

Breckland District Ecological Network Mapping



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1 Introduction

This report is put forward to foster further discussion about the development of an ecological network in Breckland District. The report has been produced as a draft for further discussion and refinement, and is based on inputs received from the Norfolk Biodiversity Partnership.

The overall aim is to take forward the findings of the county-level ecological network report¹ and to apply these at the District level. Specifically, the report seeks to:

- Identify the key statements contained in the county econet report pertaining to the district;
- Present recommendations on the ways in which these ecological network priorities can be further developed and implemented at the district level.

There are considerable limitations in the information base required to develop the ecological network and suggestions are made about the ways in which these could be addressed..

2 Ecological features and BAP habitats

2.1 Summary of key ecological characteristics

The District is dominated by farmland, with the Brecks² area comprising a mosaic of farmland, conifer plantation and heathland. Semi-natural habitats are often widely spaced and fragmented, even in the Brecks. The key ecological characteristics of the District can be summarised as

- The Brecks, comprising an extensive area of largely conifer plantation and arable farmland but with extensive areas of heathland within the forest and arable landscape. Other habitats within the Brecks include fen, grazing marsh and naturally fluctuating water bodies (meres and pingoes). A significant proportion of the Brecks, including arable farmland, is designated as European protected sites, forming the largest terrestrial protected area in Norfolk.
- A number of river valleys, including the Wensum, Waveney, Nar, Whitewater, Tud, Wissey, Little Ouse and Thet. These have extensive areas of wetland habitats, comprised mainly of grazing marsh with areas of fen and reedbed; many of the rivers are recognised as chalk streams. Some of these habitats are European protected sites.
- Relatively extensive areas of woodland and shelterbelts, often associated with large estates. There are also a number of ancient woodlands scattered through the District.
- Arable landscape features, comprising Scot's pine shelterbelts, hedgerows, mature trees, copses, ponds and field margins. These features are key components of the ecological network at a local scale; collectively, they amount to a significant biodiversity resource (but are not covered further in this exercise).
- The urban area of Thetford and other market towns, such as Attleborough and Swaffham.
- It is important to recognise that Brecks cross the county boundary and that the ecological network should be consistent across this

¹ Report of the Ecological Network Mapping Project for Norfolk. 2006. Norfolk Wildlife Trust, on behalf of the Norfolk Biodiversity Partnership.

² The 'Brecks' refers to the area generally covered by the former ESA to distinguish it from the remainder of Breckland District local authority area.

2.2 BAP habitats of County and District importance

The county Econet Report identified the following components of the ecological network for the District:

- Core area based on the Brecks and river valleys such as the Nar, Wissey, Thet and Little Ouse;
- Core area centred on the Wensum and Blackwater;
- Zone of heath-grass-woodland creation in east and north of District;
- Zone of general habitat enhancement in west of District;
- Area of urban greenspace deprivation based on Thetford, Swaffham, Dereham and Attleborough.

The county Econet Report also identified the following extant BAP habitats as being County priorities:

- Calcareous grassland in the Brecks (associated in part with Breck grass heath) but also more classic chalk grassland eg Narborough railway line;
- Lowland meadows generally in the east;
- Woodland centred on an extensive area with widely scattered ancient woodlands stretching from Mileham to Watton;
- Fluctuating water bodies associated with meres and pingoes in the Brecks;
- Heath centred on the Brecks (both heather dominated and grass heath);
- Chalk rivers of the Wensum, Nar, Wissey, Thet, Little Ouse and associated tributaries;
- Fen, reedbed, wet woodland, floodplain grazing marsh in Wensum, Nar, Little Ouse, Thet and Wissey and associated tributaries.

The following BAP habitats may occur in the District as County priorities but are not shown on the ecological network map:

- Eutrophic waters - the lack of a Norfolk BAP means these cannot be identified but could include lakes in Parkland and gravel pits;
- Parkland (this study takes the Historic Parks Register as representing this habitat although no biodiversity assessments are known to be available for this feature).

An objective of the current exercise is to identify components of the econet that are of District importance. Amongst those identified but not shown on the ecological network map are:

- Railway line from Wymondham to Fakenham and Narborough to Watton, comprising a significant area of woodland, scrub and grassland within an intensively managed landscape.

3 Developing an ecological network for the District

In the section below, the key actions for econet implementation are outlined. It is important to note that the strategy does not cover the actions required to protect and maintain existing BAP habitats; it refers only to actions required for habitat creation and/or buffering.

3.1 Econet priorities

The county Econet Report recommended that the following key measures be taken within the District in order to contribute toward the establishment of an ecological network:

- Enhance the wetland habitats, especially fens, associated with the chalk rivers of the Wensum, Nar, Wissey, Little Ouse and Thet, as well as the Tud and Whitewater and associated tributaries;
- Enhance and create a mosaic of heathland, wood pasture, woodland and wetland habitats within the Brecks and across the county boundary;
- Enhance woodland connectivity, particularly in the woodland core area centred on the network of ancient woodlands from Watton northwards and also around Hockering Wood.

- Protect existing greenspace and create new greenspace in and around Thetford.

The econet priorities for the District are also shown in the attached map.

3.2 Strategy for econet implementation

Objectives	Strategy	Delivery
Restore natural functioning and wetland habitats to major rivers and tributaries	<ol style="list-style-type: none"> 1. Produce river restoration plans. 2. Create new wetland BAP habitats in floodplain to expand sites. 3. Create habitat ecotones from wet to dry habitat. 4. Buffer floodplains by encouraging low input agricultural systems or semi natural habitats. 5. Enhance connectivity by creating new wetland linkages and enhancing the matrix (land uses surrounding a wetland). <p>NB: When undertaking restoration and connectivity projects, a risk assessment needs to be undertaken to ensure that invasive introduced species (eg signal crayfish) are not encouraged to spread to new areas.</p>	<ul style="list-style-type: none"> • FC Wet woodland project • S106 agreements • Environmental Stewardship • Green infrastructure project implementation
Significantly increase the connectivity of woodland in core areas	<ol style="list-style-type: none"> 1. Assess functional connectivity within woodland core areas 2. Expand existing woods, so that some are >25ha and all are over 3ha. 3. Buffer woodland to 30m minimum by restoring or creating habitats adjacent to sites or encouraging more sympathetic land uses. 4. Enhance connectivity by creating new woodland linkages and enhancing the matrix (land uses surrounding a woodland). 	<ol style="list-style-type: none"> a.NCC Community Woodland Scheme b. English Woodland Grant Scheme c.Green infrastructure project implementation d. FC establishment of woodland to replace heathland creation areas in Thetford Forest
Significantly increase the area of calcareous and other grassland	<ol style="list-style-type: none"> 1. Identify areas of grassland that can form the nucleus for enhancement and expansion eg, commons, verges, churchyards, pasture. 2. Create new grasslands and associated habitats such as scrub close to rural communities. 3. Buffer grassland by restoring or creating habitats or encouraging low input agricultural systems. 4. Enhance connectivity by creating new grassland linkages and enhancing the matrix (land uses surrounding a grassland). 	<ul style="list-style-type: none"> o S106 agreements o Environmental Stewardship o Green infrastructure project implementation o Development of linear habitat corridors alongside long distance footpaths such as Peddars Way
Increase the area of heathland in suitable areas.	<ol style="list-style-type: none"> 1. Identify heath creation and connectivity needs within Brecks European protected site including across the county boundary. 2. Expand existing heathland sites, where possible to a minimum of 50ha 3. Create new heathland adjacent to other habitats or on former heathland sites and in association with mineral extraction restoration. 4. Buffer heathland by restoring or creating habitats adjacent to sites or encouraging low input agricultural systems. 	<ol style="list-style-type: none"> a.S106 agreements for minerals restoration and other development b. Environmental Stewardship c.Green infrastructure project implementation d. Management of Thetford Forest
Create greenspace in urban areas and	<ol style="list-style-type: none"> 1. Produce a biodiversity plan for incorporation in the Thetford green infrastructure strategy, identifying 	<ul style="list-style-type: none"> • Green infrastructure project implementation in Thetford

<p>urban fringe of market towns and especially Thetford.</p>	<p>areas for habitat creation and other biodiversity enhancement measures.</p> <ol style="list-style-type: none"> 2. Provide more accessible greenspace including BAP habitats within and adjacent to existing and new developments. 3. Ensure core areas of BAP habitats within built up areas remain connected with wider countryside, eg river valleys of the Little Ouse and Thet in Thetford. 4. Enhance connectivity across the A11 for people and wildlife. 	<ul style="list-style-type: none"> • Greenspace provision in market towns - examples include proposals to link Neatherd Moor to Etling Green in Dereham
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4 Other actions

There are a number of specific actions that could help establish an ecological network in the District. These are a mixture of practical projects and policy development. In particular, it is suggested that consideration be given to:

4.1 Strategic measures

- **Local Development Frameworks:** It is recommended that Breckland District Council incorporate the econet concept in its Local Development Framework. This should include specific policies in the Core Strategy as well as the identification of habitat creation areas within Site Specific Proposals and Area Action Plans, based on the attached map.
- **Section 106 Agreements:** The potential for using Section 106 agreements to promote habitat creation through development gain should be actively explored. Specific examples include the provision of urban greenspace that contributes towards an agreed green infrastructure plan; the restoration of habitats in river valleys; and the creation of heathland and woodland. In addition, opportunities for creating areas of rough grassland and scrub habitats close to villages, in order to replace historical ‘lost commons’, should be encouraged.
- **Landscape Characterisation:** It will be important for the District’s landscape characterisation to integrate the ecological network concepts. This integration helps identify mutual objectives and possible areas of conflict.

4.2 Gaining further information

The following actions are considered necessary to provide information to facilitate conservation planning and development of implementation projects:

- **Mapping of BAP habitats.** There is a need to map information on the distribution of BAP habitats in the District. There is also a need to identify opportunities for the creation of calcareous grassland.
- **CWS study.** There is a need to assess the opportunities for establishing new County Wildlife Sites in the district. There is also a need to re-assess existing CWSs to ascertain the opportunities for enlargement or buffering. County Wildlife Sites occur throughout the District as well as in many core areas. Together with SSSIs, they form the “backbone” of an ecological network for the district. It is, therefore, important that they be recognised for their biodiversity value within the general matrix of the countryside.
- **Ecological modelling** can be used to identify areas where habitats need to be created in order to increase connectivity between BAP habitats. This will aid targeting of habitat creation. Initially, it is suggested that a study be undertaken of a distinctive geographical area such as the Greensand to identify the current and desired level of connectivity.
- **A study of the Brecks area.** This is an area of high biodiversity importance with a wide range of habitats. It is recommended that a detailed study be undertaken of the area and that a habitat

restoration and creation plan is devised that looks at woodland, wood-pasture and heathland and associated wetland habitats in relation to the forest and arable landscape.

- **River restoration plans** need to be produced identifying opportunities for the creation and expansion of habitats and the restoration of natural functioning. In addition, since river valleys represent important corridors across the county, it would be beneficial to identify headwaters of rivers where there are opportunities to create a more wildlife friendly landscape. It is suggested that a study be undertaken to look at the feasibility of river restoration and the potential for connectivity across watersheds.
- **Green infrastructure plans** should be developed for Thetford and the market towns. These could incorporate the idea of creating an area of 'common land' adjacent to each village, thus providing benefits for both biodiversity and access.

5 Explanation of District ecological network map

5.1 GIS layers provided

The following layers make up the Breckland District ecological network map. The information is based on the County ecological network map but has been refined and expanded after consultation with representatives from Natural England, Broads Authority, Norfolk Coast Partnership, Forestry Commission, Environment Agency, RSPB, Norfolk Wildlife Trust, Norfolk County Council, and North Norfolk Council.

NB. Some features have not been shown on the map. They are, however, considered important in a District or even County context and are mentioned in the text. Their omission is primarily based on the need to maintain the clarity of the map.

5.2 District ecological network map layers

The District map comprises the following layers from section 5.1:

1. Landscape Description Unit (LDU) 1:50000 layer from Norfolk County Council
2. Local authority boundaries Breckland District boundary
3. Wetland habitat enhancement zone based on the LDUs that are classified as 'wetland' and the 1:100 flood risk area from Environment Agency. It is assumed that this incorporates the majority of the area available for the creation and enhancement of the following BAP habitats – wet woodland, reedbed, fen, chalk river, grazing marsh, mesotrophic waters and to a great extent eutrophic waters.
4. Brecks core area replaces calcareous grassland core area and covers the Brecks Farmland and Forest SSSI. This was considered to represent more accurately the priority area for heath creation in the Brecks as opposed to the calcareous grassland category
5. Breck heathland core area delineates the areas of existing heath within the Brecks core area
6. Zone of grass-heath-wood enhancement. Based on the County ecological network map but parts of this zone have now been assigned to a new category named Brecks core area.
7. Zone of general habitat enhancement. P. Based on the County ecological network map but part of this zone has been assigned to the Brecks core area.
8. Fluctuating waterbodies core area defined as a zone around the main pingo and mere sites
9. Buffer zone for Wensum. A buffer zone of 1km along around the Wensum to highlight the extreme importance of this area and the need to consider adjacent land use.
10. Buffer zone for Brecks. A buffer zone of 400m around the Brecks core identified as the guide distance needed to buffer populations of ground nesting birds from urban development
11. Buffer zone for the Waveney. A buffer zone of 1km along around the Waveney to highlight the extreme importance of this area and the need to consider adjacent land use.
12. Woodland core area as defined in the County ecological network report showing concentrations of primarily deciduous woodland. These areas generally have a high concentration of SSSI or CWS woodlands or ancient woodland. The core areas shown in the County ecological network report have been additionally expanded to include areas identified at the District level
13. Urban areas - towns of Thetford, Attleborough, Swaffham, Dereham

14. Core habitat corridors - indicative arrows for wetland, woodland and heathland showing desirable connectivity between core habitat areas