section 03

LANDSCAPE CHARACTER AND PRESSURES FOR CHANGE

3.1

Landscape Character

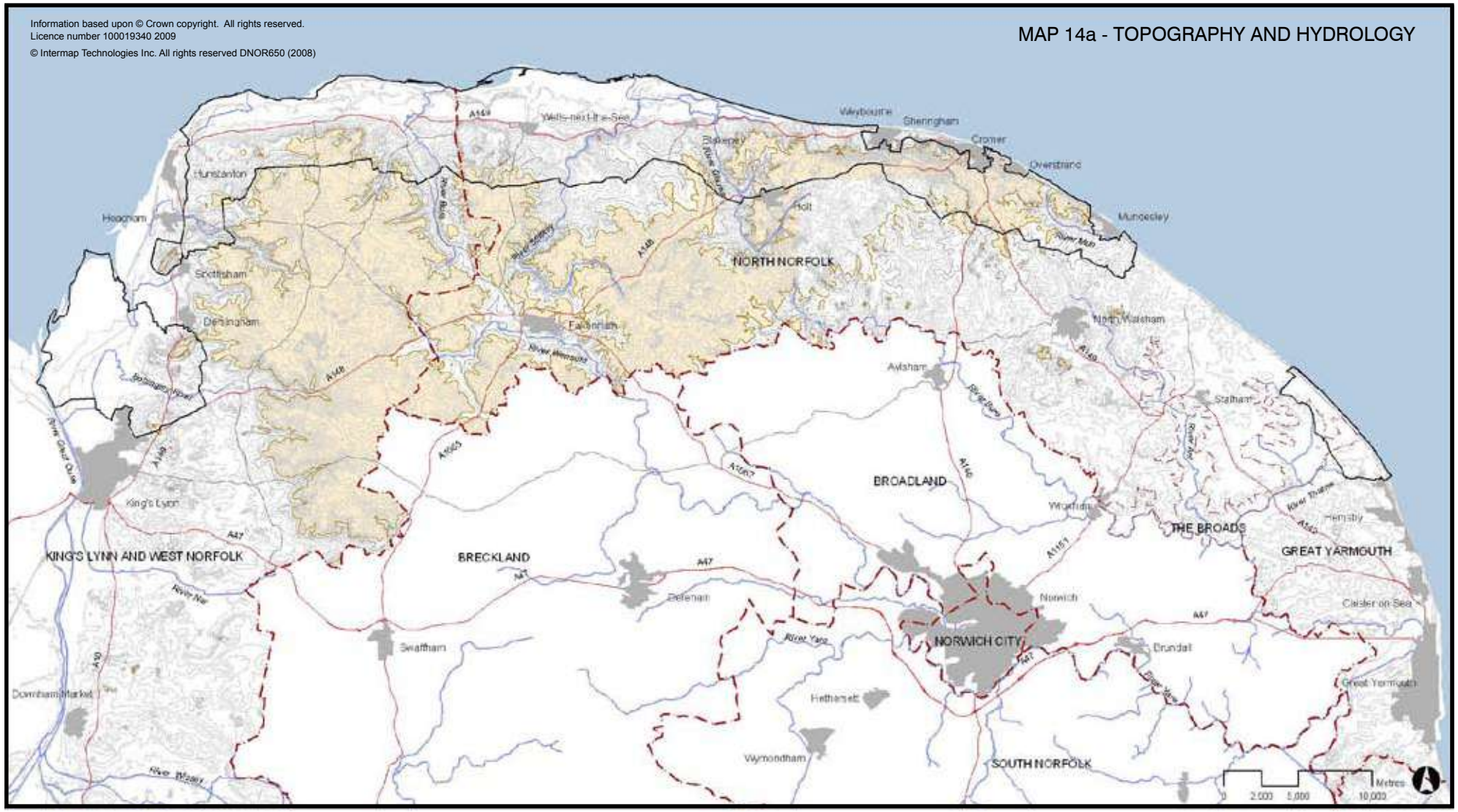
3.1.1 Underlying structure of the land

Landscapes are formed over millions of years and the actions of ice sheets and water have been fundamental influences on the Norfolk Coast; these processes continue, at an increasing pace, with the impacts of climate change at the top of the agenda for local communities and those responsible for managing landscape change.

The basic structure of the landscape – its shape, contours, drainage and soils are influenced by its underlying rocks and relief, and the natural processes of weathering, erosion and deposition. In turn, these influence patterns of vegetation and land use.

Map 14a – Topography and Hydrology, shows the basic form and underlying structure of the AONB landscape.

MAP 14a - TOPOGRAPHY AND HYDROLOGY



- Land Above 50 m
- Contour Line (interval 5 m)
- 30 m Contour Line
- 50 m Contour Line
- 'A' Road
- 'B' Road
- Principal river
- Area of Outstanding Natural Beauty
- Settlement
- District Council Boundary

3.1.2 Landscape character of the AONB

The essential character of the AONB landscapes is summarised in *The Norfolk Coast Landscape: An assessment of the Area of Outstanding Natural Beauty*[18]. The following description is adapted from this publication:

> *"The coastal landscapes are perhaps the most typical of the area and conjure up the most vivid images associated with the Norfolk Coast. This is an open, remote and untamed coastal landscape, with long views to the sea and big skies and dynamic, natural patterns of sea and mud where the marshes merge into vast exposed mudflats. Characteristic features include the coastal marshes, sand dunes and shingle ridges, backed by coastal maritime settlements, red brick and flint buildings, prominent churches and windmills. Just inland, the drained marshes are open farmland, with pollarded willows along the roadsides and long views.*
>
> *Inland, an undulating well-wooded landscape offers views across the marshes. The self-contained estate villages are characterised by attractive carstone buildings. Many of these areas have a heathy character and the highest part of the AONB, the Cromer Ridge, has an irregular landform; densely wooded in some areas, but with extensive heathlands to the west. This area has an intimate landscape pattern, with small, enclosed arable fields, hedgebanks, sunken lanes and scattered settlement.*
>
> *In contrast, the open chalkland plateau to the west of the AONB is a remote, open farmed landscape with only sparse settlement, including large imposing homesteads built of brick or carstone and flint. The landform becomes more rolling towards the east, where there is a settled agricultural landscape of narrow lanes, prominent churches, hedgebanks and windblown hedgerow trees. The farmland is subdivided by tranquil, rural river valleys, with small meandering rivers, well defined arable slopes and grazing meadows on the valley floor."*

[18] *Countryside Commission, 1995, The Norfolk Coast Landscape: An assessment of the area of Outstanding Natural Beauty (CCP 486)*

3.2 Pressures for change

The landscape, ecological and historical resources of the Norfolk Coast AONB are constantly changing in response to human activity. In the past the pace of change was largely controlled by the activities of major landowners, who amalgamated land holdings and established patterns of local economic activity, but the Norfolk Coast has long been a popular holiday destination and tourism, with its accompanying infrastructure – built development, roads, car parks etc has been a significant force for change.

This is a low-lying coastline, which is particularly susceptible to the impact of climate change – even very minor changes in sea level can have a significant impact and the sandy low coastal cliffs are easily eroded.

The pace of change is now more rapid than ever and its implications are always difficult to assess. Changes regarded as negative by some may be seen as improvements by others; perceptions change with time; and new features will become established as valued elements of the landscape. However, the Norfolk Coast is increasingly valued as a resource for tourism, as well as for its intrinsic landscape, nature conservation and historic interest.

The principal objective of the Norfolk Coast Partnership is to manage the AONB in a sustainable way and, in the context of the AONB, environmental sustainability means ensuring that its natural resources and special qualities are maintained for future generations to enjoy. It is essential that change is carefully managed to retain or enhance the qualities which make this landscape special and to conserve or enhance the variety of landscape, ecological and historic resources. The local economy is heavily dependent on the tourism industry, which, in turn is dependent on the environment because it is the 'wild' remote, coastal scenery which visitors flock to enjoy. If the environment is threatened, so in turn is the local economy.

This section examines the driving forces behind change in the Norfolk Coast, setting changes in context and analysing trends for the future. It provides:

- an overview for each of the principal forces for change, within the context of the Norfolk Coast AONB;
- a summary of key pressures for change and their potential impacts on landscape, ecological and historical resources;
- key references for more detailed evidence and guidance; and
- generic guidance to demonstrate how change can be managed to ensure that it has a positive influence. Where relevant, this generic guidance also suggests the key considerations which are likely to be relevant to planning applications (both for those making planning applications and those commenting on them).

More specific guidance for managing change in each of the AONB's 16 landscape types, is provided in Section 4.

3.2.1 Built development

The AONB is essentially a rural area, but it contains a large number of small towns and villages. The larger towns of Sheringham and Cromer and other settlements, which are adjacent to but excluded from the AONB area, remain a major influence on local landscape character. Rates of growth are low compared to other parts of Norfolk as the relevant Local Development Frameworks are encouraging sustainable development in and around the principal towns, which are outside the AONB

New social housing at Langham under construction

Key issues

New buildings and residential expansion are strictly controlled within the AONB, but pressures for new built development focus on:

- expansion on the fringes of settlements, which may influence the 'gateways' to towns and villages along principal approach roads
- subdivision of larger gardens and/or 'selling off' fields within villages to create small plots for individual houses or extensions, both of which can result in a loss of mature trees and the historic patterns of buildings and open spaces which are an integral part of the distinctive local character of towns and villages
- conversion of farm buildings to residential development, which can result in the 'gentrification' of the countryside, with driveways, parking areas, power lines, ornamental fences and gardens – all of which may be totally out of character in an agricultural landscape setting

There is a direct relationship between landscape character and traditional built form. For instance building materials such as brick, flint or stone depended on proximity to local clay and rock outcrops, while the siting and grouping of buildings often depended on patterns of land ownership, roads, rivers or the coast. The descriptions of integrated landscape character (in Section 4) include commentary on the distinctive pattern of settlement within each of the landscape types within the AONB. But local character and distinctiveness of built form has been gradually eroded as traditional features have been replaced by standard, suburban-style conversions, extensions and built development, along with ornamental fencing, planting and security lights. The cumulative effect of many small-scale changes tends to be a homogenisation of distinctive character.

The purchase of properties for second homes is also a significant force for change within the Norfolk Coast AONB, which has resulted in rising property prices and changes in the socio-economic character of traditional settlements.

References

North Norfolk Design Guide, North Norfolk District Council – Part D of the North Norfolk Local Plan, Adopted 1998 – provides detailed guidance and good practice principles for built development through the district

Manual for Streets, Department of transport & Communities & Local Government, March 2007. Provides guidance for practitioners involved in the planning, design, provision and approval of new residential streets but is also applicable to the design of modifications to existing streets.

Code for Sustainable Homes, Communities & Local Government, Dec 2006. Sets the standard for key elements of design and construction which affect the sustainability of a new home. This document is intended to become the single national standard for sustainable homes for designers, builders and home-buyers and will form the basis for future developments of the Building Regulations in relation to carbon emissions from, and energy use in, homes, therefore offering greater regulatory certainty to developers. This booklet explains what the code is and how it works. It also includes tables showing the criteria that assessors will use to measure achievement of sustainability performance under the code.

Sustainability in Housebuilding, 2005, House Builders' Federation. Promotes constructive debate and innovative thinking, to encourage the exchange of workable ideas and ultimately to produce more effective action on the ground.

The Countryside in and around towns – a vision for connecting town and country in the pursuit of sustainable development, Natural England & Groundwork Trust, Jan 2005. Sets out the challenge for positive sustainable development and land management in urban and rural 'fringe' landscapes

Towards a 'New Vernacular' – promoting high quality, sustainable new development in the countryside, Natural England, 2004. Promotes innovative approaches to rural architectural design, including links to sustainable methods of construction.

Concept Statements & Local Development Documents – Practical Guidance for Local Planning Authorities, Natural England, Oct 2003. Promotes the use of Concept Statements as a tool for high quality sustainable design (pre-planning application stage) which involves input from local communities.

Better Places to Live by Design: A companion guide to PPG3, September 2001, DTLR and CABE. Draws together principles of urban design as they relate to the residential environment.

Places, Streets & Movement: A Companion Guide to Design Bulletin 32 – Residential Roads & Footpaths, ODPM, 1998. Reasserts the need to create places which serve the needs of all, not just car drivers. Encourages a greater emphasis on place, community & context in the design of housing layouts and specific advice on the design of roads, footways and cycle tracks and their integration in different forms of development

Generic guidance & key considerations for planning applications

Siting

- The traditional relationship between buildings and local roads should be used to inform the siting of new built development; the characteristic settlement pattern differs from one landscape type to the next eg in nucleated settlements, linear suburban-style development which faces directly onto principal roads should be avoided.
- Consider the potential impact of new buildings from a range of viewpoints, both in the immediate surroundings and the wider countryside, placing particular emphasis on views from public rights of way, open access land and coastal waters
- Consider the impact of new buildings on the setting and views to and from listed buildings and historic designed landscapes – historic research, survey and assessment at an early stage will increase understanding of the historic environment and identify historic features which merit conservation.
- Give special consideration to development in sensitive coastal areas, which have a wild, undeveloped character. Any development which is visible from these areas has the potential to destroy this rare and special sense of exposure and remoteness.
- Avoid siting buildings in the strategic open land between settlements, where they may lead to coalescence (or the impression of coalescence) of adjacent settlements.
- Avoid siting buildings close to the crest of ridges, where they may appear on the local skyline.

Design

- Use the scale, spacing, orientation and siting of existing settlement as a model for considering how new development can be fitted into the traditional pattern and grain.
- Respect existing field boundary patterns and ensure that fencing, hedgerows and lighting along property boundaries are subtly delineated, particularly in rural locations, where they should merge naturally with adjoining fields and woodlands.
- Minimise disturbance to the local landform and design earthworks associated with new development to integrate buildings with the local landform and minimise tree loss.
- Consider the location and scale of outbuildings, driveways and areas of hard-standing as part of the overall design, ensuring that they are not dominant in views from the road.
- Minimise the scale of new development, particularly modern agricultural or commercial buildings, designing exterior finishes and details to reduce their apparent size
- Retain as many existing trees as possible and plant trees and shrubs indigenous to the relevant landscape type to help screen and accommodate built development.

Use of materials

- Give careful consideration to the materials and colours of buildings in the countryside, taking inspiration from existing vernacular buildings and using local materials and building techniques wherever possible.
- Select cladding materials and colours from modern agricultural or industrial buildings to minimise their impact in the surrounding countryside; avoid the use of very light colours, which can reflect the light, and intensive greens or blues, which often clash with the surrounding natural tones of fields and woodland.

3.2.2 Roads

Roads and car parks have the potential to have significant impact on landscape character. They may fragment the countryside, destroying valued landscape, historic or habitat features and can also generate new developments by making areas of land more accessible. They may also have an 'urbanising' effect, bringing road signs, lighting, noise and an element of suburbanisation into rural areas.

Pressures from increasing volumes of traffic, in particular from large farm vehicles and lorries, have been the catalyst for straightening sections of roads, introducing kerbing, signage, white lines and lighting and the removal of hedgerows and trees at junctions to provide visibility splays and sightlines. The focus of recent road proposals is on traffic management, including traffic calming measures on the approaches to settlements and village/town centres and improvements to junctions and signage.

In the Norfolk Coast AONB, the road and parking infrastructure relating to the coastal settlements of Cley, Wells & Blakeney and the tourist honeypots at Holkham, Felbrigg Hall, Sheringham Park and Sandringham are particularly relevant. Traffic congestion is associated with the seasonal influx of visitors to the area. For instance, traffic flows on the A149 at Morston in August are 4 times the winter flow[19]. Seasonal congestion causes particular problems for motorists and pedestrians in the narrow streets of coastal villages.

Overall traffic management problems seem set to increase – traffic counts on the coast road show that the annual average daily flows in 2005 had grown by nearly 5% since 1999[20].

19 *Norfolk County Council, Norfolk Coast Transport Strategy*

20 *Norfolk County Council, Norfolk Coast Transport Strategy*

Key issues

The most significant pressures for infrastructure which have implications for the landscape are:

- Ongoing, piecemeal road improvements, such as widening and straightening, insensitive design and over-use of road signs, surfacing and roadside furniture, which together have a cumulative impact.
- Growth in rural traffic levels, leading to traffic congestion, pollution and parking problems, with subsequent impact on tranquillity and remoteness.
- The fragmentation of habitats and historic landscape patterns as a result of linear infrastructure developments.
- The homogenising influence of road landscapes on local landscape character.

References

Norfolk Coast Transport Strategy 2006-2011, Norfolk County Council – sets out a transportation strategy which is specific to the Norfolk Coast AONB, with policies for gateways to the AONB, quiet lanes, pedestrian and cycle networks, parking in villages, parking north of the coast road and traffic management in sensitive locations.

Second Local Transport Plan for Norfolk, Norfolk County Council, 2006 – overall transportation policy for Norfolk; covers topics such as road safety and community transport, for which the strategy for the AONB is no different from that for the rest of the county

Visitor Management Strategy for the Norfolk Coast AONB, January 2995, Norfolk Coast Partnership – aims to provide a framework for future recreation and tourism to occur in harmony with the natural beauty of the AONB and its local communities.

Generic guidance & key considerations for planning applications

- Avoid new roads, access driveways and car parks in areas of landscape, ecological and historic importance and avoid the fragmentation of important habitats and historic sites.
- As far as possible, keep routes to lower elevations, following contours and natural breaks of slope; avoid straight alignments at angles to the natural grain of the land.
- Resist changes to smaller rural roads as a result of commuter traffic and engineering works.
- Special consideration should be given to the design of local landscapes associated with roads at the entrance to settlements, using traditional boundary features, hedgerows and tree planting to enhance the 'gateway' effect and reflect vernacular styles.
- New planting should reflect the character and biodiversity of adjacent areas; avoid creating a linear 'corridor' of planting which would draw attention to infrastructure developments and fragment existing habitats.
- Use local materials characteristic of the area ie timber and local stone for retaining walls and boardwalks and native species for new planting.

3.2.3 Telecommunications and overhead transmission lines

Overhead transmission lines are particularly prominent in the more open and upland areas of the AONB. On a smaller scale they may also be visually intrusive where they appear on the skyline as they cross ridges

Overhead transmission lines are visually intrusive in local views to Salthouse Church

Single high communications masts or towers are associated with civil aviation, defence industries or various telecommunications companies. They may be particularly intrusive in coastal landscapes, where the undeveloped skylines and wild sense of remoteness are intrinsic to local landscape character. High points are particularly under pressure, particularly on the Cromer Ridge and the chalkland plateau inland from the AONB (where telecommunication masts are prominent in views inland from the AONB).

It is difficult to predict whether the development of new masts will continue to be a significant force for change in the future as technology in this field is constantly being updated; it is possible that developments in the telecommunications industry could see removal of major overhead power lines and mobile phone towers in the future. Further landscape improvements can be made by the removal of redundant masts and placing transmission lines underground.

Key issues

- Prominent telecommunication masts and overhead power lines which dominate the skyline and are intrusive views in open countryside
- Overhead power lines and telecommunications masts which are visible in the wild, coastal views and river valleys, where the undeveloped character is fundamental to the natural, wild qualities of the landscape

Generic guidance & key considerations for planning applications

- Avoid all overhead power lines and telecommunication masts in remote areas with a wild character and close to prominent landmarks which appear on local skylines, such as historic church towers
- Avoid creating straight geometric cuts for transmission lines through commercial forests; soften woodland edges along such corridors and design woodlands to form a backdrop to power lines where they appear on the local skyline.
- Consider undergrounding overhead power lines for short distances to avoid breaking the skyline in sensitive locations.
- Encourage the use of existing structures to support mobile phone aerials and the practice of amalgamating several transmitters onto one mast to minimise the need for visually intrusive structures.

3.2.4 Mineral extraction and waste disposal

There are relatively few actively worked quarries within the AONB, although former disused sand and gravel workings are found on parts of the Cromer Ridge and on some valley side slopes.

The *Norfolk Minerals & Waste Disposal Development Framework* sets out the county's policy framework for the development of mineral extraction. Two of the documents within this framework are particularly relevant – the Norfolk Minerals Site Allocations Development Plan and the Norfolk Waste Site Allocations Development Plan. Both indicate that development of mineral extraction and waste sites are not expected to be major forces for change within the AONB. Sites put forward for consideration for mineral extraction (and in one case for subsequent landfill) within the AONB are at Snettisham and Aylmerton

Nevertheless, the continued expansion of built development in the AONB and its surroundings is inevitably associated with an increase in waste. Landfill has traditionally been the principal substrate for the restoration of mineral workings, but this practice is decreasing as the supply of inert material for landfill is reduced and government policy shifts to encourage other forms of waste treatment such as incineration and recycling.

There are currently no landfill sites within the AONB, although the *Joint Municipal Waste Management Strategy for Norfolk, 2006-2020 (2nd Revision, Dec 2006)* indicates that the policy priorities are to promote waste reduction, recycling, reuse and composting, rather than landfill. There is pressure now for other forms of waste operations such as waste processing and waste transfer and there are two recycling sites in or close to the AONB, at Wells and Sheringham. In addition to potential visual intrusion and emissions, the traffic associated with such waste disposal facilities may have a negative effect on the local landscape, particularly in sensitive coastal locations.

3.2.5 Agriculture and land management

Approximately 61% of the AONB area is farmland[21] and approximately 56% of the farmland is classified as arable cereals or arable horticulture. Agriculture and the management of the major private estates has a crucial role in maintaining the AONB's valuable range of semi-natural habitats, but agricultural specialisation and intensification may lead to losses, degradation and fragmentation of key habitats, historic features and archaeological sites.

The past decade has seen significant shifts in the agricultural economy. Agri-environmental schemes are a fundamental influence on landscape character and the introduction of Environmental Stewardship has the potential for more widespread environmentally friendly farming practices, although in practice the success of the scheme is closely related to the economy. Under the 'broad and shallow' Entry Level Stewardship (ELS) scheme, farmers are free to choose from a national menu of options according to circumstance. The Organic Entry Level Scheme (OELS) is designed to encourage the expansion of organic farming and the Higher Level Scheme (HLS) is actively targeted towards land of particular environmental value and is a competitive scheme.

53.2% of farmland within the AONB is within the ELS (2008 figures) and a further 11.1% of land is targeted within HLS. 4.7% of land is within OELS.

Key issues

The most significant trends in the agricultural economy which have implications for the landscape are:

- *The influence of national policies - agri-environmental and rural development subsidies at European Level.*
  Environmental Stewardship is designed to encourage a resurgence of traditional land management practices, with an increase in hedgerow planting, woodland management and management of arable fields to include headlands and field margins. This scheme may reduce the impact of trends towards more intensive agriculture; in the recent past, intensive farming has led to the replacement of diverse, ecologically rich habitats by those which are species poor and relatively widespread. Conversely a lack of grazing has led to the neglect of the existing habitat and scrub encroachment overall.
- *Diversification of farm businesses* due to livery stables, farm tourism developments or pig farming.

[21] *Chris Blandford Associates (for Norfolk Coast Partnership), 2007*
Norfolk Coast AONB Energy Crop Landscape & Biodiversity Assessment.

- *Changes in land ownership* and an increase in part-time farming – which may have a positive impact on land management as new part-time owners have a strong interest in land management for landscape and biodiversity value. Conversely these changes could have knock-on impacts on farm fragmentation and changes to traditional boundaries.
- *Ongoing specialisation away from mixed farming systems* which may lead to a decline in semi-natural habitats.
- *Increase in energy crops for biofuels* which could lead to large blocks of monoculture within the landscape (short rotation coppice) or the introduction of 'giant grasses' (miscanthus) which have an 'exotic' appearance. Conversely energy crops may be grown with limited use of agri-chemicals and could be developed carefully in association with the positive management of existing semi-natural habitats so the impacts can vary depending on the way this form of agriculture is managed[22].
- *Water abstraction for agricultural businesses* leading to lowered ground water levels and loss of water meadows in river valleys.
- *Rural diversification* and subsequent increase in pressure for new development, caravan parks, golf courses etc.

References

Environmental Stewardship Scheme, 2005, Rural Development Service (DEFRA) and further more detailed advice on the various types of scheme under the overall umbrella of Environmental Stewardship at www.defra.gov.uk/erdp/schemes/es/default.htm

Working with the grain of Nature – A Biodiversity Strategy for England, DEFRA, 2002 – sets out the national policy context for encouraging environmentally friendly farming and land management practice.

Norfolk Biodiversity Action Plan – general advice, http://www.norfolkbiodiversity.org/

Making Space for Wildlife – Creating an ecological network for Norfolk, Summary Document, 2005, Norfolk Biodiversity Partnership – this report sets out the underlying principles for the Norfolk Ecological network mapping project. More details of the methodology are provided in Report of Ecological Network Mapping Project for Norfolk – presentation of methodology. 2006, Norfolk Wildlife Trust (for Norfolk Biodiversity Partnership). Summary reports of key objectives for each district within the AONB are in the EcoNet reports for North Norfolk, District Council, Great Yarmouth Borough Council, the Broads Executive Authority and King's Lynn & West Norfolk Borough Council. *See Section 2 of this Integrated Guidance* for more information and maps.

[22] *Chris Blandford Associates (for Norfolk Coast Partnership), 2007, Norfolk Coast AONB Energy Crop Landscape & Biodiversity Assessment*

A Vision for Nature Conservation in the Norfolk Coast AONB, Norfolk Coast Partnership, 1998 – this shared vision (established through agreement with a range of partner organisations, establishes a framework to ensure that nature conservation is fully taken into account in planning the long term management of the AONB. *It forms part of the 1998 AONB Management Plan*.

Norfolk Coast AONB Energy Crop Landscape & Biodiversity Assessment, Chris Blandford Associates (for the Norfolk Coast Partnership), 2007 – a capacity and sensitivity study which sets out the potential impacts that current and increased cultivation of energy crops may have on the landscape and biodiversity of the AONB

Generic guidance

- *Recognition and encouragement of traditional land management practices* such as the re-introduction of extensive grazing in areas of wood pasture and lowland heathland, will help to maintain landscape character and conserve semi-natural habitats.
- *Target investment in habitat creation and management so as to implement the priorities set out in the Ecological Network (and the BAP priority habitats)*. The overarching maps in Section 2 of this Guidance and the detailed landscape types maps in Section 4 show the current status of ecological network mapping in the county and will be updated as more information becomes available.
- *Encourage the restoration of historic parkland landscapes* with priority given to the conversion of arable fields to pasture. Avoid ploughing up historic parkland.
- *Monitor and control stocking rates to avoid overgrazing and/or the wrong type of grazing* and the resultant loss of landscape character and habitat.
- *Enclosing pockets of woodland within some farmland areas* will encourage woodland regeneration and add diversity to the farmed landscape
- *Retain unimproved pastures*, encourage conversion of semi-improved or improved land to wildlife-rich grasslands and encourage management of herb-rich meadows and wetlands in order to add diversity to the lowland agricultural landscape and retain the valuable 'chain' of wetland habitats along the valley floor of the AONB's river valleys.
- *Provide buffer strips of low input agriculture (limited use or avoidance of pesticides or fertilisers) alongside watercourses* to help intercept diffuse pollution and enhance the ecological and landscape value of water courses. Manage land within these buffer strips to prevent the formation of conduits for water-bourne sediment. Overall a reduction in the use of pesticides and herbicides and encouragement of organic farming practices will reduce pollution of water courses due to agricultural run-off
- *Route farm and forestry tracks along screened alignments or along natural contours* to avoid visually intrusive tracks on prominent, open slopes.
- *Conserve or re-establish a strong field pattern of hedgerows* (where appropriate) to enhance the overall structure of the landscape and reduce its vulnerability to change.

3.2.6 Forestry and woodland

Woodland forms only 2.7% of the total land cover within the AONB [23], but it makes an important contribution to landscape character and biodiversity value. In landscape terms, woodland provides a significant backdrop to views along the coast and inland from the coast, as well as an enhanced sense of enclosure on the fringes of settlements. It is a key aspect of landscape character in the AONB's historic estate and parkland landscapes.

From a biodiversity perspective, woodland contributes to habitat diversity and, where it is connected to hedgerows and adjacent woodlands and wetlands, provides key potential connections in the network of ecological habitats across areas of intensively farmed land.

Recent trends towards new planting, woodland conservation and improved woodland management (through the Woodland Grant Scheme and other schemes) are increasing the overall proportion of trees in the landscape and the presence of major historic estates in the AONB means that the existing woodlands are well managed. Objectives for woodland management on private land are a mixture of habitat conservation, game shooting, timber production and amenity/recreation (on the larger estates).

Key issues

Significant forces for change in relation to forestry and woodlands are:

- Government policy emphasis on nature conservation and sustainable forestry, with an overall increase in open space and a move towards a more extensive broadleaved component.
- Emphasis (in policy) on the recognition of veteran trees as features of key nature conservation importance.
- Impact of woodland grants on improving biodiversity and public access to woodlands.
- Encouragement of woodland management through the development of markets for woodland products.

[23] *Chris Blandford Associates (for Norfolk Coast Partnership), 2007 Norfolk Coast AONB Energy Crop Landscape & Biodiversity Assessment*

References

Forest Design planning – a guide to good practice, The Forestry authority, 1998 – the standard reference on the subject

Forest Landscape Design Guidelines, Forestry Commission, 1994. Intended to provide applicants for the Woodland Grant Scheme and felling licences with an outline of the principles and practical applications of forest design

Lowland Landscape Design Guidelines, Forestry Commission, 1992. Encourages planting of more woodland on farmland and gives landowners, land managers and their advisers guidance on how proposals for planting and other forest work can be designed in sympathy with the best features of the landscape.

Generic Guidance

- *Conserve, restore and manage the AONB's woodlands*, which make an important contribution to the landscape and historic character of the AONB and to its valued ecological habitats.
- *Give priority to the conservation, restoration and management of semi-natural ancient woodlands* which are of critical importance to maintain species diversity within ecological networks.
- *Aim to connect isolated woodlands to adjacent networks of hedgerows, woodland and other habitats* in order to enhance the ecological connectivity and implement the ecological network 'on the ground'.
- *Give priority to the conservation and extension of lowland heathlands*, which are often associated with woodlands. Specific guidance on this subject is provided in the relevant Guidance for different landscape types in Section 4. In general terms, any loss of woodland due to heathland creation, should be balanced out by new woodland planting on adjacent land so that the overall proportion of woodland in the landscape mosaic is conserved.
- *New woodland planting should be dominated by broadleaved species* and designed to soften and improve the visual relationship between woodlands and surrounding open farmland.
- *Irregularly shaped felling coupes appear more natural in the landscape,* but woodland shapes should reflect those of the natural landform and adjacent landscape patterns
- *Encourage traditional woodland management practices* such as coppicing, lopping and pollarding to maintain the living tradition of the woodlands and enhance landscape and biodiversity value. Encourage management of woodlands for woodfuel.

3.2.7 Tourism & recreation

The following notes are based on the recent AONB Tourism benefits and Impacts Study[24].

The Norfolk Coast Area of Outstanding Natural Beauty has long had a strong association with tourism. Visitors contribute some £163 million annually to the local economy. The principal aspects of the tourism market are:

- Countryside escapism and traditional coastal trips, - the Norfolk Coast AONB offers a more relaxing, secluded experience than many other coastal resorts and visitors place a high premium on the quality of the surrounding landscapes.
- Wildlife watching – potential growth market due to greater public awareness of the environment and conservation issues.
- Activities – walking and cycling (as part of other trips) and water & wind sports, golf, fishing and game shooting.
- Cultural & sightseeing – eg Sandringham, Holkham Hall, Felbrigg Hall and the North Norfolk Railway.
- Food & Drink – villages, towns and gastropubs are gaining a reputation for high quality local produce, often at premium prices.

Maintaining the strength of the tourism sector is pivotal to the welfare of the economy and the community of the area, as tourism remains one of the few industrial and employment sectors that has the potential to be compatible with the conservation aims and objectives of specially protected areas.

Tourism relies heavily on the retention of the qualities, character and charm of its landscape, its settlements, its scenery and its wildlife. In return, tourism has the capacity to underpin the strength of the economy; its well-being of the community through the provision of business and employment; and also to act as a crucial axis in the local supply chain by supporting a wide array of other economic sectors.

However, as with any economic sector, tourism can generate potential sources of conflict, with general growth aspirations driven by economic forces in opposition to the need for environment conservation and maintaining the fabric of the community itself. In order to achieve a truly sustainable tourism destination, the behaviour and impact of visitors, both positive and negative, need to be fully understood and reflected in future visitor management plans and policies.

[24] *Scott Wilson Ltd (for the Norfolk Coast Partnership), 2006, Norfolk Coast AONB Tourism Benefit & Impacts Study*

Key issues

- *Damage to sensitive coastal habitats* due to dogs, trampling, noise and general disturbance – particularly nesting, breeding and feeding sites of birds
- *Erosion of sensitive dune systems and saltmarshes*, by trampling and mountain bikes
- *Increase in traffic levels* – (the A149 has 4 times its 'normal' level of traffic during the peak season).
- *Pressure for amenity and recreational facilities*, such as golf courses.
- *Increase in second home ownership* – 15% of houses in the AONB are classified as being 'with no residents'. This increase in second home ownership leads to the erosion of community life and civic ownership, as well as high property prices which local people cannot afford.
- *Erosion of distinctive character, sense of remoteness and tranquillity* – some of those consulted as part of the tourism benefits and impacts study suggested that tourist related developments tended to have a 'suburbanising' effect on landscape character. Car parks, boardwalks, noise and sheer numbers of people have a cumulative impact on the tranquil, 'wild' character of the AONB.

References

Visitor Management Strategy, Norfolk Coast Partnership, 1995 – the findings from this key report are now incorporated into a number of policy documents, including the 2004-09 AONB Management Plan.

Norfolk Coast AONB Tourism Benefits & Impacts Analysis, Scot Wilson Ltd (for the Norfolk Coast partnership, 2006. – this report is not the agreed policy of the Norfolk Coast Partnership, but its sets out a vision for tourism in the AONB, places the issues in context and provides a basis for the development of future actions and policy.

Generic guidance & key considerations for planning applications

- Careful siting of car parks, information points and tourism facilities will reduce pressures on sensitive coastal habitats – provision of toilets and picnic facilities within or adjacent to car parks will encourage use by the majority.
- 'Zoning' of visitor facilities (in line with the 1995 Visitor Management Strategy) will help to control and if necessary redirect visitor pressures.
- Allocation and enforcement of specific mountain bike routes and provision of dedicated sites for this purpose will help to reduce erosion on other tracks and footpaths.
- Careful planting (with appropriate native planting) around caravan parks and other tourist facilities will help to limit their visual impact, but planting may not be appropriate in landscapes with an open character

3.2.8 Renewable energy

Wind turbine development is a potential major force for change in the AONB – due to wind farms within, near to or off the shore of the AONB. However this topic requires a separate detailed specialist assessment of landscape capacity and sensitivity to wind turbine installation in accordance with agreed criteria and this is outside the scope of this guidance.

References

Sustainable energy by design – Town & Country Planning Association, English Partnerships, CABE, Natural England, 2006. This guide promotes opportunities for sustainable energy and demonstrates how it can be integrated into the planning, design and development of new and existing communities.

Renewable energies for the Norfolk Coast AONB, Mott MacDonald (for Norfolk County Council), 2006. – This report predicts and assesses the implications of renewable energy technologies which are deemed suited to the sensitive rural landscapes of the AONB. These include small-medium scale biomass, biofuels, biogas, solar photovoltaics, solar hot water, micro-scale wind power, ground source heat pumps, fuel cells and combined heat and power. The impacts of biofuels are particularly complex and are covered in a separate more detailed study (see below)

Norfolk Coast AONB Energy Crop Landscape & Biodiversity Assessment, Chris Blandford Associates (for the Norfolk Coast Partnership), 2007 – a capacity and sensitivity study which sets out the potential impacts that current and increased cultivation of energy crops may have on the landscape and biodiversity of the AONB.

3.2.9 Climate change

Increased emissions of greenhouse gases are contributing to global warming and relatively minor changes to the earth's temperature may have significant effects on biodiversity and landscape character. The most significant impact on the AONB is likely to be rising sea level, along with tidal surges and high waves, which could lead to changes in the AONB's coastline and the loss of coastal settlements.

Modelling studies to assess the impacts of climate change have been carried out by the Environment Agency[25] and by the University of East Anglia's Tyndall Centre, which has undertaken some complex computer simulations of the impacts of sea level rise on coastal geomorphology and biodiversity.

Map 12b shows flood risk areas for a 1 in 100 and 1 in 1,000 year flood event, assuming there are no defences in place. It does not incorporate an allowance for increased sea levels over the given period, but does give an indication of what is at risk, if and when there is a move towards a more naturally functioning coastline

Map 12b – Flood risk areas - flood risk areas for a 1 in 100 and 1 in 1000 year flood event assuming there are no defences in place.

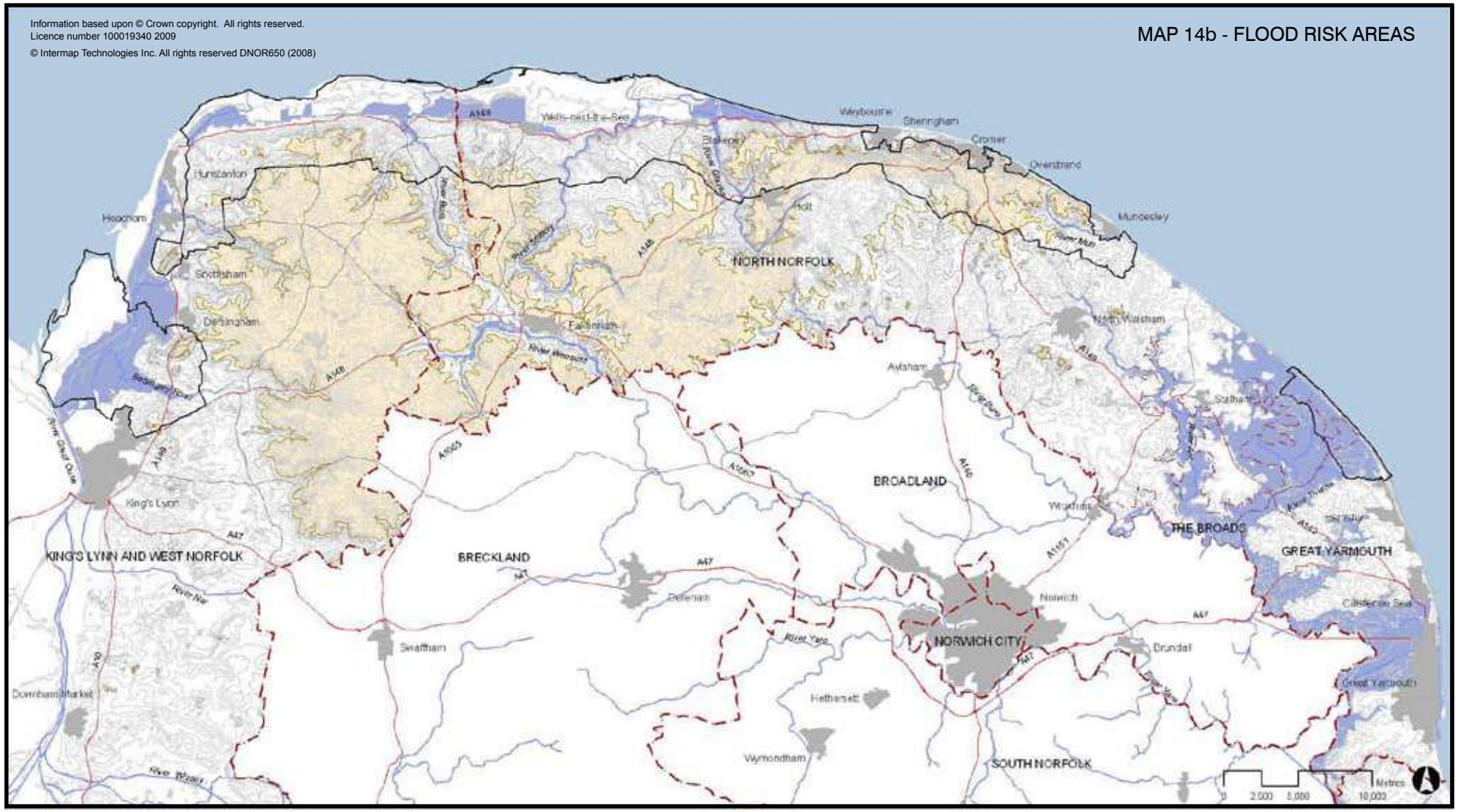
Key issues

Forces for change relating to climate change are:

- *Temperature rises and changes in the distribution of rainfall*, which may affect the survival of species at the edge of their range and result in a gradual change in the species composition of local habitats.
- *Rising sea levels* which will threaten coastal habitats through increased and extensive risk of flooding.
- *Increased water abstraction, which may have impacts on the viability of water courses and habitats along the wider river corridor*
- *Increases in tidal surges and high waves* which will have implications for coastal defences and which may lead to the erosion of the sandy coastal cliffs and shingle banks which are characteristic features along parts of the North Norfolk coast
- *Summer drought* which may result in drying out of valuable wetland habitats, increase risk of fire on heaths and lead to restriction of use of water on golf courses, estates and agricultural land.

[25] *LIDAR – a Light Detection & Ranging air-bourne mapping technique which results in a terrain map suitable for assessing flood risk*

MAP 14b - FLOOD RISK AREAS



Flood Risk Zones

- Land Above 50 m
- Contour Line (interval 5 m)
- 30 m Contour Line
- 50 m Contour Line

- Flood Zone 2 - Medium Probability
  Sea : Land having between a 1 in 200 and 1 in 1000 (0.5%-0.1%) annual probability of flooding
  River : Land having between a 1 in 100 and 1 in 1000 (1%-0.1%) annual probability of flooding
- Flood Zone 3a - High Probability
  Sea : Land having a greater than 1 in 200 (>0.5%) annual probability of flooding
  River : Land having a greater than 1 in 100 (1%) annual probability of flooding
  This zone also comprises land where water has to flow or be stored in times of flood

- 'A' Road
- 'B' Road
- Principal river
- Area of Outstanding Natural Beauty
- Settlement
- District Council Boundary

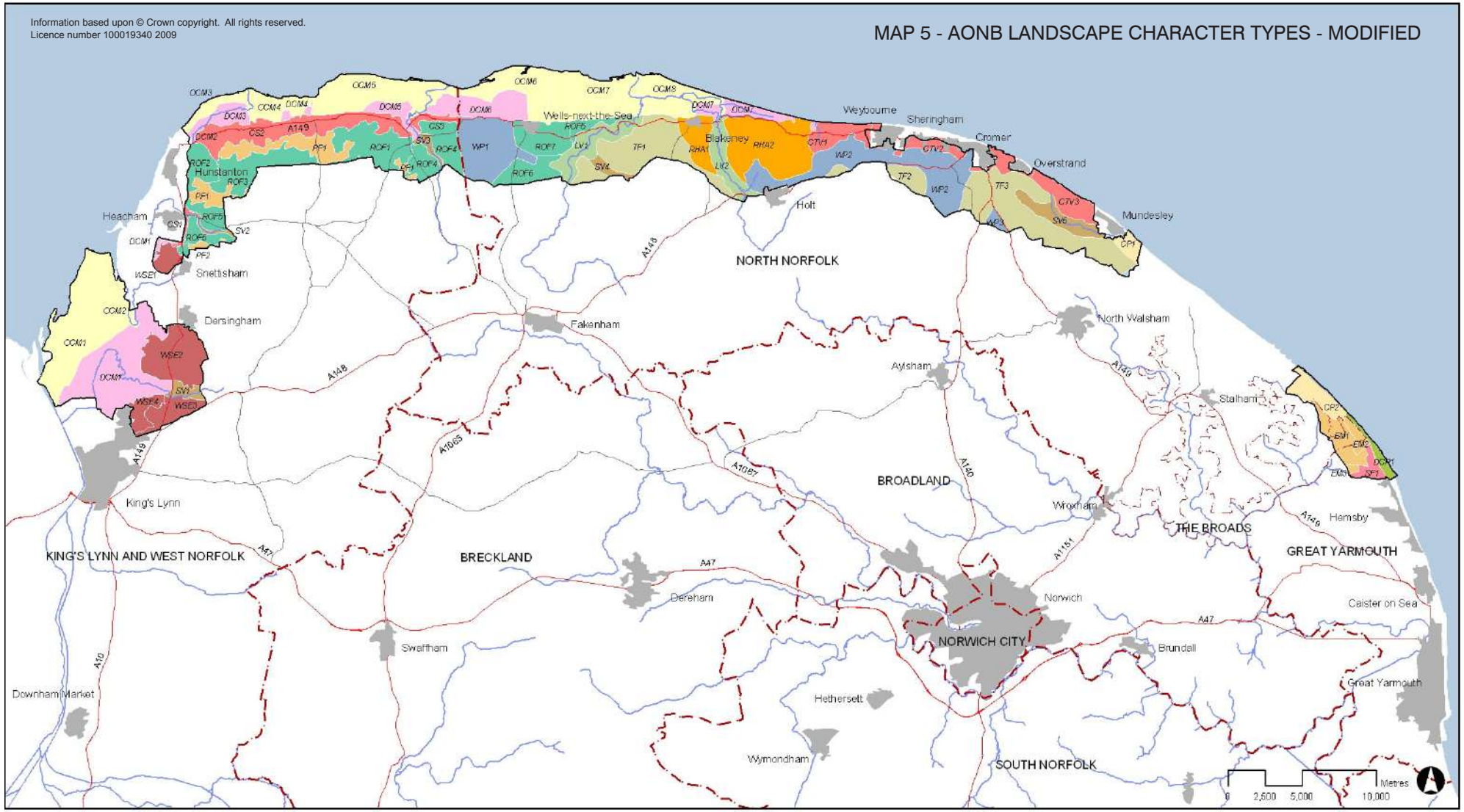
References

Towards an integrated coastal simulator of the impact of sea level rise in East Anglia, 2006, University of East Anglia, Tyndall Centre – The Tyndall Centre has produced a coastal simulator which can model coastal erosion due to wave action and sea level rise. The work incorporates modeling biodiversity responses to climate change. The Tyndall Centre has also undertaken projects which focus on Visualising Coastal Futures, which are designed to assist raising public awareness of the potential impacts of climate change and to encourage meaningful participation in decision making in relation to this topic.

Generic guidance

- *Responses to sea level rise could take the form of increasing coastal defences or managed realignment* – consideration of abandonment of sea defences could be a more natural approach to habitat change, but it might be combined with the targeted creation of habitats inland to reduce the effect of 'coastal squeeze'
- *Rigorous monitoring and predicting of changes* will allow development of appropriate adaptation strategies and appropriate responses to inevitable impacts.
- *Raising public awareness of the issues associated with climate change and drying out of habitats* could help to promote conservation of water resources during the summer months.

MAP 5 - AONB LANDSCAPE CHARACTER TYPES - MODIFIED



- OCM Open Coastal Marshes
- DCM Drained Coastal Marshes
- CS Coastal Slopes
- WSE Wooded Slopes with Estate Land
- ROF Rolling Open Farmland
- PF Plateau Farmland
- RHA Rolling Heath and Arable
- SV Small Valleys
- TF Tributary Farmland
- WP Wooded with Parkland
- CP Coastal Plain
- CTV Coastal Towns and Villages
- LV Large Valley
- EM Estuarine Marshland
- SF Settled Farmland
- DCR Dunes, Coastal Levels & Resorts

- 'A' Road
- 'B' Road
- Main River
- Area of Outstanding Natural Beauty
- Settlement
- District Council Boundaries