS namely Garboldisham Old Fen, Oak Plantation and Little Ouse Meadow and a SSSI at Bugg's Hole, Thelnetham.

Representative Views:



Summary Description/Sense of Place

This section of valley is relatively open defined by gently sloping valley sides which are more pronounced to the north than to the south. This is a quiet landscape with no villages/hamlets and where the valley side lanes are set back from the river channel and flood plain. Within the valley floor there is the historic moated site of Blo'Norton Hall which is surrounded by mature trees - the lime avenue and copper beech trees are visually notable. From the southern valley sides there are views to adjacent settlement including Thelnetham and Hopton as well as Blo'Norton. There are also memorable views to Thelnetham windmill. There is little access onto the valley floor although the Angles Way long distance path does run alongside one edge of the floodplain but set back from the water channel. The landuse in this section of the valley is predominately arable with a higher concentration of pasture on the northern valley sides.

Special Qualities and Features

- Historically an area with many windmill sites - those which survive form local landmarks e.g. Thelnetham.
- Important moated sites and parkland/grounds - Blo' Norton Hall (extant) and former site of Segmers Hall.
- Waterbodies/ponds at Blo' Norton Hall and Spring Farm.
- Tranquil landscapes along course of river.
- Open views across valley floor (rare in context of wider Study Area).
- Areas of common e.g. Broomscot Common (extant) and Raydon (formerly Hopton) Common.
- Broomscot Common (CWS) is mainly lowland dry acid grassland and lichen heath, interspersed with gorse and an area of wet fen.
- Wet pastures and meadows/fen habitats are designated CWS (Old Fen, Broomscot Common and Oak Plantation).

Key Issues

- Past river engineering resulting in loss of natural watercourse and habitat fragmentation.
- Valley lacks structure and definition - there is little distinction between the valley floor and valley sides.
- The valley sides to the south appear open and bleak due to loss of hedgerows.
- Arable for significant parts of valley sides resulting in issues of soil runoff and diffuse pollution of watercourses.
- Some areas of wet woodland are overgrown with limited access – e.g. Garboldisham Old Fen.
- Lack of footpath access to valley floor and between LOHP currently managed sites.
- Little Ouse Meadow CWS not managed by LOHP or SWT - potential for missed opportunities re management, access and wider habitat restoration.
- Loss of meadows and common (e.g. Raydon Common) to arable land use and pig rearing and loss of field boundaries.
- Inappropriate cutting/mowing and scrub control.
- Areas of undergrazing and development of hawthorn scrub.
- The setting of Thelnetham windmill is undermined by intensive arable and farm buildings.
- Visual impact of residential development to the east of Hopton.
- Occasional low level military aircraft undermine tranquillity.

Initiatives and Priorities

- Seek opportunities for the restoration of naturalistic watercourses and habitat re-creation prioritising the reconnection of remaining fragmented sites.
- Retain open views and more open character of this part of the valley.
- Protect existing cultural heritage sites (moated halls and lime avenue, windmills, churches) and open up views to these local landmarks from the valley floor/sides.
- Seek opportunities to reinstate the setting to Thelnetham windmill - removal of unsightly buildings and recreation of meadow/pasture.
- Provide improved interpretation linking cultural heritage interest with nature conservation.
- Existing meadows particularly adjacent to the watercourses - improve species rich grassland through reduced herbicide treatment and removal of fencing.
- Improve access across the valley floor connecting up sites of interest particularly LOHP sites and using the Angles Way long distance path where appropriate.
- Seek to liaise with owners of existing sites which are CWS but not managed by LOHP or SWT regarding management practices and possible opportunities for access.
- Seek opportunities for the full or partial Restoration of Raydon Common (formerly Hopton Common).
- Seek opportunities for the reversion of arable to pasture on southern slopes of the valley or at least the creation of grassland buffers to field margins particularly along drainage ditches which feed into the Little Ouse.
- Seek opportunities to screen the urban edge of Hopton especially where there has been new residential development to the east.

Smallworth to Gasthorpe

Relevant Landscape Types

Wooded Valley Meadowlands and Fen
Estate Sandlands
Ancient Plateau Claylands

Context

This valley section is located in the Parishes Hopton, Garboldisham, Riddlesworth and Knettishall and forms a section of the Little Ouse main valley west of Smallworth. Within this area there are no sites managed by the Suffolk or Norfolk Wildlife Trusts or the LOHP. There is a CWS on land adjacent to Devil's Ditch (near Frogshall Carr). Just beyond the Study Area boundary there is the Knettishall Heath SSSI and Country Park.

Representative Views:



Summary Description/Sense of Place

In this section of the Little Ouse Valley the influence of the glacial clay cap which extends off the plateau landscapes has all but gone and instead the sandy based landscapes of Estate Sandlands are prevalent on the valley sides marking the start of the Brecklands. The result is a stronger acidic character with Scots pine lines, mixed woodland planting and areas of heathland vegetation forming the context to the valley. The valley sides are also more pronounced than in the Blo'Norton to Smallworth section.

This valley landscape historically contained extensive fen and meadow habitat. Remarkably much of the hedgerow pattern and network of drainage ditches remain resulting in a small scale pattern and coupled with woodland copses and result in a visually contained but not enclosed character. However, improved drainage has resulted in the development of some areas of arable cultivation. This part of the Little Ouse Valley is relatively inaccessible and unsettled although the Angles Way long distance route passes across the valley floor but not along the course of the river.

Special Qualities and Features

- Intact pattern of drainage ditches and historic hedgerows.
- Grazed valley pastures along the river.
- Tangible juxtaposition of acid vegetation (including mixed plantations, gorse and bracken in hedges and pine lines) with valley pastures and wetland trees (willow and poplar).
- Strongly rural character and distinct lack of settlement resulting in a high degree of tranquillity and sense of remoteness.
- The river flows in a series of tight loop and meanders.
- Views to historic churches (ruins - St Michaels and All Saints).

- Past historic crossing points over the river reflected in the historic routes which cut through this landscape namely the Roman Road and Devil's Ditch.
- Land adjacent to the Devil's Ditch is a CWS.

Key Issues

- Undergrazing of some areas resulting in hawthorn/scrub development.
- Lack of access and footpaths onto and across the valley floor.
- Lack of ditch management - many are overgrown.
- Loss of meadows to arable and drainage improvements.
- Occasional low level military aircraft undermine tranquillity.

Initiatives and Priorities

- Seek opportunities to reinstate and restore former fen and meadow habitats along the valley floor particularly those that enable connection with sites in the Hopton Valley e.g. Hopton Fen.
- Encourage the sensitive management of existing drainage ditches and historic hedgerow pattern.
- Seek new footpaths which enable Knettishall Country Park to connect into the Little Ouse recreational walks and to connect Hopton Fen with other sites along the river.
- Manage Scots pine lines.
- Seek opportunities to restore and manage remnant heathland areas.
- Seek opportunities to interpret the historic routes and crossing points over the river.

Tributary Landscapes

Botesdale

Relevant Landscape Types

Wooded Valley Meadowlands and Fen
Settled Valley Farmlands
Ancient Plateau Claylands

Context

This tributary valley is located in the Parishes of Redgrave, Botesdale, Rickinghall and Hinderclay and forms a tributary valley to the Little Ouse to the south of the main river and is the true hydrological source of the Little Ouse. Within this area there are no sites managed by the Suffolk or Norfolk Wildlife Trusts or the LOHP.

Representative Views:



Summary Description/Sense of Place

This tributary valley has a broad generous scale which distinguishes it from other parts of the Little Ouse valley. It is the largest tributary valley of the Little Ouse and divides into three separate valleys - one leading towards Hinderclay, one characterised by Botesdale settlement and the third associated with the historic parkland of Redgrave House. Large houses located at the upper slopes of the valley sides which took advantage of the views across the valley are a notable feature of this area and woodland copses and planting on the valley sides is often associated with key views and landscape design.

Special Qualities and Features

- Broad generous scale of valley is distinguishing character.
- Blocks of woodland along valley sides give a simple pattern (often ancient/CWS).
- Limited car access into valley increasing tranquillity and sense of isolation.
- Historic designed parkland of Redgrave with warren, open water/lake and tree clumps.
- Historic settlement of Botesdale at head of valley - conservation area.
- Historic halls and houses located on the upper valley slopes with views across the valley.
- Redgrave Lake is a CWS for its wetland flora and ornithological interest.
- Wooded horizons formed by ancient woodland and copses on the skyline either on upper valley slopes or edges of plateau landscape.
- Cowfen Lane and Lizzies Lane - previously historic lanes onto the valley floor are now tracks/public rights of way.

Key Issues

- Where roads cross the river modern bridges have been built which are urban in character and scale and detract from rural qualities of the area.
- Limited pasture along watercourses – often arable extends up to the edge of the water channel reflecting ploughing of former valley floor meadows.
- Development of willow biomass along the valley floor resulting in changing landscape texture/colour and blocking of views.
- Growth of settlement – pressure for further development particularly at Botesdale.
- Past sand and gravel extraction resulting in the creation of open water lakes now used for fishing.
- Substantial loss of field boundaries and field enlargement on the valley sides.
- Significant numbers of HGVs using the B1113 to access the poultry processing plant and seasonally transporting sugar beet to Bury St Edmunds.
- Occasional low level military aircraft undermine tranquillity.

Initiatives and Priorities

- Seek to develop recreational footpaths along former lanes which provide access onto and along the valley floor.
- Seek opportunities to restore areas of fen habitat particularly between Redgrave and Hinderclay where there is historic evidence for it.
- Seek to reinstate valley floor pastures through removal of drainage and raising of water table.
- Encourage the continued management of drainage ditches and meadows along the valley floor adjacent Botsdale village.
- Retain open and broad generous scale of the valley landscape which contrasts with other valley areas within the Little Ouse catchment.
- Seek to reinstate former vistas associated with historic parkland and or estate houses e.g. Hinderclay Hall, Rickinghall House and Redgrave Hall.
- Seek to reinstate hedgerows on valley sides - particularly mid slope to help reduce soil erosion and runoff.
- Seek to improve nature conservation value of waterbodies in the valley.

Thelnetham Valley

Relevant Landscape Types

Settled Valley Farmlands

Context

This tributary valley is located in the Parishes of Thelnetham and Hinderclay and forms a tributary valley to the Little Ouse to the south of the main river. Within this area there are no sites managed by the Suffolk or Norfolk Wildlife Trusts or the LOHP.

Representative Views:



Summary Description/Sense of Place

This is a small and discrete tributary valley which nestles into the wider plateau landscape immediately to the south of the village of Thelnetham. The valley sides are relatively steep particularly to the southeast and from here there are memorable views of Thelnetham church back clothed by mature trees. As a narrow valley the watercourse comprises a small stream and there is no floodplain, valley side land uses extending down to the channel edge. Landuse is predominately arable although there are small patches of woodland and the recent introduction of a vineyard. Settlement consists of isolated dwellings and a farm and the area has a strongly rural, intimate character.

Special Qualities and Features

- Views to Thelnetham church - local landmark and listed building.
- Strong rural intimate character.

Key Issues

- Changing land uses - development of vineyards and introduction of pony paddocks and fencing on the valley sides.
- Arable landuses extend to the channel edge.
- No footpath access.
- Occasional low level military aircraft undermine tranquillity.

Initiatives and Priorities

- Opportunities to promote local farm produce e.g. locally grown wine.
- Retain rural/isolated character of this valley and avoid the creation of new footpaths.
- Seek opportunities to create wetland buffers adjacent to the watercourse to reduce runoff and diffuse pollution.
- Seek opportunities for the sensitive management of the water course particularly close to the confluence with the Little Ouse.
- Seek opportunities to convert arable landuse to pasture on the valley sides.
- Retain views to church landmark from adjacent lane.

Hopton Valley

Relevant Landscape Types

Wooded Valley Meadowlands and Fen
Valley Settled Farmlands
Ancient Plateau Claylands

Context

This tributary valley is located in the Parishes of Hopton, Market Weston and Coney Weston and forms a tributary valley to the Little Ouse to the south of the main river. Within this area there are two SSSI sites namely Hopton Fen and Weston Fen which form part of the Waveney and Little Ouse Valley Fens SAC and a CWS at Hopton Meadow.

Representative Views:



Summary Description/Sense of Place

This tributary valley has a well defined valley floor and relatively pronounced valley sides. Within the valley floor there is a predominance of pasture and fen habitat comprising the Weston Fen SSSI which is managed by SWT and is open to the public. Settlement within the valley has a strong vernacular character and is historically associated with the past management of the valley fens. Linear development along Nethergate Street from Hopton village has resulted in the merging/coalescence of previously isolated valley dwellings with the village and the blurring of valley side and valley floor. To the east of this valley are the Valley Settled Claylands and to the west the Ancient Plateau Claylands and this is reflected in the concentration of valley side woodlands which are greater to the west.

Special Qualities and Features

- Woodland copses are visually significant on the valley sides.
- Isolated church is a key feature.
- Very rural and tranquil - quiet seclusion.
- Exceptional fen habitat at Hopton Fen, Hopton Meadow and Weston Fen (SSSI and SAC).
- Hopton village is a Conservation Area.
- Juxtaposition between sandy soils on valley sides and wetland vegetation within the valley floor.
- Notable local vernacular - use of knapped flint on buildings and boundary walls, thatched roofs and render.
- Intact pattern of historic drainage ditches and hedgerows within the valley floor enclosing small scale pastures.
- Veteran trees in pastoral fields in northern section of the valley.

Key Issues

- Linear growth of Hopton has resulted in amalgamation of settlement with Fen Street.

- Stag head oaks within field boundaries or in field trees reflecting maturity of trees in area and possible lack of management.
- Lack of field margins – arable comes down valley sides to the edge of the valley lane.
- Parking issues along verges and conflict between resident's parking and visitors to Weston Fen.
- Infill development along Fen Lane and urbanisation of lane character.
- Habitat fragmentation and the reclamation of fenland to other land uses.
- Loss of hedgerow and enlargement of fields on the valley sides.
- Occasional low level military aircraft undermine tranquillity.

Initiatives and Priorities

- Seek to rationalise parking and access points onto the fen and monitor to ensure erosion of verges is prevented.
- Encourage the management of hedgerow oaks and the planting of new hedgerow trees and veteran in field trees on valley floor.
- Manage drainage ditches and water levels within the valley floor.
- Manage historic hedgerow pattern both on the valley floor and valley sides.
- Seek opportunities to reinstate hedgerows on valley sides particularly those that follow Parish boundaries or occur at mid slope to help reduce soil erosion and runoff.
- Seek opportunities to reduce sub-urban boundary treatments to properties along the valley side rural lanes.
- Encourage the development of grass field margins to arable fields.
- Seek opportunities to physically connect Weston Fen with Hopton Fen using existing tracts/paths where possible.

Garboldisham Valley

Relevant Landscape Types

Valley Settled Farmlands
Estate Sandlands
Plateau Estate Farmlands

Context

This character area is located in Garboldisham Parish in the west of the Study Area north of the Little Ouse Valley. It is bordered to the west by Estate Sandlands and to the east by Valley Settled Farmlands. It is a linear character area running in a north south direction.

Representative Views:



Summary Description/Sense of Place

This landscape is defined by the shallow river valley and by the presence of Garboldisham village and Smallworth village which exert a strong influence on the area. It is also defined by the influences of the sandy landscapes to the west and the mixed woodland plantations which form a backdrop to views from the east. Although the water channel is small its presence is reinforced by the valley topography and small narrow pasture fields which flank it.

Special Qualities and Features

- Church landmark and listed building at the heart of the village.
- Conservation area covers much of Garboldisham village.
- Start of influence of sandy soils found further to the west resulting in juxtaposition of acid heath vegetation and wetland landscapes.
- Historic parkland in northern part of village – tree clumps and veteran trees on the valley sides characteristic.
- Ancient tracks and lanes (green routes used as footpaths and bridleways).

Key Issues

- Busy nature of the A1066 through the village severing the valley from the wider Little Ouse valley.
- HGVs using B1111.
- Derelict buildings within the village.
- Occasional low level military aircraft undermine tranquillity.

Key Initiatives and Priorities

- Protect the setting of the historic church.

- Protect the character of the village and ensure development does not have an adverse effect on the river valley.
- Protect the setting of the village and valley with wooded backdrop provided by woodland on upper valley slopes and adjacent Estate Sandlands.
- Clear vegetation from ponds and watercourses where it has caused silting up and poor flow.
- Manage hedgerows through coppicing and pollarding and plant up any gaps.
- Consider the introduction of new footbridges to improve access and circular walks.
- Introduce interpretation at key sites depicting both natural and cultural heritage interest.
- Encourage the restoration of parkland landscape and management of veteran trees.
- Access into river valley landscape - consider opportunities for Garboldisham to act as a service centre/car parking/cycle hire and seek opportunities to improve both visually and in terms of safety, the main cross roads along the A1066.

4.0 Vision for the Wider Landscape

4.1 The Wider Catchment Area

- 4.1.1 The previous section has broken the Little Ouse catchment into areas of distinctive character. This section takes a step back and considers the catchment as a whole.
- 4.1.2 The ultimate success of the LOHP restoration/management is dependent upon the sensitive management of the wider catchment. There is a need to ensure that in future the overall aim of the LOHP "*to connect the valley wetlands together*" has a high level of coherence and that restoration work and wider land management as well as access and visitor experience is considered in the round.

4.2 Themes for Consideration

- 4.2.1 The themes set out below have been identified as relevant to the overall aim of the LOHP and useful when looking at the wider catchment. It is anticipated that they could form a framework for the development of a whole valley restoration programme and integrated land management plan.

4.2.2 ***Development of locally distinctive areas and spatial variation***

The Little Ouse was once the largest fen in England. Today it comprises a matrix of wetland, heathland, woodland and commercially farmed landscapes. The landscape character assessment has highlighted the variety of character found along the length of its upper reaches and tributary valleys. Of particular note are the variety of spaces that are perceived and experienced. When seeking opportunities to restore parts of the valley floor landscape and the management of the valley sides, care should be taken to retain the variety of enclosure or openness and to retain or create key views that enhance local distinctiveness.

4.2.3 ***Collaborative Management - connecting with multiple landowners***

The Study Area is a landscape under multiple ownership. Whilst the LOHP has sought to purchase and lease land in order to restore the valley floor habitats, ultimately it will need to reach out to individual landowners in order to achieve its vision. This includes linking to landowners on the valley floor who's land management may contribute to the overall conservation activity of the project but also the landowners on the valley sides and surrounding plateau landscapes who's farming activity may affect water quality, diffuse pollution and runoff. Opportunities should be sought to develop whole farm plans which link into the wider objectives of the LOHP and to influence the uptake of higher level stewardship in the area.

4.2.4 ***Nature Conservation and habitat restoration***

The prioritisation of restoration work within the valley floor i.e. the river and its tributaries, is dependent on a number of factors not least land ownership and opportunities for long term lease/management agreements. Some areas of the valley floor have never been fully drained or ploughed and although overgrown or turned to woodland the scope for restoration is higher than if the area had been ploughed. Therefore understanding past land management activity and the evolution of the landscape can inform the potential for restoration work and can help to priorities restoration initiatives. Further detailed research should be undertaken to identify those areas of landscape which are likely to be most successfully restored.

4.2.5 ***Access and Enjoyment***

Improving access to the Little Ouse valley and its tributaries requires a strategic approach aimed at providing a variety of walks in terms of length and experience but which also work with existing landowner requirements and the protection of wildlife importance.

There are obvious gaps in the network between the LOHP current sites. In addition there is a need to establish a hierarchy of routes - for example some may be promoted while others may be less well known thus remaining quieter and less frequently used.

- Seek opportunities to provide improved access between Parkers Piece and Broomscot Common and between The Lows and Hinderclay Fen.
- Seek opportunities for circular routes in association with other points of interest within the valley (historic villages, landmarks, Redgrave parkland, geological interest) as well as outside of the Study Area e.g. Bressingham and Knettishall).
- Give consideration to transport and parking requirements - manage pressures for parking along the valley side lanes as and when they arise.

4.2.6 ***Developing the Story/Interpretation***

The conservation and restoration of the Little Ouse valley presents an opportunity to increase awareness of nature conservation and wildlife value but also cultural heritage and geological interest. The existing interpretation provided at the LOHP sites already provides some information on these topics but there is scope for developing links (both physical and visual) to other points of interest - particularly the associated valley side settlements, churches and moated sites.

- Ensure that there is a consistent standard of information within the Little Ouse - work with partners in adjacent sites (particularly SWT) to ensure consistency whilst also retaining the separate identity of LOHP as a community group initiative.
- Improve views from the valley floor to the valley side churches which can act as landmarks, add interest and provide orientation.