

May 2007

Breckland District Landscape Character Assessment

**Final Report for
Breckland District Council
by
Land Use Consultants**



**LANDSCAPE CHARACTER
ASSESSMENT OF BRECKLAND
DISTRICT**

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Prepared for Breckland Council
by
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May 2007

43 Chalton Street
London NW1 1JD
Tel: 020 7383 5784
Fax: 020 7383 4798
luc@london.landuse.co.uk

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We are grateful to Andrew MacNair for permission to use William Faden's 1797 Map of Norfolk within the report, and to Paul Thorogood and David Gurney at Norfolk Archaeology for use of the Historic Landscape Characterisation (HLC) data.

The project was directed by a steering group comprising David Spencer (Planning Policy, Breckland Council), Phil Mileham (Planning Policy, Breckland Council), Gilbert Addison (Tree and Conservation Officer, Breckland Council), Judith Cantell (Landscape Architect, Norfolk County Council) and David Yates (Landscape Architect, Norfolk County Council). Consultation was undertaken with a range of relevant bodies including the Brecks Partnership, the Wensum Valley Project, and the Norfolk Biodiversity Partnership. However the views expressed within the report are those of Land Use Consultants.

EXECUTIVE SUMMARY

This report contains the Landscape Character Assessment (LCA) of Breckland District. The study was commissioned by Breckland Council and steered by an advisory group representing officers from the district and county council. The district assessment nests within the national and county landscape framework including the recent 'Landscape Evaluation in relation to Wind Turbine Development' (2003).

The study considers the rural landscapes within the district. A more detailed assessment of the fringe of the main settlements has been undertaken and prepared as a separate volume.

The document will be supported by a GIS data set.

What Is LCA?

Landscape Character Assessment is an accepted and recognised method for understanding what the landscape is like today, how it came to be like that, and how it may change in the future. Landscape character assessment describes and classifies the distinct, recognisable and consistent pattern of elements that makes one landscape different from another rather than better or worse. Character is what makes each part of the landscape distinct and gives each area its particular sense of place.

The landscape character approach considers that all landscapes are valuable and seeks to protect their essential character. The purpose of landscape character assessment is to help ensure that change and development does not undermine what ever is characteristic or valued about a particular place, and that ways of improving the character of a place can be considered.

The landscape character assessment of Breckland District will provide a comprehensive landscape evidence base to help underpin planning and management policy and decision-making in the district.

What does the Breckland LCA contain?

The Breckland landscape character assessment has been prepared in accordance with best practice guidance¹. The findings have been subject to consultation with stakeholders including a local consultation workshop.

This report presents a characterisation of the whole district at 1:25,000 scale. The Breckland study has identified **6 landscape types** – each with a relatively homogeneous character with similar physical and cultural attributes. The landscape types are subdivided into component landscape **character areas**. These are discrete geographic areas that possess the common characteristics described in the landscape type. There are **27 character areas** in Breckland District each with a distinct and recognisable local identity. The character areas form the fundamental unit for this assessment and the basis for a detailed description and evaluation.

¹ The Countryside Agency and Scottish Natural Heritage: Landscape Character Assessment: Guidance for England and Scotland. 2002. CAX 84/F

The Breckland District Landscape Classification

Landscape Type A: River Valleys

Character Area

- A1 River Thet
- A2 Upper Yare
- A3 River Wissey
- A4 River Wensum and Blackwater
- A5 Upper Tud

Landscape Type B: Settled Tributary Farmland

Character Area

- B1 Little Ouse Tributary Farmland
- B2 The Buckenhams Tributary Farmland
- B3 River Thet Tributary Farmland
- B4 River Blackwater Tributary Farmland
- B5 River Wissey Tributary Farmland
- B6 River Wensum and Tud Tributary Farmland
- B7 River Nar Tributary Farmland
- B8 Gooderstone to Oxborough Tributary Farmland

Landscape Type C: The Brecks - Plantations

Character Area

- C1 The Brecks of Thetford Forest

Landscape Type D: The Brecks – Heathland with Plantation

Character Area

- D1 Swaffham Heath
- D2 Stanta Heath
- D3 Harling Heathlands

Landscape Type E: Plateau Farmland

Character Area

- E1 Lophams Plateau
- E2 Snetterton Heath Plateau
- E3 Old Buckenham Plateau
- E4 Wayland Plateau
- E5 Central Breckland Plateau
- E6 North Pickenham Plateau
- E7 Beeston Plateau
- E8 Dereham Plateau
- E9 Whissonsett Plateau

Landscape Type F: Chalk Rivers

Character Area

- F1 River Nar Valley

Each character area sets out the following information:

- **Description** – outlines key characteristics and describes character under the headings of physical/natural character, historic character, settlement and built character and perceptual/visual character.
- **Evaluation** – summarises positive landscape features of significance and inherent landscape sensitivities/visual sensitivities, and assesses the current state (condition) of the landscape, plus a review of forces for change. The evaluation concludes with an

overall landscape strategy followed by detailed guidelines for both landscape management and in relation to new development.

Who is the LCA aimed at?

The document is aimed at a wide audience. It provides a technical document and evidence to underpin landscape policies in the preparation of the new Local Development Framework. It will provide key information for use by both developers and development control officers in helping to make decisions on the appropriate location, scale and design of new development. It will also be available to the wider public with a general interest in their local landscape and provides a framework for more detailed studies of local landscape character for example through parish plans or village design statements. The assessment also has wider applications, for example, in influencing land management decisions.

How should the Breckland LCA be used?

The LCA has been undertaken at 1:25,000 scale and therefore provides character-based information for use at this scale. There are a number of considerations governing its use:

- it is a strategic study rather than a detailed field by field survey and any detailed decisions will therefore also need to consider specific local circumstances;
- the assessment concentrates on the rural landscapes of Breckland and excludes detailed urban-rural fringe considerations within the main settlements (this is undertaken as part of a separate study);
- character area boundaries usually represent a 'zone of transition' and in considering any change within any one character area it is often useful to consider effects on adjacent areas.

PART I: OVERVIEW

I. INTRODUCTION

THE LANDSCAPE OF BRECKLAND

- I.1. Breckland District is located in the east of England, forming part of the County of Norfolk, covering approximately 131,000 hectares. The location and context of the District are set out at **Figure I.1**. Thetford, Dereham, Swaffham, Watton and Attleborough are the principal towns in the district, together with a wide range of other settlements including the large villages of Necton, Swanton Morley, East Harling and Shipdham.
- I.2. Breckland is a lowland rural landscape comprising a simple, large scale mosaic of mixed and coniferous plantations, arable agriculture and lowland heathland, crossed by a series of broad, shallow river valleys with associated floodplains and grazing pastures. These peaceful river landscapes form part of a gently undulating ridge and valley landform, with tributaries associated with transitional landform and arable farming, and more elevated farmed plateaux to the ridges.

PURPOSE OF THE REPORT

- I.3. This report forms part of the Evidence Base for the Breckland District Local Development Framework, and will inform future landscape planning policy. It will also provide evidence for the consideration of individual planning applications. The study describes, assesses and evaluates the character of the landscape within Breckland. It identifies strategies both for landscape management and enhancement and considerations for future change and development within each character area. These recommendations have been developed in close consultation with the client group and key stakeholders.

STRUCTURE OF THE REPORT

- I.4. The structure of this report is as follows:

Chapter 1: Introduction: Introduces the landscape of Breckland District and sets out the structure of the report.

Chapter 2: Method Statement: Outlines the method used to undertake the landscape character assessment.

Chapter 3: Landscape Character Context: Outlines the landscape character context of the district.

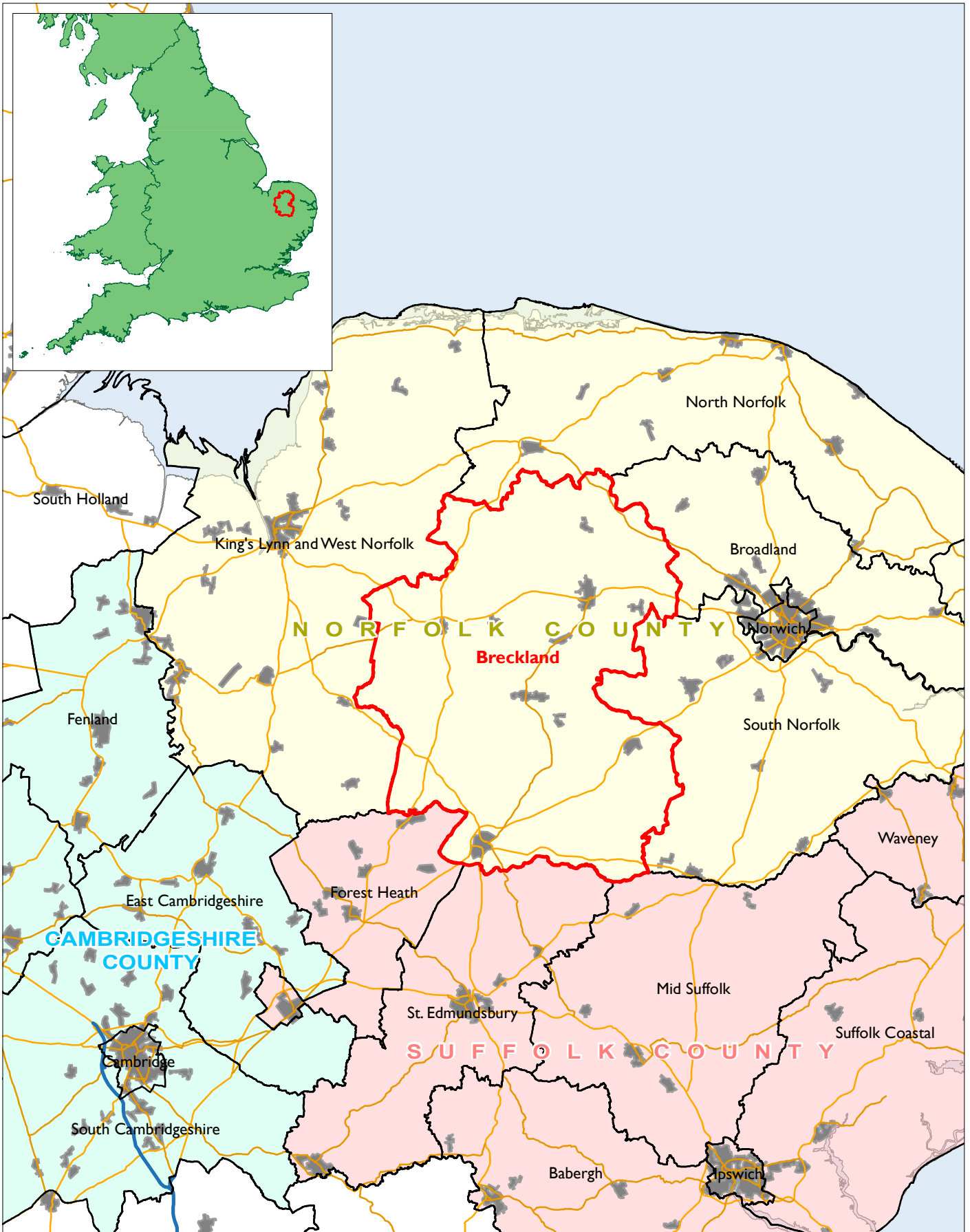
Chapter 4: Physical influences and ecological context: Establishes the physical factors that have influenced the character of the area, including geology, topography, hydrology and soils, in addition to providing an overview of ecological characteristics across the district.

Chapter 5: Human influences and the historic environment: Establishes the human and cultural influences that have shaped the character of Breckland.

Chapter 6: Current Initiatives: Outlines current initiatives influencing the landscape in the district.

Chapter 7: The Landscape Character of Breckland District: This is the main body of the report and contains descriptions of landscape types and character areas including a broad landscape strategy leading on to management guidelines.

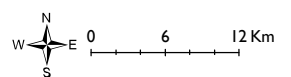
Chapter 8: Conclusions: Draws overarching conclusions in the form of overall management objectives for landscape types and character areas.



Breckland LCA
Figure I.1 Location and Context of the Study Area

Key

- Breckland Boundary
- District Boundaries



Source: Ordnance Survey

Date: 06/06/2007
 Revision: C



2. METHOD STATEMENT

INTRODUCTION

- 2.1. The method for undertaking the landscape character assessment follows the current accepted method promoted by the former Countryside Agency (now Natural England) as set out in the document *Landscape Character Assessment Guidance for England and Scotland* (2002). The process for undertaking this assessment involves five main stages, described below, namely:
- Data Collation;
 - Characterisation;
 - Field survey;
 - Evaluation;
 - Consultation.
- 2.2. The assessment has been prepared within the framework of the former Countryside Agency and English Nature's Countryside Character Initiative and the previous LUC study which identified landscape types at 1:50,000 scale². This study was undertaken at a scale of 1:25,000.
- 2.3. A Geographic Information System (GIS) was used throughout the study as the tool for collating, manipulating and presenting data. Land Use Consultants operates ESRI ArcView.

DATA COLLATION

- 2.4. This involved the collation and mapping of a wide range of existing information on the characteristics of Breckland from a variety of sources including baseline maps of geology, topography, soils and hydrology; schedules of designated and protected areas and features; and Norfolk's Historic Landscape Characterisation (where available). The following baseline data was compiled and mapped:
- National countryside character areas;
 - National landscape typology;
 - Natural areas;
 - Norfolk County Level 2 LDU's;
 - Solid and drift geology (1:50,000);
 - Soils data (1:250,000);
 - Adopted Breckland Local Plan 1999 (including designated sites);

² LUC *Wind Turbine Development: Landscape Assessment, Evaluation and Guidance*, 2003

- Norfolk Historic Landscape Characterisation;
 - The outputs of the Norfolk Ecological Network Mapping Project.
- 2.5. A review was also undertaken of physical and human influences in the District, as well as current initiatives, including the Brecks Partnership, the EcoNet Project and the Wensum Valley Project.

CHARACTERISATION

- 2.6. The draft assessment was arrived at by overlaying the individual datasets in GIS onto a 1:25,000 OS base map and identifying common patterns of characteristics. The approach follows best practice as promoted by the Countryside Agency in the Landscape Character Assessment Guidance for England and Scotland (2002) in maintaining a distinction between landscape types and character areas, and developing a hierarchical approach as follows:
- **Landscape Types** - which are generic and share common combinations of geology, topography, vegetation and human influences, e.g. *Brecks-Plantation*.
 - **Character Areas** - which are single and unique, discrete geographical areas of the landscape type, e.g. *Brecks of Thetford Forest*.
- 2.7. The study specifically excluded an analysis of the areas within the town and village development limits. Therefore, although the smaller villages were considered as a part of a wider landscape context and character, no specific townscape or urban character assessments were undertaken.

SURVEY

- 2.8. A field survey was undertaken to appraise the draft characterisation. There were two stages of fieldwork – one in October 2006 to confirm boundaries and to undertake the fieldwork for a pilot area, and the second stage in December 2006-January 2007 to complete the gathering of data for all other landscape character areas.
- 2.9. Fieldwork was required to:
- confirm the draft boundaries;
 - gather data to feed into the descriptions;
 - gather evaluation data;
 - ensure photographic coverage of all the character areas within the district.
- 2.10. A systematic and rigorous approach was adopted for the survey, with information recorded on 1:25,000 scale maps and a field record sheet (shown at **Appendix I**). A comprehensive photo record was also made.

A note on boundary lines: The precision of boundaries drawn around landscape character areas and types varies with the scale and level of detail of the assessment. This assessment has been mapped at a scale of 1:25,000 which means that it is

suitable for use at this scale. In reality landscape character rarely changes abruptly and the boundaries indicated therefore sometimes represent zones of transition in character relating to changes in topography, geology, soils, cultural patterns, land use etc. rather than marked changes on the ground. In practice boundaries of this nature have frequently been drawn to follow physical or mappable features such as roads, lanes or field boundaries which provide 'best fit'. A section on boundaries has been provided at the beginning of each landscape character area description to highlight any boundary issues.

A note on character areas: Landscape character types and areas have been mapped at a scale of 1:25,000 and are suitable for use at this scale. Landscape types have generic characteristics which apply to all the areas falling within that type. Character areas share these characteristics with other areas of the same landscape type but have a particular 'sense of place'.

EVALUATION

- 2.11. The Countryside Agency's Landscape Character Assessment Guidance for England and Scotland states '*The use of Landscape Character Assessment in making judgements is a fast-moving scene amongst practitioners*'. The evaluation undertaken as part of the Breckland LCA followed current best practice and was developed in consultation with the Steering Group.
- 2.12. The purpose of the evaluation was to provide the basis for strategic landscape planning and management and to assist in the development control process by providing a more informed response to development proposals affecting the landscape. In order to achieve these aims the evaluation developed judgements on:
 - (i) positive landscape features of significance and inherent landscape sensitivities;
 - (ii) visual sensitivity;
 - (iii) the current state of the landscape;
 - (iv) landscape change;
 - (v) an overall guiding landscape strategy;
 - (vi) guidelines to help achieve the overall strategy.

Key Positive Features/ Inherent Landscape Sensitivities

- 2.13. This identified a subset of key characteristics - the key positive attributes that, if lost or changed, would change the character of the landscape.

Visual Sensitivity

- 2.14. This identified visual sensitivity based on observations about the visual prominence of the landscape (as a result of landform influences and vegetation cover), the presence of visual receptors and the potential for mitigating visual impact without the mitigation measures themselves having an adverse effect.

Current State of the Landscape (Condition)

- 2.15. This part of the evaluation identified the current condition of the landscape as observed through field survey.

Forces for change

- 2.16. This part of the evaluation identified forces for change partly drawn from the Countryside Agency's 'Countryside Quality Counts' (CQC) data, from consultation, and from field survey observations. It is recognised that the CQC data is based at the Countryside Character level and is therefore very broad brush in approach. Any statements were therefore backed up by consultation and/or field survey.

Landscape Strategy, Landscape Management and Development Guidelines

- 2.17. The preceding information was analysed to produce an overall objective for the landscape, followed by more detailed 'guidelines' for landscape management and built development.

CONSULTATION

- 2.18. In addition to close consultation with the Steering Group, initial consultation was undertaken with the following organisations by telephone:

- Norfolk Biodiversity Partnership;
- Norfolk Ecological Network Mapping Project;
- Brecks Regional Park Initiative/Suffolk County Council;
- Wensum Valley Project.

- 2.19. The aim of the initial consultation was to gather information on initiatives and/or forces for change affecting the landscape of Breckland and to use this to inform the evaluation.

- 2.20. Stakeholder consultation workshops were held in January 2007 to validate the landscape characterisation. The stakeholder consultation report is provided at **Appendix 2**.

3. LANDSCAPE CHARACTER CONTEXT

THE NATIONAL/REGIONAL CHARACTER CONTEXT

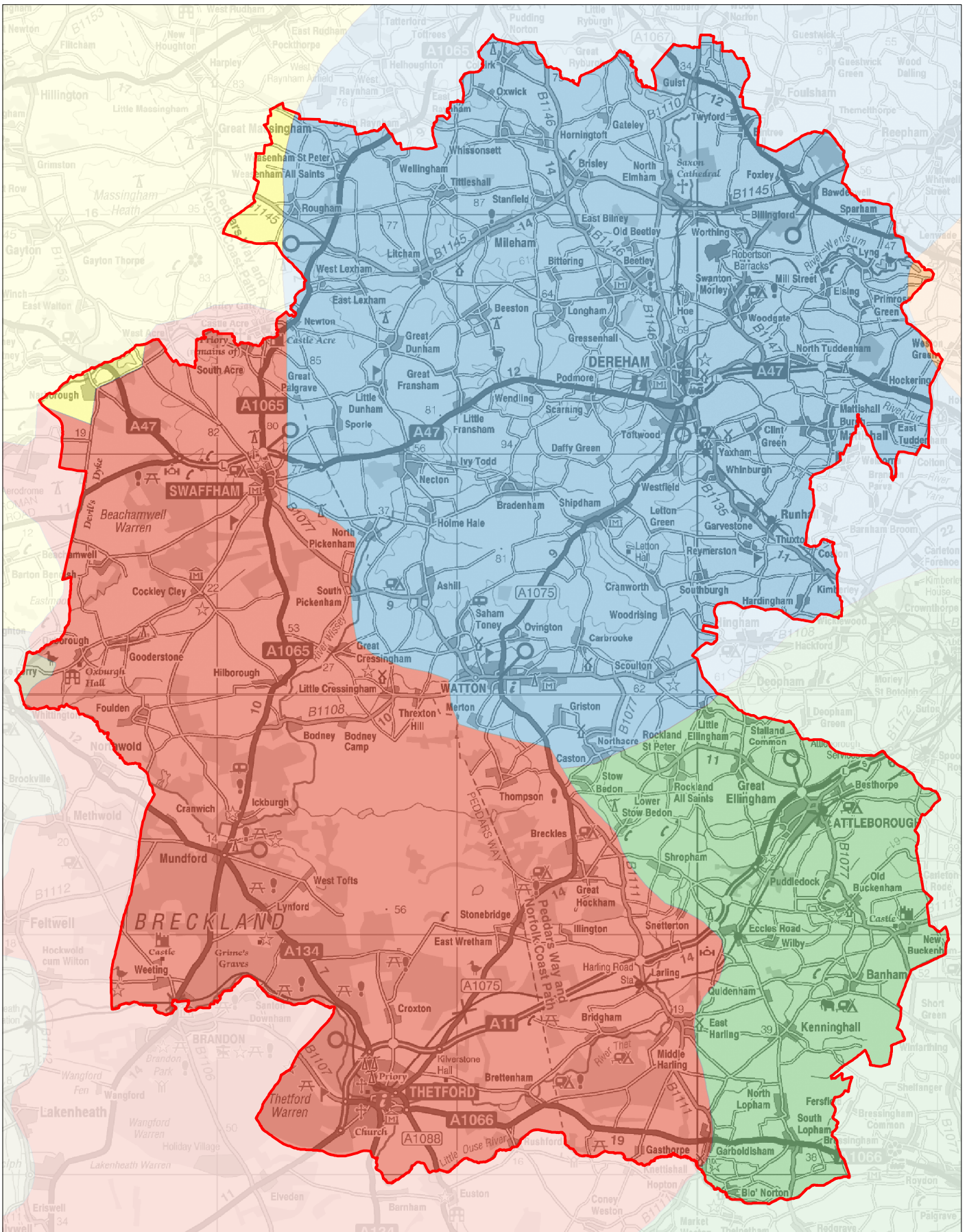
- 3.1. The district wide assessment has been prepared within the framework of the Countryside Agency's Countryside Character Initiative as shown on the Character of England Map (see **Figure 3.1**).
- 3.2. The landscape of Breckland is represented at the national/regional level by three Countryside Character Areas. These are:
 - 83: South Norfolk and Mid Suffolk Claylands;
 - 84 Mid Norfolk;
 - 85: Breckland.
- 3.3. The study also considers the context provided by the Countryside Agency's National Landscape Typology (see **Figure 3.2**). This subdivides the regional character areas into more detailed landscape types.

COUNTY LANDSCAPE CHARACTER CONTEXT

- 3.4. The Norfolk County Landscape Assessment defined broad landscape character types equivalent to Level 2 Landscape Description Units or LDU's, organised on thematic lines including land cover, cultural, ecological and natural factors, and areas of settlement. A similar LDU based approach to characterisation has been undertaken in Suffolk. The landscape typology broadly agrees with the classification developed by this study.

THE DISTRICT WIDE ASSESSMENT (THIS STUDY)

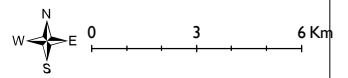
- 3.5. The Breckland District LCA, undertaken at 1:25,000 scale nests within the national and regional landscape framework. It builds upon existing work by Land Use Consultants within the district, notably the '*Wind Turbine Sensitivity and Capacity Study*' which was produced for Breckland District Council and the Borough of Kings Lynn and West Norfolk in 2003. That study defined landscape types at 1:50,000 scale. This study has refined the boundaries and names appropriate to a District scale Landscape Character Assessment. The relationship between the two studies and how they informed the classification, together with the boundary changes and their justification is shown at **Appendix 3**.
- 3.6. In preparing the landscape classification, the study has noted the relationship with the ongoing landscape character assessment work within neighbouring authorities, notably South Norfolk District and the Borough of King's Lynn and West Norfolk, North Norfolk, Broadland, Mid Suffolk, St. Edmundsbury and Forest Heath. The aim being to produce, as far as possible, a seamless classification across administrative borders.



Breckland LCA
Figure 3.1 Joint Character Areas

Key

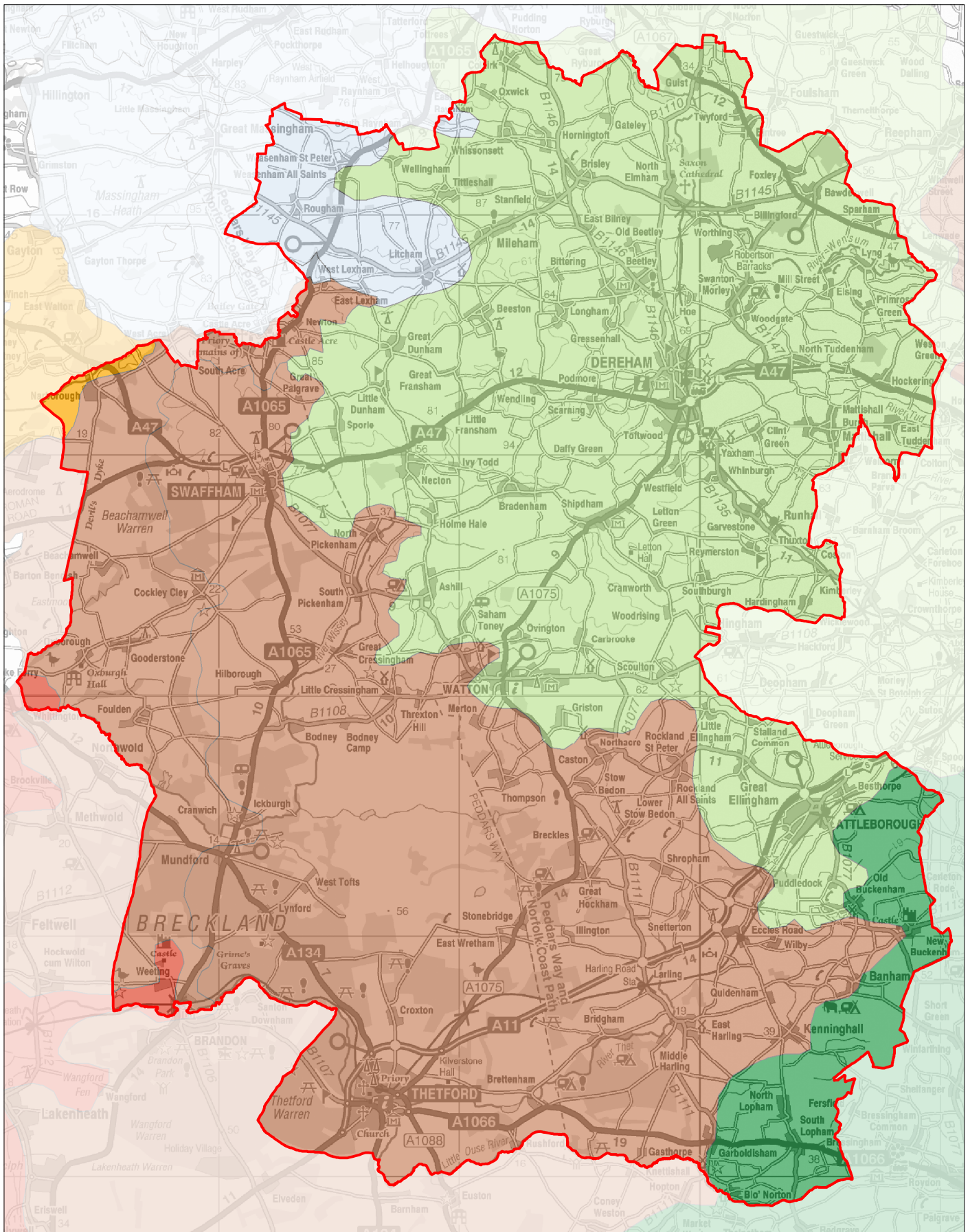
- Breckland Boundary
- Mid Norfolk
- North West Norfolk
- Breckland
- South Norfolk And High Suffolk Claylands
- The Fens
- Central North Norfolk



Source: Natural England

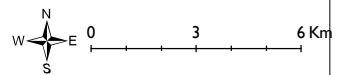
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Breckland LCA
Figure 3.2 National Landscape Typology
Key

- Breckland Boundary
- National Landscape Typology (Level I)
 Lowlands, Wetland, Wooded (secondary)
- Lowlands, Wetland, Wetland/waste unwooded
- Intermediate, Clayland, Wooded (ancient woods)
- Intermediate, Clayland, Wooded (esteland)
- Intermediate, Heath & Moorland, Wooded (esteland)
- Intermediate, Heath & Moorland, Wooded (secondary)



Source: Natural England

Date: 06/06/2007
 Revision:



4. PHYSICAL INFLUENCES AND ECOLOGICAL CONTEXT

- 4.1. The landscape of Breckland has evolved in response to the basic underlying geological characteristics of the land upon which natural processes and human activities have operated in turn influencing patterns of land use as well as ecological and cultural character.
- 4.2. Breckland is underlain by Middle and Upper Chalk, largely covered with glacial drift deposits. The solid and drift geology of Breckland is illustrated in **Figure 4.1** and topography in **Figure 4.2**.

GEOLOGY AND TOPOGRAPHY

- 4.3. The landscape of Breckland District has evolved as a result of an interaction of the physical structure of the landscape and the vegetation and land uses that cover it. To understand what makes a place distinctive, it is useful to identify the key physical influences that have shaped the landscape over time.
- 4.4. The basic structure of the landscape is fundamentally influenced by its underlying rocks and relief. Geology and the processes of weathering, erosion and deposition influence the shape and form of the landscape and its drainage and soils. In turn, these influence patterns of vegetation and land use.
- 4.5. The underlying bedrock of the entire district is chalk, which was deposited during the Cretaceous period 144 and 65 million years ago. In Breckland, the overlying drift deposits of chalky boulder clay, sand, diamicton and alluvium create local variation within the landscape.
- 4.6. Many of the processes which shaped the Breckland landscape are linked to glaciations and occurred during the Pleistocene. There were 4 glacial periods that influenced the landscape of the East of England in general. During the Great Ice Age the area was covered more than once by ice sheets. As the ice moved over the area they displaced and transported materials. The second glacial period, the Great Eastern, had a significant impact upon the landscape. It was during this period that Chalky Boulder Clay (also known as Lowestoft Till) was deposited overlying the chalk. As a geological deposit, chalky boulder clay presents a flat surface, varying considerably in depth. The thickest deposits create the elevated plateaux, which form elevated flat, chalk landforms carved through by streams. When the Great Eastern Ice Sheet melted, great torrents of water flowed from beneath the ice sheet and scoured deep channels in the drift clay and underlying chalk. Immediately following the retreat of the ice sheet, the drainage of the region is thought to have developed along hollows formed on the surface of the newly deposited boulder clay. These channels subsequently filled with glacial drift, and in some instances became filled with water, forming the river channels extant today.
- 4.7. In the south west of the district, drift deposits are either completely absent or very thinly scattered. In this part of the district, there is only a thin capping of sand and gravel covering the chalk which gives rise to barren, sandy soils creating the Breckland heaths and forests. Here, periglacial action has created distinctive striped

or polygon- shaped soil pattern of alternating acidic and alkaline soils. This has resulted in interesting variations in vegetation and land cover, with acid heathland often alternating in 'stripes' with chalk grassland.

- 4.8. Glacial thaw during the last Ice Age resulted in the contraction of subterranean pockets of frozen groundwater, creating the characteristic 'pingo' pools apparent in the southern part of Breckland District, notably at Foulden Common. These support a rich range of aquatic and marginal habitats.
- 4.9. Among the heathy landscapes to the north of Thetford, several small, open groundwater-fed meres are found e.g. Ringmere. These meres with certain associated ponds probably originated through the partial blocking of the floors of swallow holes by clay transported from glacial beds through erosion. Marl pits are a common feature around the areas of sand and gravel deposits as excavated chalky clay was used to add body and lime to the sandy soils.

ECOLOGICAL CONTEXT

- 4.10. The Natural Areas associated with Breckland are shown at **Figure 4.3**.
- 4.11. Natural Areas are subdivisions of England identified by Natural England as being unique on the basis of their wildlife, landform, geology, land use and human impact. They provide a way of interpreting the ecological variation of the country in terms of natural features, illustrating the distinction between one area and another.
- 4.12. This approach provides a wider context for conservation action. Two principal Natural Areas are located within Breckland District, notably Breckland and the East Anglian Plain, whilst a small part of the North Norfolk Natural Area lies within the north western part of the district.
- 4.13. The profile for the Breckland Natural Area describes the area as being part of a low chalk spine extending from north west Norfolk as far as the Chilterns. The chalk solid geology of this low plateau is overlain with drift deposits of varying depth and composition, including windblown sand, sand and boulder clay. Soils are complex, encompassing free draining mixes of chalk, silt, sand, clay and flints, which have profoundly influenced the pattern of heathland and woodland vegetation and agricultural practice.
- 4.14. The profile description notes the considerable biodiversity value of the natural area (e.g. chalk rivers and SSSI designation such as at Stanta Heath), in spite of the significant changes in land cover resulting from afforestation and agricultural intensification during the 20th Century.
- 4.15. The East Anglian Plain Natural Area is identified as a broadly flat plateau dissected by streams and river valleys, with local topographic variation provided by river valleys such as the Wensum. A strong contrast is created by the open plains and intimate small scale valleys. An underlying chalk solid geology is heavily overlain with boulder clay through which the river valleys were carved by glacial meltwater.
- 4.16. Arable agriculture is the dominant land use within the natural area, although hedges, isolated trees and woods create a wooded character in the southern part of the

character area. An irregular field pattern is still apparent in areas, in spite of 20th Century agricultural intensification and associated boundary loss.

- 4.17. The North Norfolk Natural Area lies in the northern part of East Anglia, being distinguished from adjoining Natural Areas by a combination of light soils, climate, relief and land use. Drift deposits of gravels, sands and boulder clays determine the vegetation cover, e.g. heathland to the south of Blakeney, in addition to areas of mire and ancient woodland.

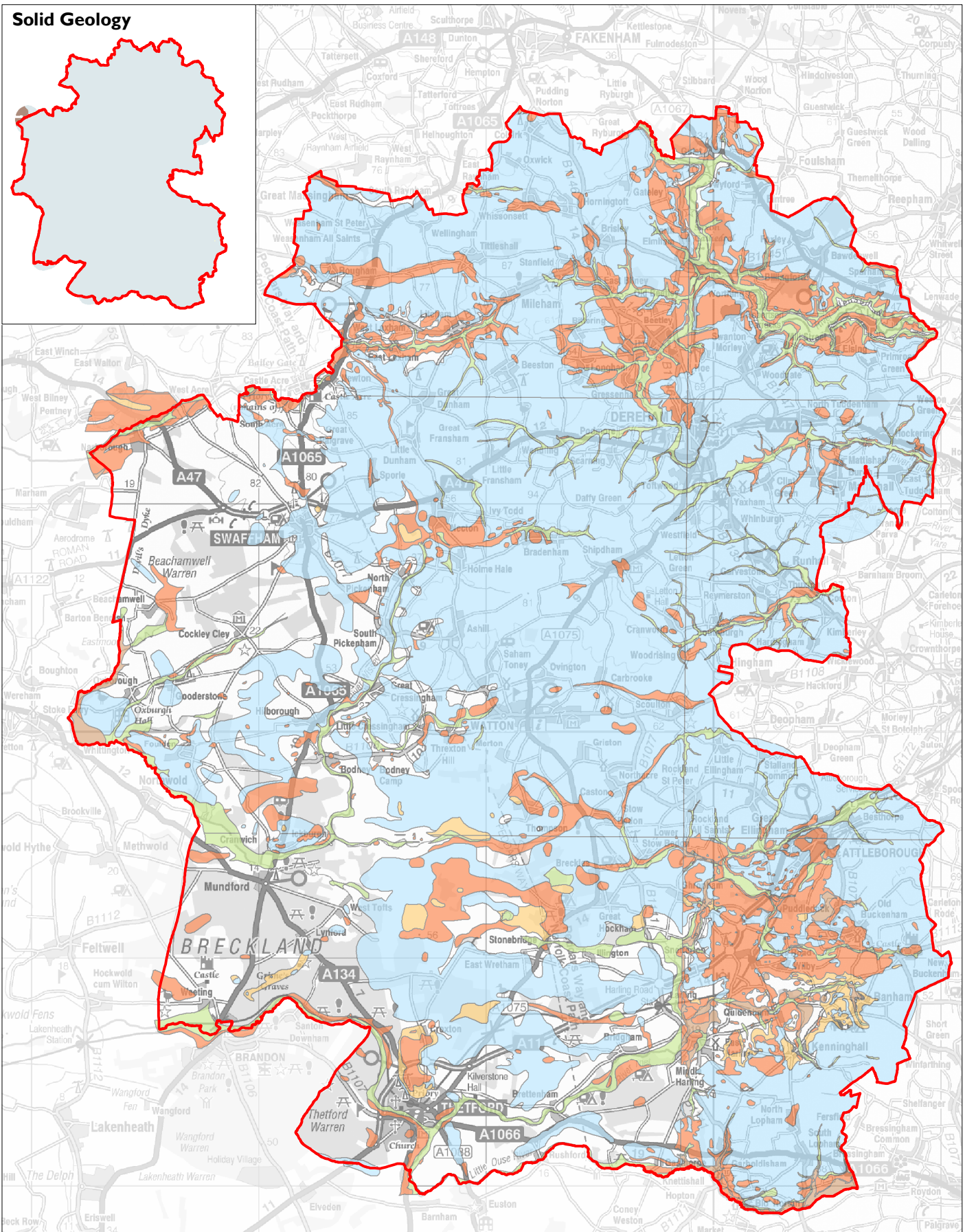
KEY COUNTYWIDE ECOLOGICAL HABITATS

- 4.18. A number of priority habitats and species are identified within the individual component action plans of the Norfolk Biodiversity Action Plan (BAP). These include reedbed, wet woodland, chalk rivers, floodplain grazing marsh, heathland (both acidic and calcareous) lowland wood-pasture and parkland, mesotrophic lakes/meres, orchards, ancient hedgerows and cereal field margins. In particular alder carr is identified as a priority habitat and an important element of historic landscape and ecological character.
- 4.19. The Breckland Forest SSSI, SPA and SAC supports an important assemblage of scarce vascular plant species, invertebrates and birds protected under the Wildlife and Countryside Act 1981, including Woodlark and Nightjar, in addition to being one of the last extant populations of Red Squirrel. The adjacent Breckland Farmlands are also designated SSSI, providing breeding grounds for Stone Curlew.

ECOLOGICAL NETWORK (ECONET) MAPPING PROJECT




- 4.20. The Norfolk Biodiversity Partnership has prepared an indicative Ecological Network Map of Norfolk, with the aim being to protect and enhance the wildlife resource through appropriate and sensitive management and habitat creation to restore connectivity /create a linked series of sites. This project identified a series of Core Area, which represent dense concentrations of high quality extant habitat. In addition the Project has identified enhancement areas for heathland, grassland and woodland creation, to add to priorities and objectives for habitat creation and restoration. These broad areas are shown at **Figure 4.4**, with the Nature Conservation Designations at **Figure 4.5**.
- 4.21. Landscape management guidelines and principles identified for the respective character areas within the LCA have been informed by the objectives set out in the Ecological Network Mapping Project. The primary objective has been to ensure an integrated and holistic approach to landscape planning which takes account not only of designated sites but also habitats in decline and opportunities for future habitat creation in planning for future land management and enabling the delivery of the objectives/targets of both the Biodiversity Action Plan and the Ecological Network Mapping Project.

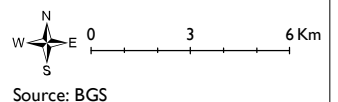
Solid Geology



Breckland LCA
Figure 4.1 Drift and Solid Geology

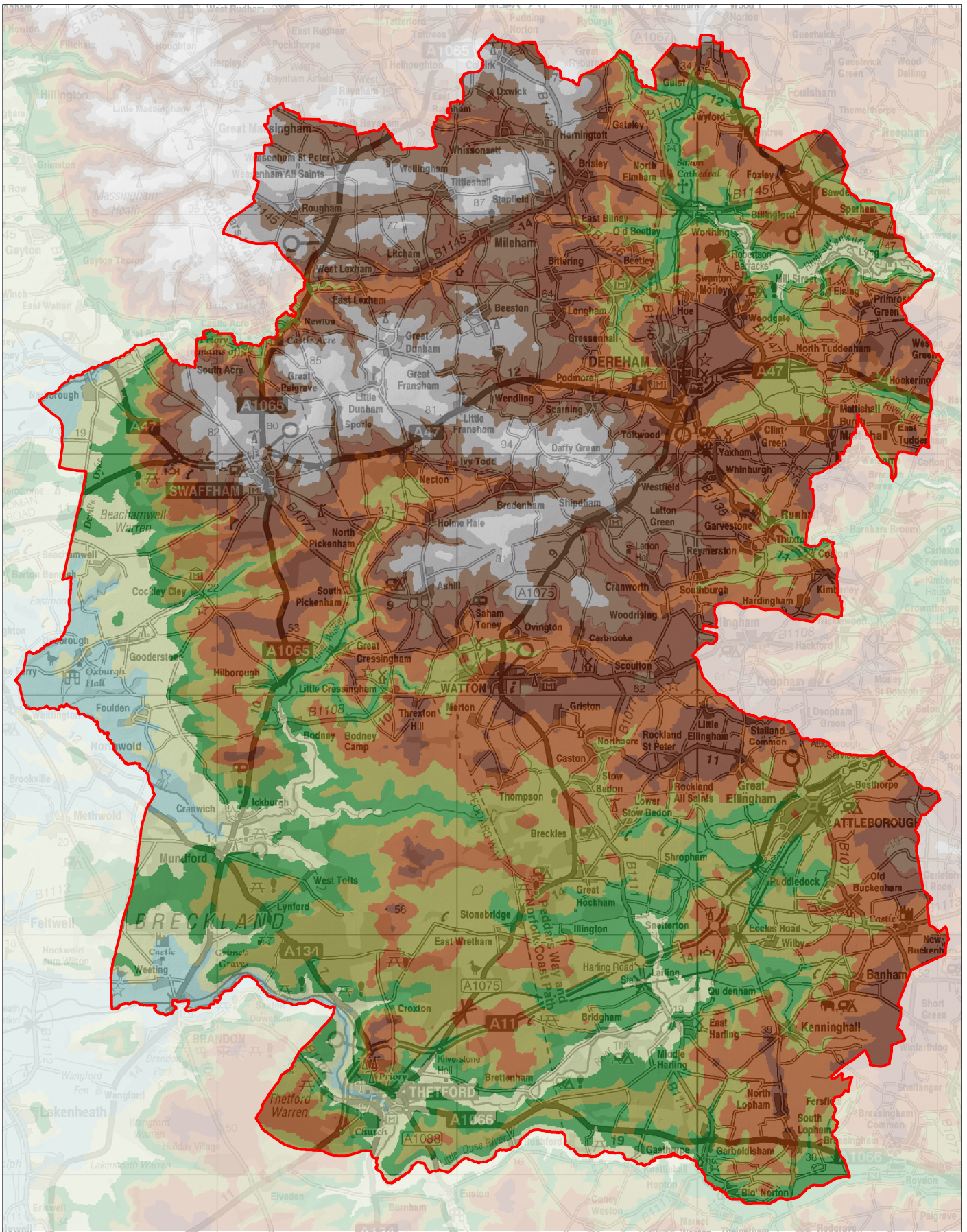
Key

- | | | | | | |
|---|--------------------|---|-----------------|---|----------|
|  | Breckland Boundary |  | Sand and Gravel | Solid Geology (Inset Map) | |
|  | Diamicton |  | Silt and Clay |  | Chalk |
|  | Peat |  | Silty Clay |  | Mudstone |
| | |  | Sand | | |













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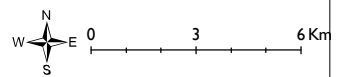




Breckland LCA
Figure 4.2 Topography

Key

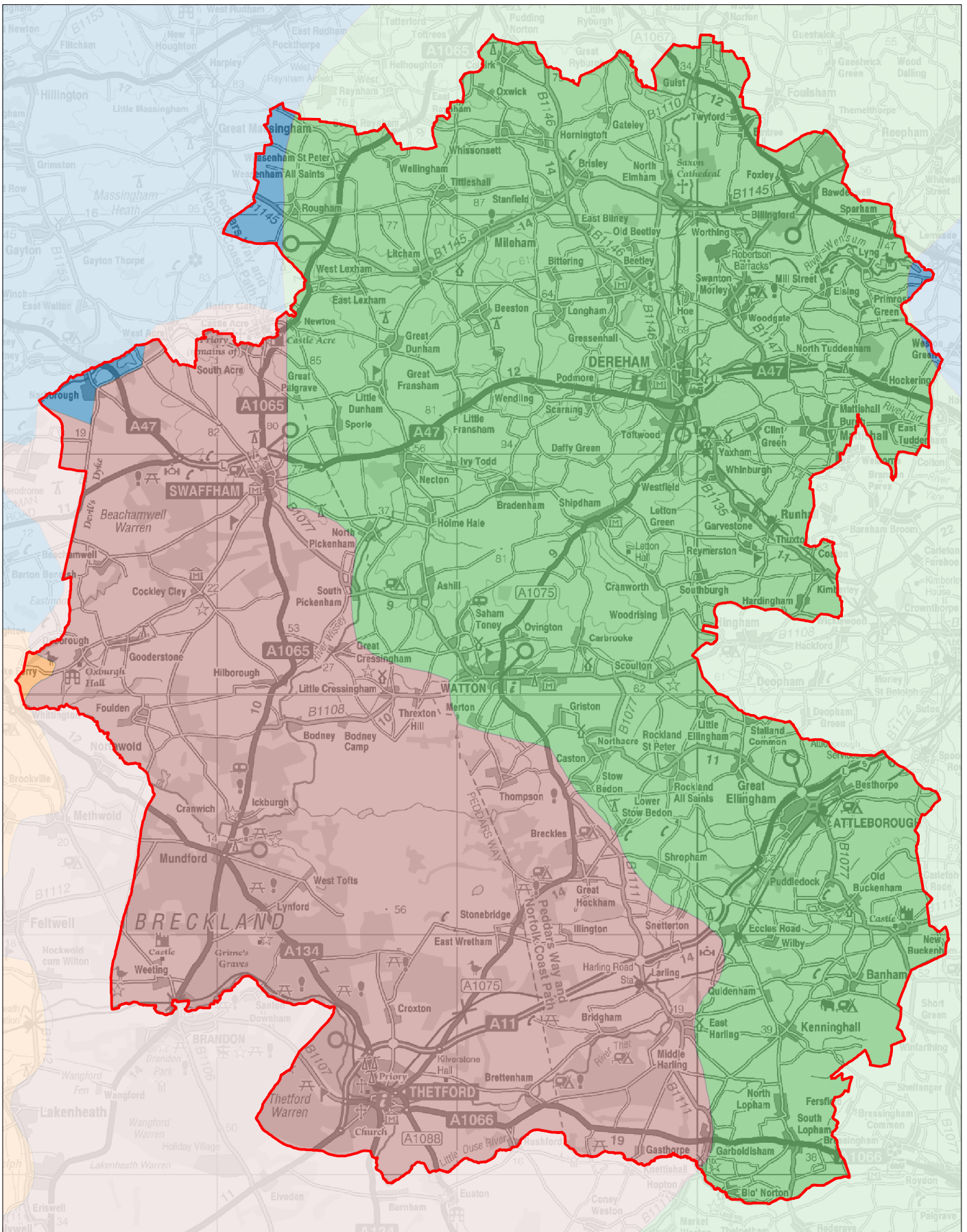
	Breckland Boundary		20 - 30		60 - 70
	0 - 10		30 - 40		70 - 80
	10 - 20		40 - 50		80 - 100
			50 - 60		



Source: Ordnance Survey

Date: 17/01/2007
 Revision: A

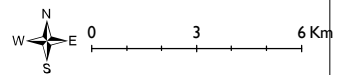




Breckland LCA
Figure 4.3 Natural Areas

Key

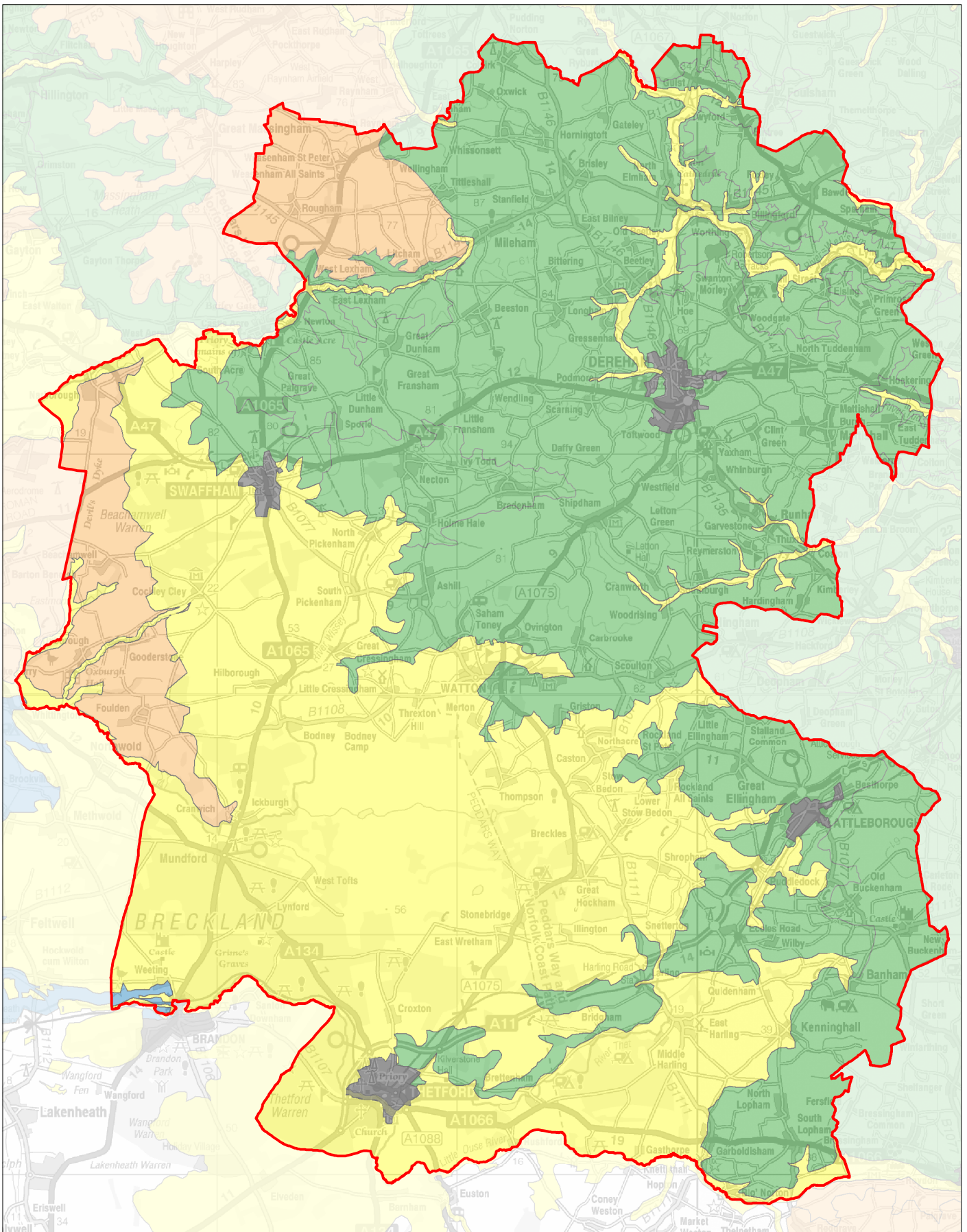
- Breckland Boundary
- East Anglian Plain
- Natural Areas**
- North Norfolk
- Breckland
- The Fens



Source: Natural England

Date: 06/06/2007
 Revision:









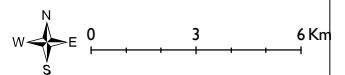


Breckland LCA

Figure 4.4 Norfolk Ecological Network Mapping Project Enhancement Areas

Key

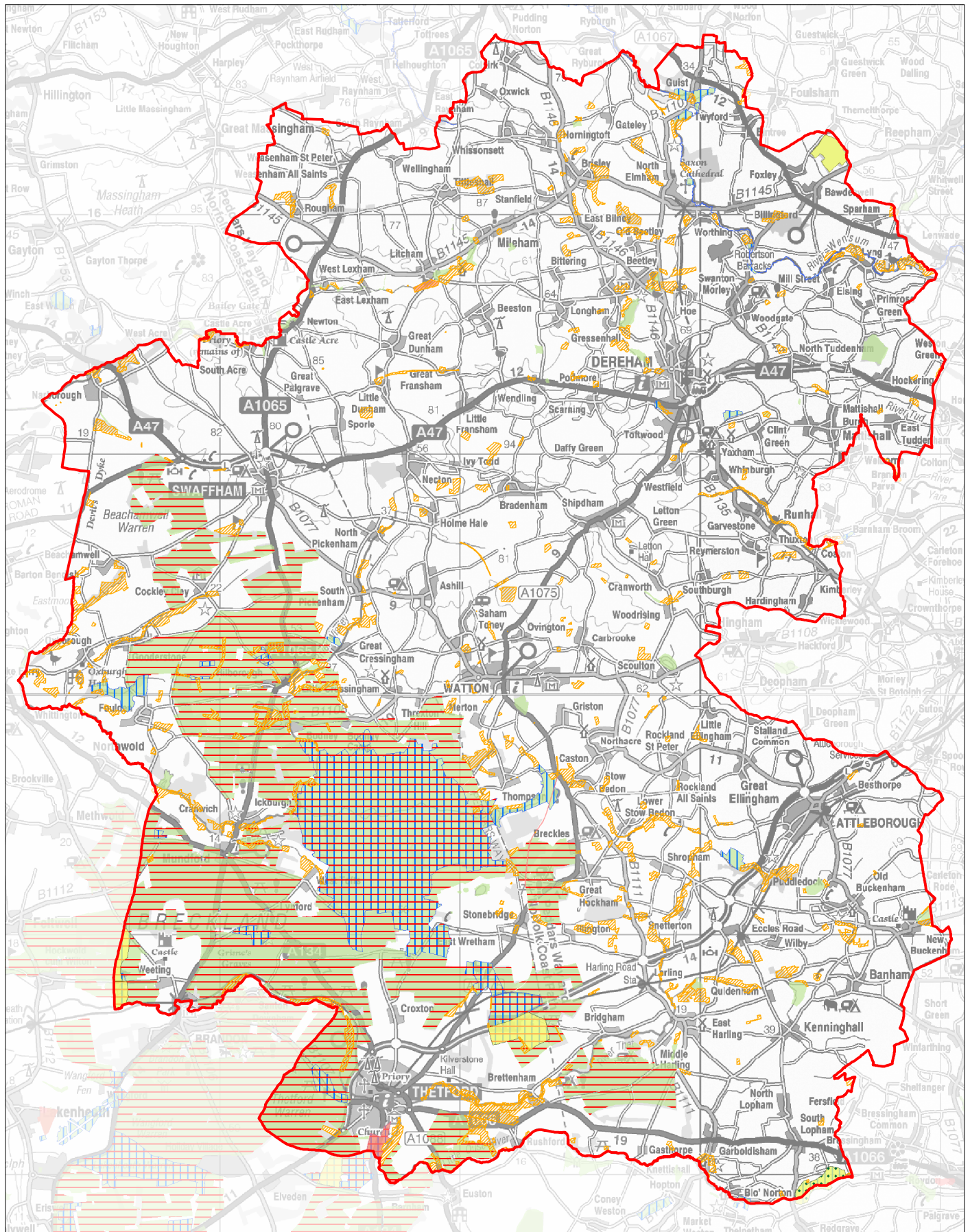
- | | | |
|---|----------------------------|---|
|  | Breckland Boundary | Enhancement areas |
|  | Urban |  Enhancement - heath, grassland and wood |
|  | Core areas |  Enhancement - wetland creation |
|  | Enhancement area - general | |



Source: Norfolk County Council

Date: 06/06/2007
Revision: A

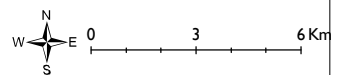




Breckland LCA
Figure 4.5 Nature Conservation Designations

Key

- Breckland Boundary
- SAC
- SPA
- SSSI
- Ramsar
- NNR
- LNR
- County Wildlife sites



Source: Natural England
 Breckland District Council

Date: 06/06/2007
 Revision: A



5. HUMAN INFLUENCES

Introduction

- 5.1. The landscape of Breckland is the product of the interaction of natural and human or anthropogenic processes. Like most areas of Britain, the landscape of the district bears the imprint of successive periods of human habitation and land use. The following chapter provides a brief summary of the past influences on the landscape of Breckland. It builds on the human/anthropogenic processes affecting Breckland as identified in the draft Historic Landscape Characterisation at **Figure 5.1**. The historic designations are illustrated at Figure 5.2.

The Neolithic Period and the Bronze and Iron Ages c4500 BC to AD43

- 5.2. Historically much of Breckland was lime dominated wildwood³, in addition to a mix of acid and calcareous heathland, often in alternating bands or stripes due to the underlying geology. Pollen samples found under Neolithic barrows have also indicated oak forest based soil⁴. The arrival of the first Neolithic peoples (c4500-2000 BC) resulted in the first wood clearances for both agriculture and woodmanship. A number of round burial mounds, barrows and mortuary enclosures are located within the District, often associated with the more elevated heathlands and plateaux, and indicate Bronze Age Activity.
- 5.3. Evidence of the Neolithic flint mining industry, both for arrow heads, weapons and later building materials is visible in the pits at Grimes Graves, within Thetford Forest. The Neolithic flint mines at Grimes Graves are recognised as being of national cultural, historical and archaeological importance.

The Romano-British and the Anglo-Saxon Periods AD43-1066

- 5.4. Much of Breckland was occupied by Boudicea's tribe, the Iceni, around 60 AD, with Thetford, at the confluence of the Rivers Thet and Little Ouse being chosen as the site for the Iceni Royal City, and there is a reconstructed Iceni village at Cockley Cley. There is considerable evidence of Roman occupation within the District, both with the pattern of long straight roads and right angled junctions which form a rectilinear pattern across many of the elevated areas of heathland and parts of Breckland Forest, and also in the number of Romano British sites that have been excavated and recorded within the District, particularly within Thetford Forest.
- 5.5. Of the subsequent Saxon occupation, there remains some evidence. From c800AD North Elmham was the seat of the Bishopric (although this may have been South Elmham, in Suffolk), until the collapse of the See with the Danish invasions. The See lapsed in the 9th Century before being revived c.955. A cathedral stood on the site of the supposed North Elmham Cathedral, the foundations of which stand in the Wensum Valley, from the revival of the See until it was transferred to Thetford in

³ Rackham, O *The History of the Countryside*, JM Dent 1986

⁴ Fairbrother, N *New Lives, New Landscapes* The Architectural Press, 1970

1071. The present ruins are however more probably a Bishop's Chapel of the early Norman era.⁵

- 5.6. A number of villages within Breckland possess parish churches which are substantially Saxon or incorporating Saxon work. Flint continued to be the predominant building material, into the medieval and post medieval eras with knapping and mining being prominent local trades. Breckland flint was later also used to supply the munitions and arms trade as far away as Siam⁶.

Medieval Period 1066-1499

- 5.7. Following the Norman Conquest, landed estates either manorial or monastic began to influence the landscape and land use. Manorial lands were initially associated with Motte and Bailey Castles and later fortified or moated Manor Houses, towards the end of the period (e.g. Oxborough). A number of monastic sites were established within Breckland, either on the site of earlier Saxon foundations or otherwise endowments from new religious orders from continental Europe. A Benedictine Priory was established at Thetford, together with a nunnery, and a Cluniac monastery at Castle Acre (outside the present District Boundary, although its estates and lands/monastic farms historically influenced the character of the landscape in this area, and formed part of the wider Breckland landscape).
- 5.8. Manor houses and their associated parks often formed the core of the settlements within Breckland, augmented by knapped flint and dressed stone churches, many of which were substantially rebuilt in the 13th and 14th Centuries. These were generally relatively small in scale, with a number of exceptions, e.g. Oxborough. Round towers or short, squat square west towers are a characteristic feature within the Breckland Landscape. The general lack of prosperity apparent in the Breckland Churches is apparent in the ruinous state and isolated situation of many, which are the last surviving relics of numerous deserted medieval villages within the district.
- 5.9. In spite of the widespread woodland clearance in the pre medieval period, Rackham (1986) refers to areas of woodland across the central spine of Norfolk and encompassing Breckland, although this relates to settlements with woodland rather than the physical area of coverage. In addition, Manorial common and grazing lands associated both with pre Enclosure agricultural systems and the heaths were a common feature associated with the settlements. Rabbit farming or 'warrening' was a common practice in the later Medieval period, evident from the occurrence of the word 'Warren' in local place names.

Post Medieval Period (1499-1800)

- 5.10. This period was characterised by the Dissolution of the monastic settlements in the Reformation of 1536-1540, and the associated fragmentation of estates and lands, and the ongoing development of manorial halls and parks, such as Narford.
- 5.11. The most significant change to the landscape occurred towards the end of the period with the Parliamentary Enclosures, which transformed the land cover pattern of Breckland, introducing treed field boundary hedgerows and woodland coverts.

⁵ Pevsner, N and Wilson, B *The Buildings of England: Norfolk 2: North West and South* Penguin, 1999

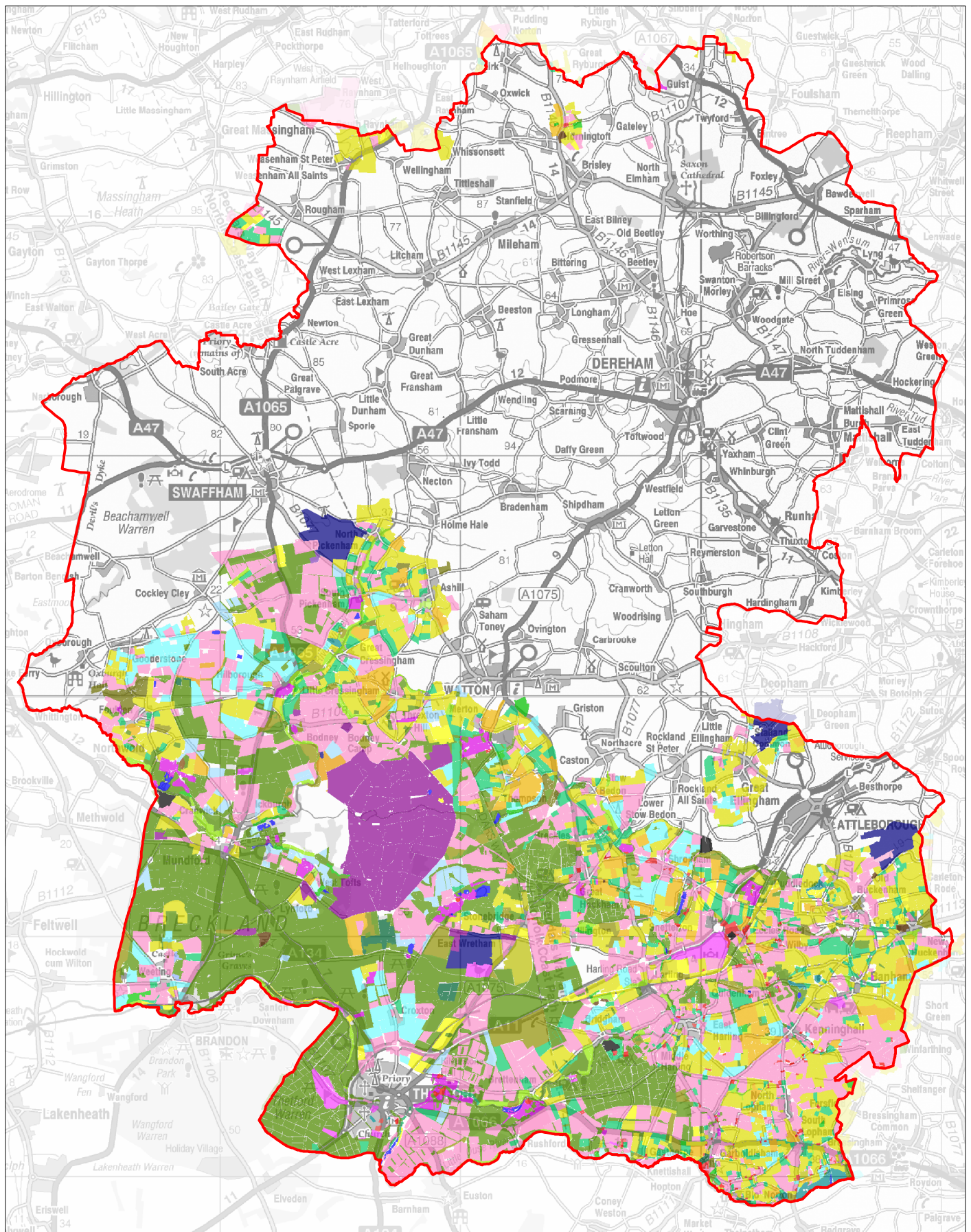
⁶ Cook, O Breckland, Robert Hale Ltd, 1980

William Faden's 1797 Map of Norfolk illustrates something of the landscape character and land cover pattern prior to the main period of parliamentary Enclosure, and an extract is shown at **Figure 5.3**.

Early Modern-Modern Period (1800-2000)

- 5.12. The early modern period was initially characterised by ongoing Enclosure of agricultural land and areas of common and heath on a piecemeal basis. Characteristic Scots Pine shelterbelts or wind breaks were planted to form field boundaries from the mid 19th Century. These now form the characteristic heavily contorted 'Deal Rows' within the Breckland landscape⁷.
- 5.13. Agricultural intensification was partly associated with the ongoing improvement and enlargement of the landed estates in the Victorian era, with some notable designed landscapes and estate features created at Sennowe, Dillington, and Garboldisham.
- 5.14. The most significant changes with a landscape expression occurred in the early to mid 20th Century. From 1922, large tracts of Breckland heathland and a number of redundant estates were purchased by the newly formed Forestry Commission for the purposes of establishing predominantly coniferous plantations as part of the national afforestation programme.
- 5.15. The Ministry of Defence became an influential landowner from 1943-44, with the requisition of a number of parkland estates in the centre of the District for the subsequent creation of the Stanta Training Ground, in addition to the construction of a number of airfields on the elevated plateaux. Whilst the requisition of the estates resulted in the loss of a number of the halls, it resulted in the preservation by default of a number of areas of parkland landscape and extensive areas of Breckland heathland.
- 5.16. Other land uses which influenced the character of the Breckland landscape in the latter part of this period were the intensive arable agricultural cultivation, which resulted in extensive field boundary hedgerow loss, as well as other land cover elements. The sand and gravel rich drift geology of many of the Breckland Rivers also made them natural sites for mineral extraction throughout the 20th Century e.g. the Wensum.

⁷ Fairbrother, N, Op Cit and Cook, O, Op Cit



Breckland LCA
Figure 5.1 Historic Landscape Characterisation

Key

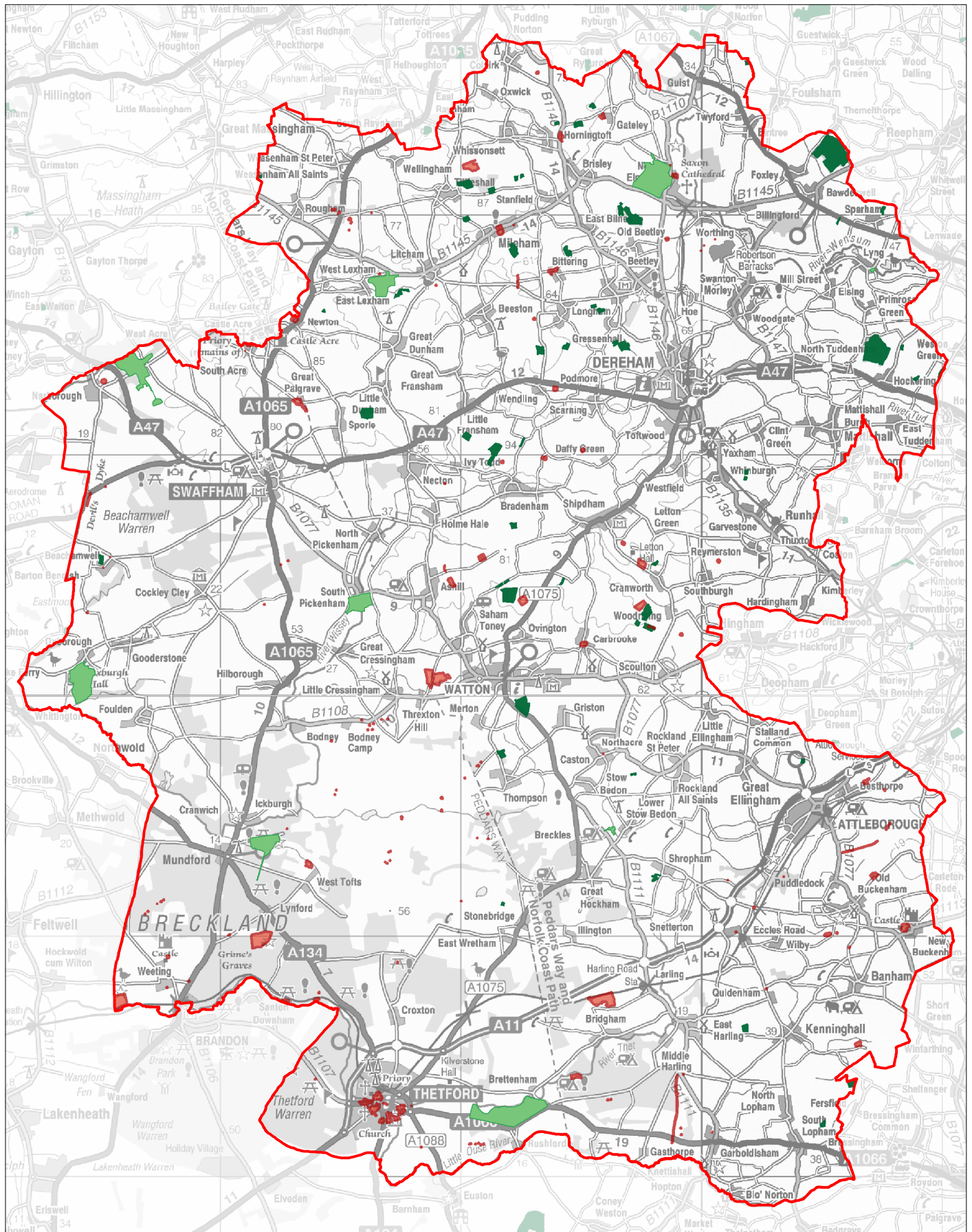
Breckland Boundary	Ancient woodland	Disused mineral extraction	Hall/high house	Leisure/recreation	Nucleated clusters - more than 5	Pre-18th century fen enclosure	Unimproved freshwater fen
18th-20th century woodland plantation	Animal farm	Disused post-medieval military	Heath	Managed wetland	Nursery with glass house	Rabbit warren	Unimproved rough pasture
20th century enclosure	Boundary loss	Duck decoy pond	Historic earthwork	Mineral extraction	Orchard	Regenerated alder carr woodland	Water meadow
Airfield - military	Boundary loss - with relic element	Enclosed meadow	Hospital, school, university	Mixed origin	Parliamentary fen enclosure	Religious institution	Water reservoir
Airport - civilian	Built up areas - urban development	Estate fields	Industrial	Moor	Piecemeal enclosure by agreement	Small farm clusters - less than 5	Woodland clearance
Allotment	Carr woodland	Gardenesque style parkland	Informal parkland	New enclosure	Piecemeal style Parliamentary enclosure	Streets and rows - linear settlements	
	Common with an open margin	Irregular enclosure	Irregular enclosure	New fen enclosure	Post-medieval military	Stud farm	



Source: Norfolk County Council / Norfolk Archaeology
 Note: HLC complete as at November 2006

Date: 06/06/2007

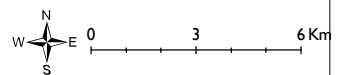




Breckland LCA
Figure 5.2 Historic Designations

Key

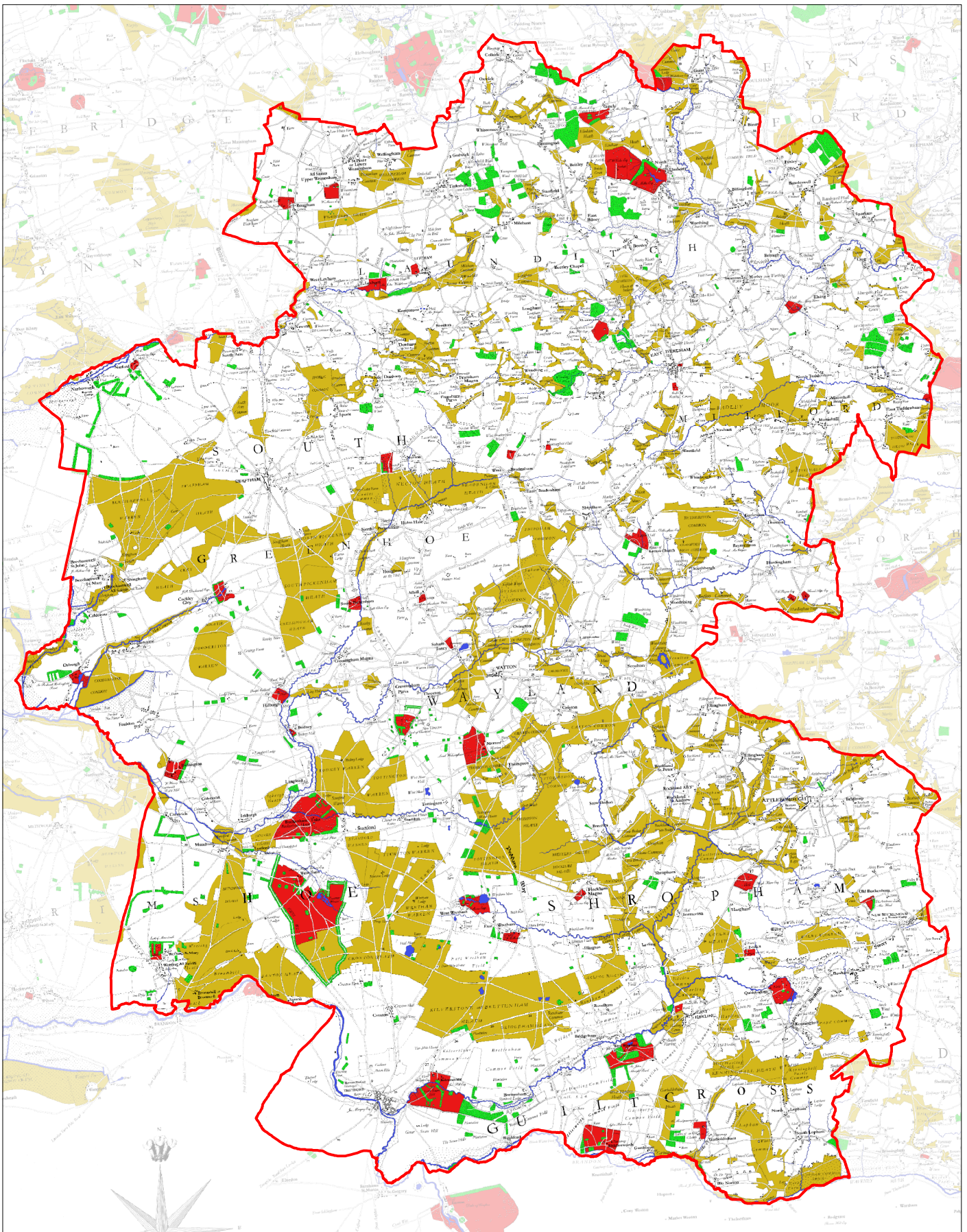
- Breckland Boundary
- Scheduled Ancient Monuments
- Historic Parks & Gardens
- Ancient Woodland



Source: Breckland District Council
 English Heritage








Date: 06/06/2007
 Revision: A

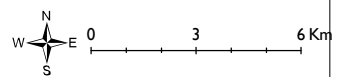




Breckland LCA
Figure 5.3 Extract from William Faden's 1797 Map of Norfolk

Key

-  Breckland Boundary
-  Parks of the Nobility & Gentry
-  Woods
-  Commons & Heaths
-  Parks of the Nobility & Gentry
-  Rivers
-  Great Roads



Source: Andrew Macnair (Fadens Map)

Date: 06/06/2007
 Revision:



6. CURRENT INITIATIVES

- 6.1. The Ecological Network Mapping Project has been described in section 4 above. Other key initiatives influencing the Breckland include the proposed Brecks Partnership, Forestry Enterprise Initiatives and local projects such as the Wensum Valley Project, in addition to the Ministry of Defence's Land Management objectives within their extensive land holdings at Stanta Heath.

Brecks Partnership

- 6.2. The cultural and historical value of the Brecks is recognised through the Brecks Partnership initiative, which aims to secure recognition for the Brecks in view of the cultural significance of the landscape and the potential for Green Infrastructure in light of Thetford's Growth Point status. The initiative considers the wider Brecks landscape across four adjoining authorities and has identified a range of objectives including recreation, leisure and tourism, in addition to Green Infrastructure opportunities, embedded within the unique landscape of the Brecks.

Forestry Enterprise

- 6.3. Forestry has been a dominant land use within the Breckland landscape due to the presence of Thetford Forest and with the acquisition of large areas of heathland and former landed estates by the Forestry Commission for the intensive afforestation programme from 1922. This was focused on commercial forestry for much of the 20th Century. A multi objective approach has been adopted in the last decade, in view of both recreational potential and the considerable biodiversity value of the Breckland Forest. As such the current Forestry Enterprise Strategy identifies not only a more diverse species palette for the rotational plantations but also a number of pilot projects for heathland restoration and also for re-creating wet meadows and grassland habitats in valleys where this habitat was previously lost to afforestation, e.g. the Thet Valley, as well as recreation opportunities.

Wensum Valley Project

- 6.4. The Wensum Valley, part of which is in the eastern part of Breckland District, has been acknowledged as one of the finest river valleys in Norfolk, due to the variety of landscape elements and its considerable ecological potential. As such the Wensum Valley Project was set up in 1994, and is advised by a Joint Advisory Panel, with the project's work being guided by a number of objectives which include maintaining and enhancing the character of the valley's landscape and ecological integrity.

Ministry of Defence – Stanta Heath

- 6.5. Large tracts of Breckland heathland and areas of historic parkland were preserved by the acquisition of Stanta Heath by the MOD in 1944. Land management objectives for this area have been developed with the primary aim of preserving areas of high and low cover for military training purposes, in addition to taking account of the requirements of the statutory nature conservation designations (SSSI) which cover the area. Much of the existing vegetation reflects the training objectives of the MOD and as such Stanta represents a very large area of historically and ecologically

important and intact heathland features, together with surviving parkland elements from former estates such as West Tofts.

PART 2: THE LANDSCAPE CHARACTER OF BRECKLAND DISTRICT

7. THE BRECKLAND DISTRICT LANDSCAPE CHARACTERISATION

INTRODUCTION

- 7.1. The physical and human influences described in the previous chapters have combined to create the unique and distinctive character of Breckland District. The district is characterised by a variety of landscapes represented by six **landscape types**.

Landscape Types within Breckland District

A: River Valleys

B: Settled Tributary Farmland

C: Brecks Plantation

D: The Brecks Heathland with Plantation

E: Plateau Farmland

F: Chalk River Valley

- 7.2. Each of the generic landscape types has a distinct and relatively homogenous character with similar physical and cultural attributes, including geology, landform, land cover, and historical evolution. For this district level study the landscape types are further sub-divided into component **landscape character areas**. These are discrete geographic areas that possess the common characteristics described for the landscape type. There are 27 individual character areas within Breckland District, each with a distinct and recognisable local identity.
- 7.3. The landscape classification for the district is set out in **Table 7.1** and illustrated on **Figure 7.1**. The figure has been prepared on a Geographic Information System (GIS), with mapping undertaken at a scale of 1:25,000.
- 7.4. The tables at **Appendix 3** show the derivation from and relationship of the landscape classification to the previous LUC Wind Turbine Study, together with an explanation of the boundary changes which were identified and required by this more detailed 1:25,000 scale study.

Table 7.1: Breckland District Landscape Classification

Landscape Type A: River Valleys

Character Area

A1 River Thet

A2 Upper Yare

A3 River Wissey

A4 River Wensum and Blackwater

A5 Upper Tud

Landscape Type B: Settled Tributary Farmland

Character Area

B1 Little Ouse Tributary Farmland

B2 The Buckenhams Tributary Farmland

- B3 River Thet Tributary Farmland
- B4 River Blackwater Tributary Farmland
- B5 River Wissey Tributary Farmland
- B6 River Wensum and Tud Tributary Farmland
- B7 River Nar Tributary Farmland
- B8 Gooderstone to Oxborough Tributary Farmland

Landscape Type C: The Brecks - Plantations

Character Area

- C1 The Brecks of Thetford Forest

Landscape Type D: The Brecks – Heathland with Plantation

Character Area

- D1 Swaffham Heath
- D2 Stanta Heath
- D3 Harling Heathlands

Landscape Type E: Plateau Farmland

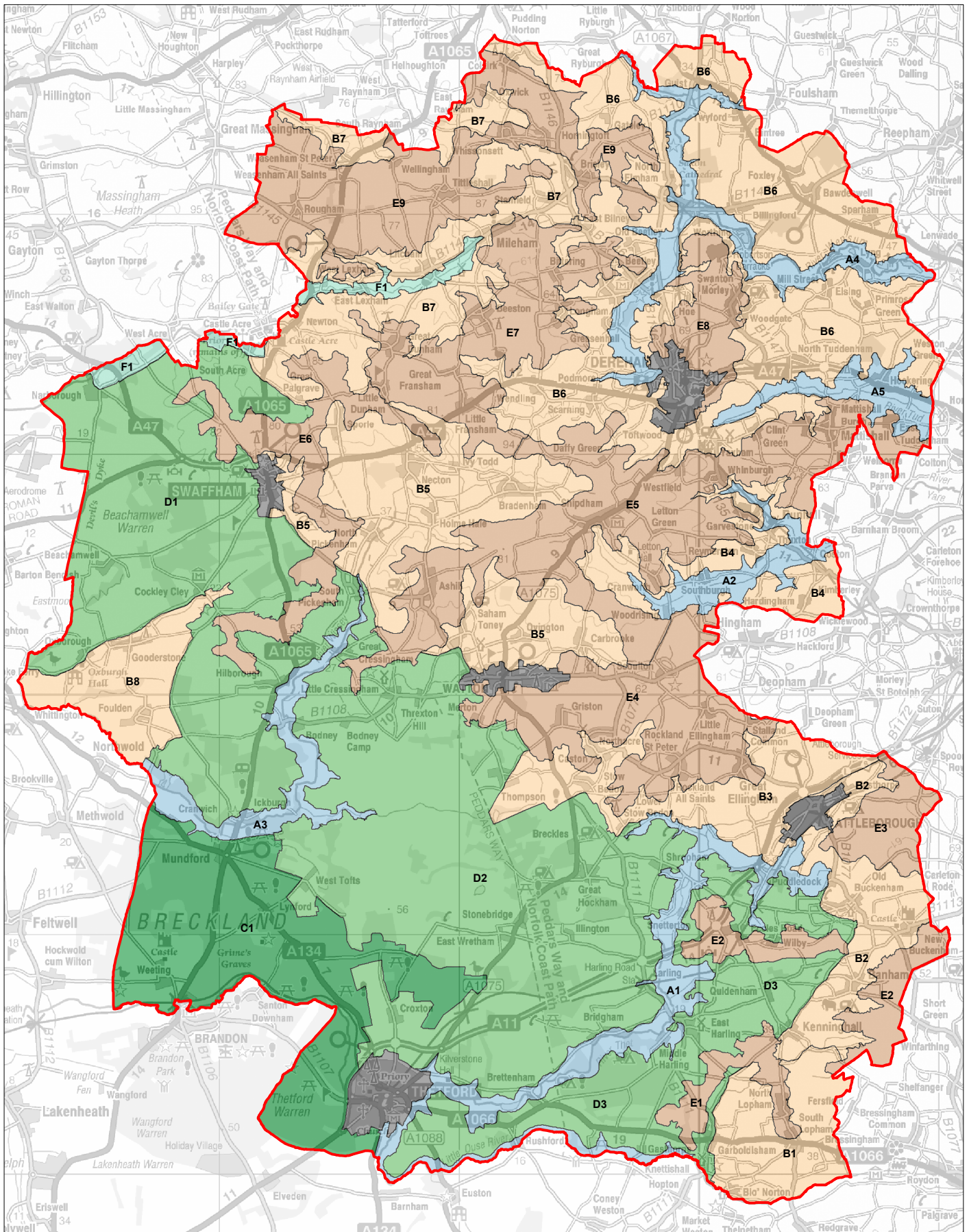
Character Area

- E1 Lophams Plateau
- E2 Snetterton Heath Plateau
- E3 Old Buckenham Plateau
- E4 Wayland Plateau
- E5 Central Breckland Plateau
- E6 North Pickenham Plateau
- E7 Beeston Plateau
- E8 Dereham Plateau
- E9 Whissonsett Plateau

Landscape Type F: Chalk Rivers

Character Area

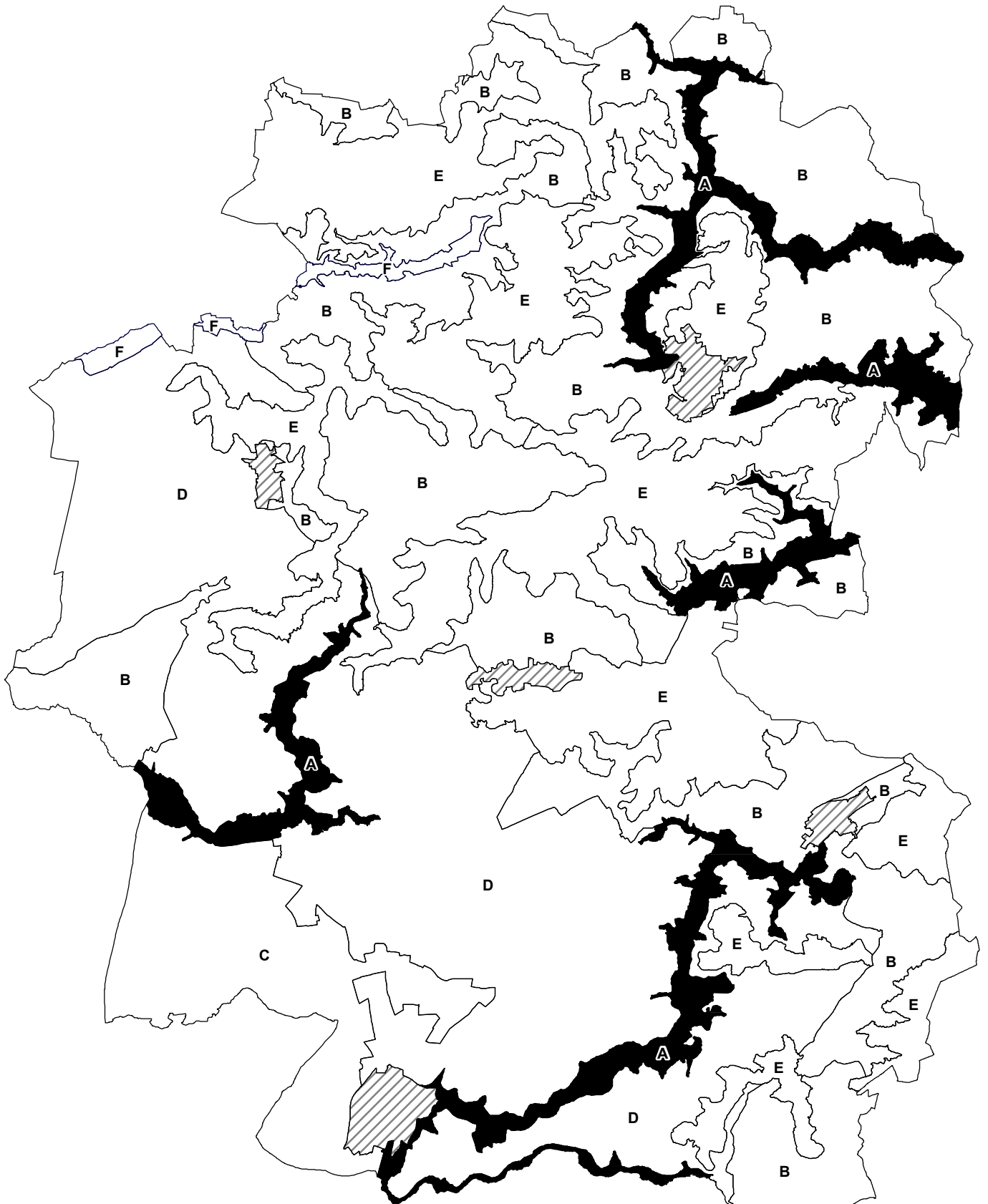
- F1 River Nar Valley



Breckland LCA
Figure 7.1 Landscape Classification of Breckland

- | | |
|--|--|
| <ul style="list-style-type: none"> Breckland Boundary Landscape Character Areas A - River Valleys A1: River Thet A2: Upper Yare A3: River Wissey A4: River Wensum and Blackwater A5: Upper Tud B - Settled Tributary Farmland B1: Little Ouse Tributary Farmland B2: The Buckenham Tributary Farmland B3: River Thet Tributary Farmland B4: River Blackwater Tributary Farmland B5: River Wissey Tributary Farmland B6: River Wensum and Tud Tributary Farmland B7: River Nar Tributary Farmland B8: Gooderstone to Oxborough Tributary Farmland C - The Brecks - Plantations C1: The Brecks of Thetford Forest D - The Brecks - Heathland with Plantation D1: Swoffham Heath D2: Stanta Heath D3: Harling Heathlands E - Plateau Farmland E1: Lophams Plateau E2: Snetterton Heath Plateau E3: Old Buckenham Plateau E4: Wayland Plateau E5: Central Breckland Plateau E6: North Pickenham Plateau E7: Beeston Plateau E8: Dereham Plateau E9: Whissonsett Plateau F - Chalk Rivers F1: River Nar Valley Urban | <p>Source: Land Use Consultants</p> <p>Date: 06/06/2007
 Revision: B</p> |
|--|--|

A. RIVER VALLEYS



LANDSCAPE TYPE A: RIVER VALLEYS

A1 This landscape type constitutes a series of distinct, broad and gently undulating chalk valley landforms carved by two periods of glacial activity, and which are defined both by historic land use, land cover and later sand and gravel extraction. They form a very distinct landscape type. It should be noted that there are a number of other minor river valleys (such as the Gadder) that have not been included within this landscape type. These river valleys relate more strongly to, and appear as features of, the surrounding landscape context as opposed to being landscape types in their own right. In addition the River Nar, being of a different (chalk) geological formation is defined as a separate landscape type and character area.

Key Characteristics

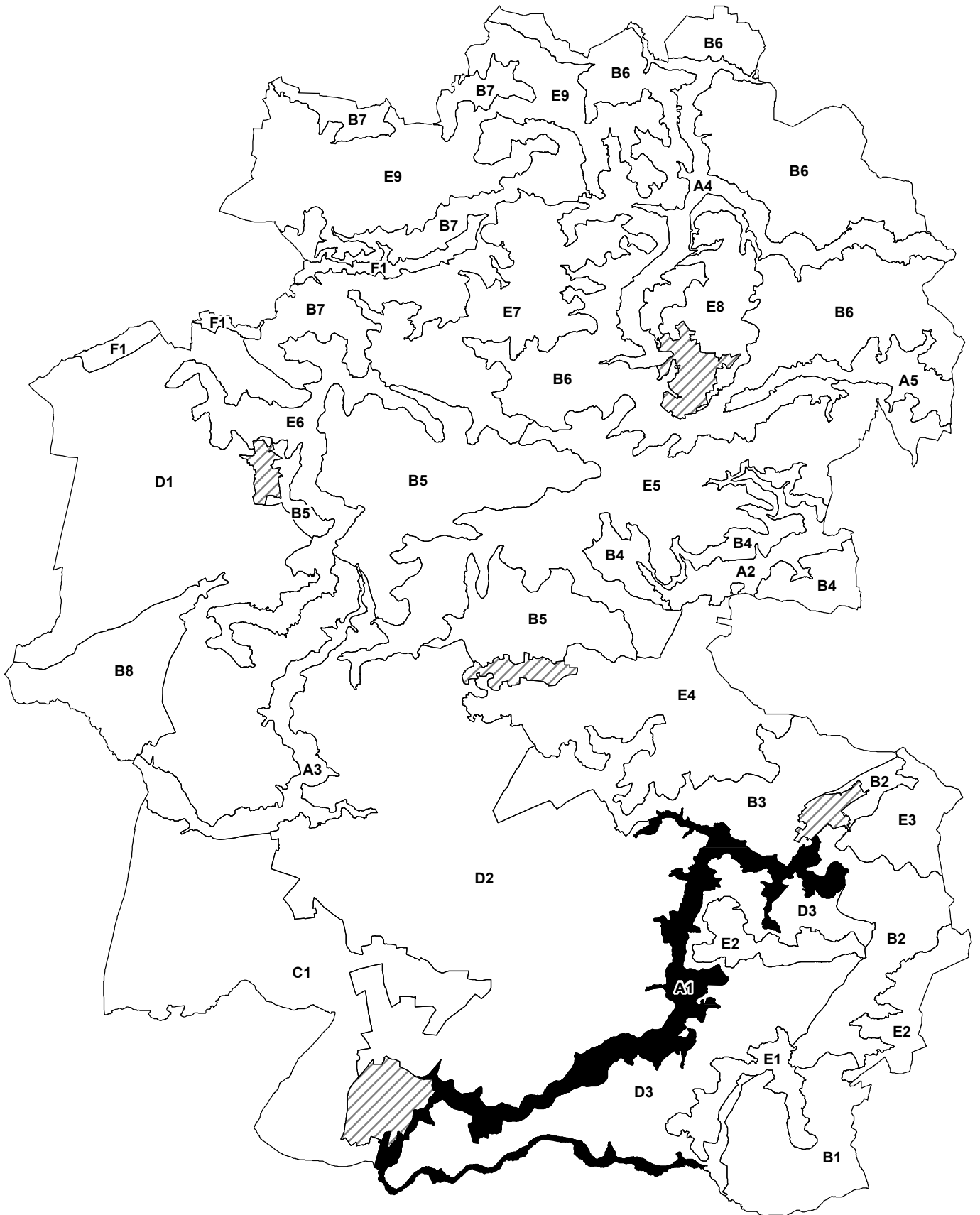
- A small scale landscape defined by shallow river valleys that offer a subtle sense of enclosure. Although sometimes across wider areas of floodplain, views are often channelled along narrow rural roads or restricted by waterside vegetation and woodland.
- Elevation predominantly ranges from 10m AOD (valley floor) to 40m AOD (valley crests). The transition from the surrounding areas is subtle.
- The *River Valleys* are dominated by pastoral farming. Fields are typically small to medium in size and bounded by hedges containing hedgerow trees. The fields are of varied shape and form, making an irregular land cover pattern.
- Settlement is infrequent and small scale, comprising individual properties and hamlets.
- The skyline is predominantly tree-lined. In some areas, the skyline is open, marking the ridge to the adjacent landscape types.
- There are few landmark features and visible structures, however churches (connected to the hamlets) and mills (on the banks of the rivers) provide surprise views and are key points of focus. Poplars are prominent vertical features aligning the course of the rivers.
- Views into adjacent landscapes are for the most part restricted by the ridges marking the limits of the valleys and the transition to the arable landscapes beyond.
- Although not remote, the pastoral character, low density of settlement and low levels of vehicle movement combine to form an intimate, tranquil landscape.

Landscape Type A: River Valleys

Character Area

- A1 River Thet
- A2 Upper Yare
- A3 River Wissey
- A4 River Wensum and Blackwater
- A5 Upper Tud

AI: RIVER THET



AI: RIVER THET

Location and Boundaries

A1.1 The *River Thet* valley is a broad, shallow valley carved through the chalk solid geology by glacial meltwaters. Glacial drift deposits of sand, gravel, clay and silt define the extent of the character area, which forms a south – westerly draining catchment within the south western and central part of Breckland District, meeting the River Ouse at Thetford. It is adjoined to the west by the *Stanta Heath* character area and to the east by the *Harling Heathlands*.

Key Characteristics

- A south westerly draining catchment carved into the chalk solid geology by glacial meltwaters, with glacial drift deposits of sand and gravel.
- These deposits have historically been exploited for mineral extraction. A number of these are still active although redundant workings have resulted in a distinctive chain of lakes in the northern part of the character area.
- In places, peaty soils overlay the drift geology and these are often associated with areas of fen and alder carr.
- Topography is that of a broad shallow valley, ranging from 15 – 30m AOD.
- Visual character is essentially enclosed with views across the character area framed by small blocks of wet woodland and localised blocks of mixed plantation woodland. There are occasional views to the urban edge of Thetford in the southern part of the character area and to landmarks such as churches.
- Landcover is variable throughout the character area, with small grazed fields divided by ditches and belts of willow and alder in the north, with denser areas of wet woodland in the south of the character area, in addition to areas of pasture and rough grazing, defined by post and wire fencing or remnant hedgerows.
- The ecological diversity of the character area is recognised in a number of sites which are designated as SSSI, including carr woodland, part of Breckland Forest and the fenland marshes and mere of Old Buckenham Fen.
- Historic sites within the character area illustrate the long history of human intervention, e.g. the ruined church at Thorpe Farm and associated moat/earthworks to the east.
- Areas of remnant common land are locally distinctive features, notably West Harling, although many have been absorbed within afforestation to the valley sides.
- Settlement is relatively sparse in distribution, being represented by a number of small hamlets at bridging points, either linear (Bridgham) or nucleated (Brettenham), in addition to occasional scattered farmsteads.

- This is a small scale, textured and varied landscape, often enclosed in character due to the density of field boundary vegetation and woodland cover. The landscape has a tranquil, rural quality, although the A I I in the north eastern part of the character area is visually discordant.
- Opportunities for recreation are provided by the wooded commons and associated open access land, in addition to a number of rights of way. Pedestrian access to the river is restricted.

LANDSCAPE CHARACTER DESCRIPTION

Physical/Natural

- A I.2 The River Thet has a south westerly draining catchment carved by two main periods of geomorphological activity, which has shaped the broad, shallow and clearly defined valley through which the river flows. The valley crests are typically defined by the 30m AOD contour, with the change in character defined also by vegetation cover.
- A I.3 Drift deposits of sand and gravel were deposited by glacial meltwater and are a characteristic feature of the valley sides. A long history of mineral extraction has resulted from the exploitation of these deposits. The drift deposits have a strong influence on the soils in the valley and have significantly influenced both the early colonisation and the development of agriculture and mineral workings. In places the glacial drift material is overlain with peat dominated soils and associated areas of heathland and common.
- A I.4 Traditionally managed pasture and rough grazing is the predominant landcover, although there are areas of fen, carr and wet woodland resulting in a varied mosaic of habitats including flood meadow, neutral grassland, marsh, fen and swamp. Areas of wet woodland to the southern part of the character area are often associated with a decline in pastoral grazing.
- A I.5 In terms of biodiversity, the character area supports a number of priority habitats within the Norfolk BAP, notably floodplain grazing marsh, some localised areas of reed bed vegetation and the alder and willow carrs/wet woodland. The carrs in particular are a long established component of the landscape, with alder woodland having been recorded in Norfolk since the 13th Century. This habitat is also apparent in the colonisation of the former mineral workings sites within the character area.
- A I.6 The ecological value of the character area is recognised through SSSI designations at Old Buckenham Fen and part of Breckland Forest which supports a wide assemblage of scarce flora and fauna including red squirrel. The Norfolk Ecological Network Mapping Project has identified the Thet Valley as falling within one of the core ecological areas due to the presence of locally scarce fen systems and associated vegetation. In addition areas of remnant heath within the character area fall within the EcoNet Enhancement Area for Heathland creation.

Historic Character

- A I.7 The Historic Landscape Characterisation (HLC), identifies historic processes including the creation of woodlands from the 18-20th centuries, areas of mineral extraction and relatively late (20th Century) Enclosure. A number of areas of field

boundary loss and relict field boundaries are identified, particularly in the northern end of the valley. This and the relatively late Enclosure are reflected in the present field boundary pattern which is often defined by post and wire fencing and patchy hedgerows with variable management regimes.

- A1.8 Faden's 1797 Map identifies parklands and planned estate landscapes associated with halls as falling within the character area, including at Shadwell and West Harling, occupying the transition between the crest of the valley slopes and the adjacent *Harling Heathlands* Character Area. These have largely disappeared, with the hall at West Harling demolished in 1931 and its parkland absorbed within subsequent Forestry Commission afforestation, although small areas of halls and parklands remain, as at Kilverstone.
- A1.9 Commons are also illustrated on the 1797 map, notably at Bridgham, Eccles and Harling and Shropham. These have largely been lost to subsequent mineral workings apparent as ponds and lagoons, particularly in the northern part of the character area.

Settlement and Built Character

- A1.10 Settlement is generally confined to farmsteads and small, linear hamlets associated with the rural road network and river crossing points (e.g. Brettenham and Bridgham). These are predominantly long established and characterised by a distinct and strong vernacular tradition in terms of building materials and visual appearance, with brick, flint and red tile all evident. Flint and dressed stone churches are locally distinctive, as at Brettenham. Thetford is the key settlement of the valley developing at a river crossing point. The town is not considered in detail by this rural landscape assessment.
- A1.11 A number of other human influences are apparent within the character area, such as land drainage works in the northern part of the character area, and the historic mineral/aggregate extraction which is apparent in the lagoons and pools in the north. The A11 widening scheme in the north eastern part of the character area is a locally divisive and visually discordant element within the landscape.

Perceptual/Visual

- A1.12 The character area retains a strong sense of enclosure due to the woodland blocks, hedgerows and areas of scrub vegetation on the valley floor and the rural lanes bounded by mature hedgerow and hedgerow trees. As such views are framed, although there are occasional views to landmark buildings within the valley sides, notably the church at Brettenham, in addition to views to and from the encroaching settlement edge at Thetford.
- A1.13 Together, the meandering river course, associated wetland habitats, small scale grazed pastures and network of ditches create a strong character. It is an intimate, varied and distinctly textured landscape.
- A1.14 Although the river and immediately surrounding grazed pasture creates a tranquil landscape, occasional views of waterbodies associated with the former mineral extraction reduce the intactness of parts of the valley, as does the localised

afforestation within the valley sides. The AII is visually discordant in the north eastern part of the character area.

EVALUATION

Positive Landscape Features of Significance and Inherent Landscape Sensitivities

The following are judged to be the key inherent landscape sensitivities which are fundamental to the character of the landscape.

- Natural meandering course of the River Thet and associated floodplain habitats and landscapes which are especially sensitive to river engineering and changes in water quality and water flows;
- Riparian vegetation on the valley floor including willow and alder carr, grazed pastures and meadows which represent the traditional, historic land use, contribute to the small scale character of the valley and provide a notable biodiversity resource;
- A tranquil rural character which is sensitive to incremental small scale change;
- The areas of open water within the valley and the need to ensure sensitive restoration and after use of sand and gravel workings;
- Low density of settlement comprising occasional scattered farm buildings and small, essentially linear hamlets clustered at bridging points;
- The varied field pattern, including the small scale fields associated with the settlements and the pastures enclosed by ditches on the valley floor;
- Network of narrow rural lanes and small scale river crossing points.

Visual Sensitivities

A1.15 Key visual sensitivities of this landscape character area include the framed views, the river crossing points, and views to the valley crests. The urban edge growth at Thetford to the south west of the character area, is both visible from within the character area and has partially extended into the valley.

Current State of the Landscape

A1.16 The landscape of the character is broadly representative of the landscape type, and has localised area of intact lowland river landscape characterised by a natural river course and historic landscape elements including alder carrs and fen. However, the character area also has an interrupted quality, due in part to past sand and gravel exploitation, the local presence of the AII and afforestation in the valley sides.

Landscape Change

Past Change

- Extraction of sand and gravel, plus restoration of schemes, and associated loss of common land and heath;
- Loss of parklands and former commons to afforestation/Forestry Commission plantings;
- Colonisation of wet woodland both on former minerals sites, and in areas where traditional pastoral management is in decline;
- Recent road widening works to the A11 transport corridor in the north eastern part of the character area, which are both divisive and visually discordant;
- Forestry Enterprise initiatives have recently involved pilot schemes for heathland restoration and restoration of grazing pasture on areas where the plantations have reached the end of their productive cycle.

Future Change

A1.17 Potential future changes could occur as a result of the current forestry strategy, which incorporates proposals for heathland and riverine habitat restoration. Thetford's Growth Point Status and future urban expansion could have implications for the landscape to the south western edge of the character area, adjacent to Thetford.

LANDSCAPE STRATEGY

The overall management objective should be to conserve the tranquil, pastoral, undeveloped character of the *Thet Valley* and to manage and where appropriate increase natural floodplain habitats such as grassland, reedbeds, fens and grazing marsh, in addition to maintaining and enhancing the areas of alder carr, other wet woodland and heathland. The ditch systems and associated hedgerows should be conserved, ensuring that the intimate scale, sense of historic character and enclosure are maintained.

Guidelines

Landscape Management

- Maintain hedgerow and hedgerow tree boundaries of the rural roads and fields on the valley sides to maintain habitat connectivity and ensure succession of hedgerow tree cover;
- Use appropriate and sensitive management regimes to maintain the alder carrs in the valley floor;
- Maintain the predominantly grazed pastoral valley floor and area of flood meadow, wet pasture and rough grazing;

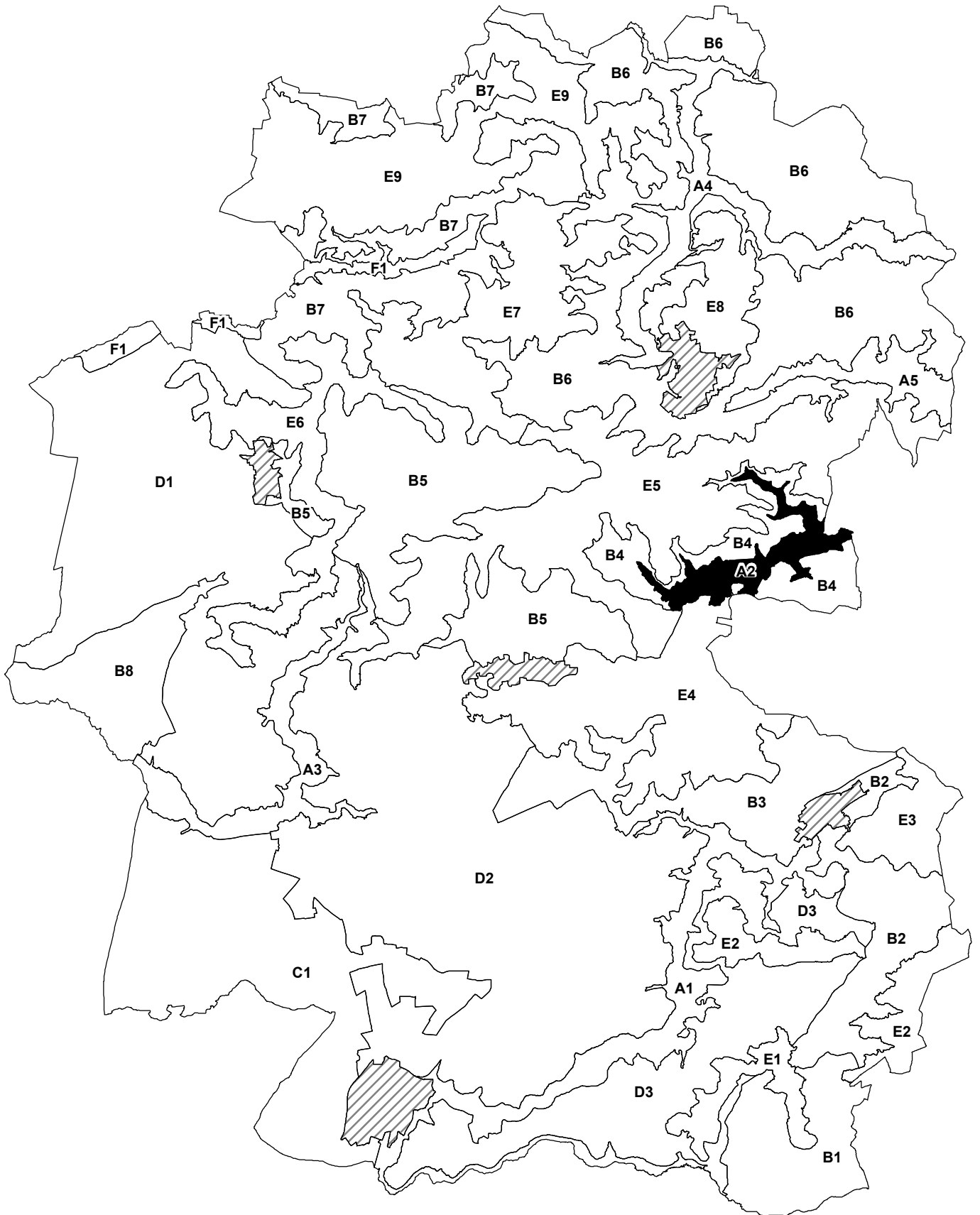
- Encourage opportunities for the creation of further areas of reedbed associated with existing wetland habitat, in area of low biodiversity interest, to assist in meeting the objectives of the Norfolk BAP;
- Seek to conserve the water levels and water quality within the river and associated ditches and the fen systems;
- Maintain the small scale field pattern, particularly the historic small scale fields surrounding settlements;
- Encourage the reversion of plantations in the valley sides to grazing land and heathland as appropriate, when such plantings reach the end of their productive cycle, and in accordance with Forestry Enterprise objectives.
- Explore opportunities to create visual and physical connections with the adjacent settled tributary farmlands.

Development Considerations

- Conserve the historic character of nucleated settlements on the valley floor associated with the churches and rural road network;
- Conserve views of the wooded character of the valley crest;
- Monitor the expansion of the small settlements within the valley, and suburbanising built elements which could affect their small scale, vernacular and rural character;
- Seek to create a well integrated edge of Thetford with the valley landscape;
- Explore opportunities for the sensitive after use of gravel pits;
- Maintain the rural road network, resisting upgrading works which could have an urbanising influence and paying particular attention to the historic river crossing points;
- Improve connectivity between the character area and the river to make use of its potential as a recreational resource. Ensure that any recreational development takes into consideration the number of ecologically important habitats in the character area and is appropriate to its landscape setting in terms of scale and building materials.



A2: UPPER YARE



A2: UPPER YARE VALLEY

Location and Boundaries

A2.1 The *Upper Yare Valley* is located in the north eastern part of Breckland District, at the confluence of the River Yare and the Blackwater Tributary. The River Yare flows in an easterly draining catchment into the neighbouring Broadland District. The valley crests are defined primarily by topography, in addition to the change in vegetation from floodplain and riparian to arable agriculture.

Key Characteristics

- An easterly draining catchment carved into a chalk solid geology, overlain with boulder clay, silt, sand and gravel glacial drift deposits and chalky till/glaciofluvial drift soils.
- Topography ranges from 30-50m AOD, with the Blackwater Tributary forming a narrow, relatively steep sided valley, and the Yare, in contrast having a broad valley floor.
- Views are intermittent due to the density of native hedgerow vegetation along the rural lanes traversing the character area, and the presence of former hedgebanks, although localised views are available to the valley sides and to areas of open water.
- Land cover is predominantly pastoral and rough grazing, but with some paddocks and areas of arable agriculture partially encroaching into the valley sides at points.
- Small to medium scale, irregular field pattern, with enclosure provided by mixed native Enclosure hedges, which are of varying density and condition, and sometimes with hedgerow trees.
- Historic features include Calverley Hall and Parkland, the remains of a moated site near Cranworth, the church at Southburgh and the churchyard of the isolated church at St George's Mount.
- A mosaic of different woodland types including both wet woodland and coniferous species is a distinctive feature of the valley floor. Wetland habitats close to the river represented in a number of CWS, plus small SSSI at Potters Carr.
- The Mid Norfolk Railway crosses the eastern half of the character area at Thuxton. Water bodies associated with former mineral extraction are apparent in the eastern half of the character area.
- Settlement pattern is of low density comprising either linear villages (e.g. Garvestone, partly outside the character area) or small hamlets and groups of houses centred on key road junctions (e.g. Thuxton).

- A small scale, enclosed landscape, of a varied and textured character due to the range of land cover elements. Peaceful and rural in character and little disturbed by settlement or road pattern.
- Opportunities for recreation are afforded by a number of rights of way and the fisheries in the western part of the character. Access to the river is generally limited to the historic crossing points.

LANDSCAPE CHARACTER DESCRIPTION

Physical/Natural

- A2.2 The *Upper Yare* is an easterly draining catchment carved by two main periods of geomorphological activity and lying in a broad, shallow but well defined valley. The boundaries of the *Upper Yare* character area are topographically defined by an elevation ranging from 40-50m A.O.D, with the lowest point of the valley floor located at 30m AOD.
- A2.3 Drift deposits of sand and gravel were deposited by glacial meltwater and are a characteristic feature of the valley floor. The drift deposits have a strong influence on the soils in the valley (defined by chalky till and glaciofluvial till) and have significantly influenced both the early colonisation and the development of the valley.
- A2.4 Land cover within the valley is defined predominantly by pasture and rough grazing, in addition to areas of mixed woodland, which includes both the typical carrs/wet woodland as well as areas of coniferous planting. The pastoral fields on the valley floor are small to medium sized and irregular, defined primarily by mixed hedgerows, some with hedgerow trees, in addition to ditches. The higher ground of the valley sides is characterised by medium sized, geometric fields, some of which are now under arable cultivation. Paddocks also occur across the character area.
- A2.6 Much of the course of the Upper Yare as it flows through Breckland District, and that of the associated Blackwater Tributary, has experienced relatively little disturbance other than the creation of the historic crossing points and a weir at Thuxton, although the eastern part of the character has in the past been used for sand and gravel extraction. A number of open waterbodies with wooded edges are apparent in the valley floor in this area.
- A2.7 Wetland woodland is a particular feature along the river and includes Potter's Carr SSSI at Cranworth and numerous County Wildlife Sites (CWS). In addition the calcareous grassland apparent within the character area is identified as a priority habitat within the Norfolk BAP. The Upper Yare Valley is also identified as having one of the largest distributions by area of reedbed, which is another priority habitat. In view of this habitat potential, the watercourse has been identified as one of the Core Areas within the Ecological Network Mapping Project, with the remainder of the character area falling within an Enhancement Area for heathland, grassland and woodland creation.

Historic Character

- A2.8 Reference to Faden's 1797 Map of Norfolk identifies a number of historic elements within the character area, including areas of common at Butlers Common and

Hardingham Low Common, in addition to a windmill at Hardingham and Hardingham Old Hall, on the periphery of the character area. Faden shows a small scale settlement pattern of linear village and hamlets which persists today.

- A2.9 Subsequent agricultural enclosure has largely resulted in the loss of the commons. The minor parkland of Hardingham Old Hall is extant on the boundary of the character area, as is the 17th Century timber framed Calverley Hall occupying the south facing valley slopes overlooking the Blackwater.
- A2.10 The Mid Norfolk Railway line which runs through parts of the *Upper Yare Valley* was an historically important feature, linking the area to the rest of Norfolk. The line no longer forms part of the mainline rail network, having been developed for recreational purposes by the Mid Norfolk Railway Group.

Settlement and Built Character

- A2.11 Settlement is essentially of low density and linear in formation, often comprising of small groups of houses aligned with rural roads, small hamlets focussed on key road junctions or river crossings (e.g. Southburgh, Thuxton) and a small number of compact linear villages to the valley sides, such as Garvestone. Areas of settlements display a varied vernacular in terms of materials and building styles, with colour render and whitewash apparent. Settlement edges are generally well wooded and effectively contained by the valley landform.

Perceptual/Visual

- A2.12 This is an enclosed landscape of small scale, and of a relatively unified character in terms of land cover elements, with the exception of the large areas of open water in the eastern part of the character area, which are a legacy of past mineral extraction. In view of the varied range of land cover types it has a textured quality, albeit with a muted palette of colours, partly influenced by the coniferous planting within the valley floor.
- A2.13 Views are intermittent in nature, due to landform and the sense of enclosure provided by field boundary hedgerows, in addition to the mixed and coniferous woodland planting within the valley floor, which forms a distinctive element of the landscape.

EVALUATION

Positive Landscape Features of Significance and Inherent Landscape Sensitivities

The following are judged to be the key inherent landscape sensitivities which are fundamental to the character of the landscape.

- Wooded valley floor which provides a sense of enclosure;
- Areas of wet meadow and grazing pasture indicate traditional landscape management practices;
- Vernacular buildings provide a sense of historical continuity and character;

- The small scale, linear settlement pattern;
- Quiet rural character.

Visual Sensitivities

A2.14 The key visual sensitivities within this character area are the views to the valley sides and crest. The tower of the church in the adjoining settlement of Reymerstone, forms a prominent skyline element. Coniferous planting within the valley floor is a visually distinctive and detracting element.

Current State of the Landscape

A2.15 With the exceptions of coniferous planting to the valley floor and the water bodies created by mineral extraction, the landscape has a clearly defined and generally undisturbed landscape character. In terms of ecological integrity, this is variable, with the watercourses and floodplain grassland which form part of the EcoNet Core Area being relatively strong, although biodiversity has been weakened by the coniferous woodland and by the encroachment of arable agriculture.

Landscape Change

Past Change

- The construction of the Mid Norfolk Railway in the 1860s;
- Re-alignment of the tributaries and associated loss of floodplain grassland;
- Sand and gravel extraction within the floor of the Yare Valley;
- Arable cultivation and attendant changes to field boundaries within the upper valley sides;
- Coniferous planting in the valley floor and associated loss of floodplain landcover and habitats.

Future Change

A2.16 Future change may result from the ongoing after use design of former mineral extraction sites. There is also likely to be pressure for small scale residential expansion of the settlements.

LANDSCAPE STRATEGY

The overall management objective for the *Upper Yare Valley* is to conserve its quiet rural character, in addition to maintaining traditional management practices such as grazing pasture. Lowland wetland habitats such as the carrs, wet woodland and floodplain meadow/grassland should be conserved to maintain historic character and ecological integrity.

Guidelines

Landscape Management

- Encourage opportunities to replace coniferous tree planting within the valley floor with appropriate and native wet woodland species;
- Conserve existing alder carr woodland through active and appropriate management;
- Explore opportunities to re create floodplain grassland/meadow where this has been lost.
- Seek opportunities to create a more natural edge/buffer to tributary watercourses and to incorporate marginal vegetation/habitats, in accordance with EcoNet objectives.
- Conserve traditional landscape management practices e.g. grazing pasture/rough grazing;
- Where arable agriculture has encroached upon the valley sides, encourage reversion to pastoral agriculture;
- The restoration of mineral workings should be subject to an appropriate and sympathetic after use design and ongoing landscape management.

Development Considerations

- Monitor new development within the character area, ensuring that it does not encroach further upon the valley floor and associated riparian/floodplain elements;
- Ensure that any new development reflects the existing in terms of scale, style and materials palette;
- Ensure that new domestic boundary planting to the edge of areas of settlement does not have a sub-urbanising influence in terms of species;
- Conserve the exiting network of narrow rural roads and river crossing points, resisting traffic upgrade or calming measures which could have an urbanising influence;
- Conserve views to valley crests;
- Explore opportunities for recreational access to the watercourses, ensuring that they enhance the character of the river corridor and associated vegetation.

