

Broads Authority Development Control Policies DPD

Appropriate Assessment

- 1. Introduction**
- 2. The Appropriate Assessment process**
- 3. Consultation and preparation**
- 4. Evidence gathering for the Appropriate Assessment**
 - 4.1 European Sites that may be affected**
 - 4.2 Characteristics and conservation objectives of those European Sites**
 - 4.3 Other relevant plans or projects**
- 5 Appropriate Assessment and Plan analysis**
- 6 Redrafted Preferred Option policy numbering**

1. Introduction

The Habitats and Birds Directives protect sites of exceptional importance in respect of rare, endangered or vulnerable natural habitats and species within Europe. These sites are referred to as European Sites and consist of Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Offshore Marine Sites (OMSs), however there are no OMSs designated at present.

Articles 6(3) and 6(4) of the Habitats Directive require Appropriate Assessment (AA) of any plans or projects likely to have a significant effect on a designated feature of a European Site. Appropriate Assessment is an assessment of the potential effects of a proposed plan on all European sites, both within and adjacent to the plan area. The intention is that a plan or project should only be approved after determining that it will not adversely affect the integrity of any European Site. If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest compensatory measures must be incorporated to ensure that the overall coherence of a European Site is protected.

Draft guidance on Appropriate Assessment¹ was published by the Government in August 2006 and this has informed the Appropriate Assessment of the Broads Authority Development Control DPD.

This report summarises the AA process and sets out a description and characteristics of the European Sites within, and adjacent to Broads Authority area. It then reports on the findings of the AA process as applied to the Broads Authority Development Control DPD.

¹ Planning for the Protection of European Sites: Appropriate Assessment. DCLG August 2006

The Appropriate Assessment process

Task 1: Screening for likely significant effects

Identifying whether a plan option is likely to have a significant effect on any European Site. This will determine whether the subsequent steps of Appropriate Assessment are required.

The precautionary principle must be used when assessing whether effects are significant. Where there is any doubt or further research is needed the Appropriate Assessment process should proceed to the next test, rather than reach a conclusion of 'no significant effect'.

The assessment of likely significant effect needs to take account of impacts in combination with other plans and projects, however only those plans or projects which are considered most relevant should be considered.

If there are found to be likely significant effects the plan option must be subject to Appropriate Assessment of its implications for the conservation objectives of the European Site.

Task 2: Appropriate Assessment

The implications for the conservation objectives of the European Site should be examined.

A plan should only be adopted after having ascertained that it will not adversely affect the integrity of the European Site. Fine-tune the plan as it emerges to ensure that significant effects on European sites are avoided. This will render Stage 3 unnecessary – important since this is complex, expensive and not in keeping with the spirit of the Habitats Directive.

Task 3: Alternative Solutions and Mitigation

Where the plan is assessed as having an adverse effect on the integrity of a site, then alternative solutions must be considered.

In considering whether a plan or project will adversely affect the integrity of the site, regard to the manner in which it is proposed to be carried out or to any conditions or restrictions must be considered.

The primary aim of any mitigation of an option should be to allow 'no adverse affect on integrity' to be concluded. Where this is not possible then mitigation should aim to reduce the adverse affect as much as possible. Measures will normally involve the modification of an option.

After mitigation measures and possible alternatives have been exhausted and it still cannot be concluded that there will be 'no adverse affect on integrity' then, as a rule, the option should be dropped.

In exceptional circumstances, and as an exception to that rule, if the pursuit of the option is justified by 'imperative reasons of overriding public interest' consideration can be given to proceeding. Strong justification will be required to support this and it must be demonstrated to the satisfaction of the Secretary of State that there were no possible mitigation measures and/or alternative solutions to cancel out the negative effects. In these cases the Secretary of State shall secure any necessary compensatory measures to ensure the overall coherence of the European Site is protected.

3. Consultation and Preparation

Natural England is the statutory nature conservation body responsible for providing advice on Appropriate Assessment and has been involved in the AA of the Broads Authority LDF documents. Initial scoping meetings were held and correspondence has continued throughout.

The Appropriate Assessment report was initially prepared by Planning Policy and Countryside officers at NNDC, while an external ecologist was appointed to carry out the actual assessment.

Appropriate Assessment findings should be made available to the public and this report is therefore being published alongside the submission Core Strategy document. The Inspector will consider the soundness of the Core Strategy using the AA as part of the evidence base.

4. Evidence gathering for Appropriate Assessment

Evidence gathering is the first stage and information on the following should be collected:

- European Sites within and outside the plan area potentially affected;
- The characteristics of those European Sites and their conservation objectives; and
- Other relevant plans or projects

4.1 International and European protected sites that may be affected

The following sites have been considered through the AA process:

Special Protection Areas (SPAs) (protected sites classified under the EC Directive on the conservation of wild birds, the Birds Directive):

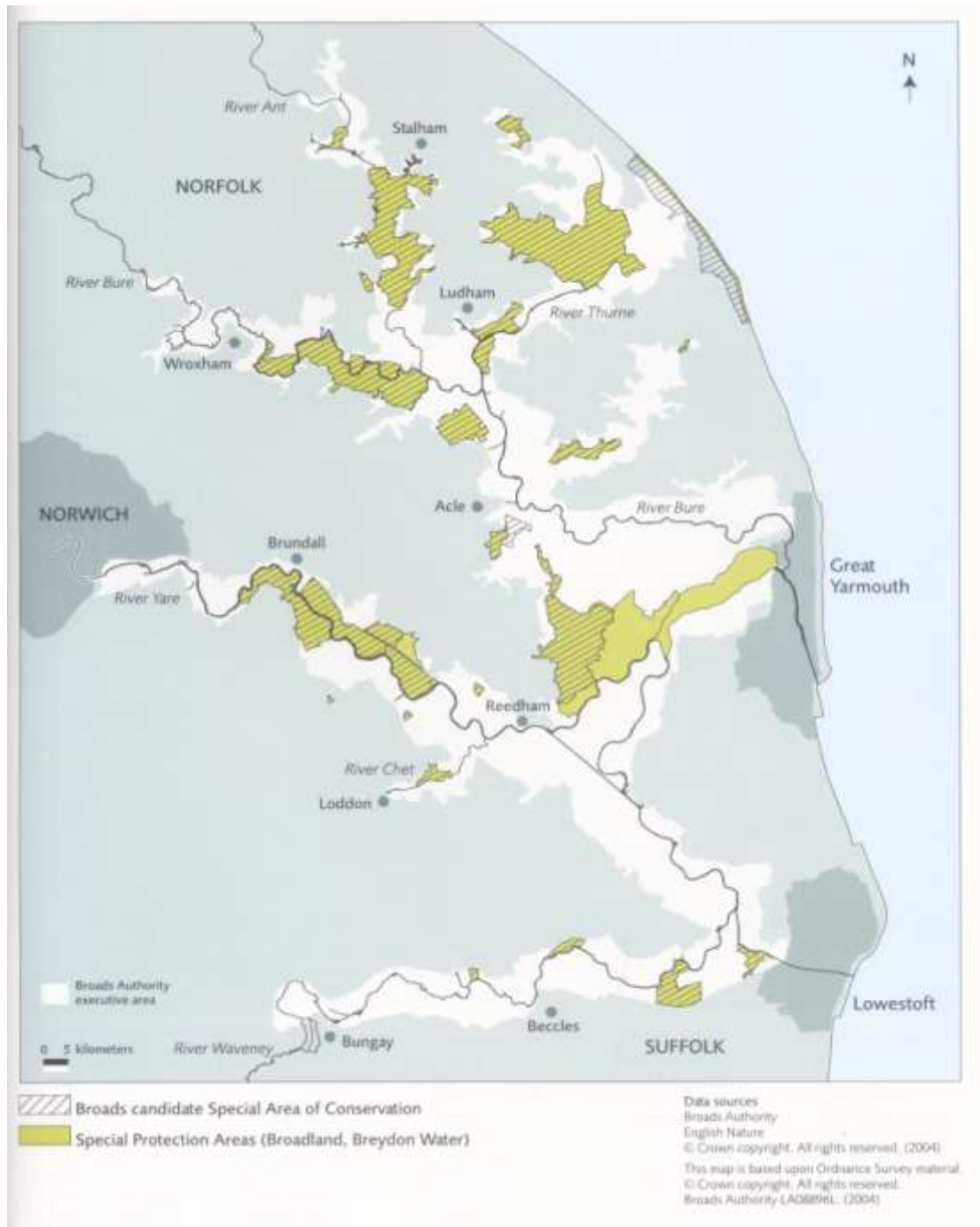
- Broadland
- Breydon Water
- Great Yarmouth North Denes

Special Areas of Conservation (SACs) (protected sites designated under the EC Habitats Directive):

- The Broads
- Winterton – Horsey Dunes

The locations of these sites are illustrated on the following location plan (Figure 1).

Figure 1: Location of European Sites within The Broads Authority Area.



4.2 Description and Characteristics of European Sites

Broadland

Incorporating

- Broadland Special Protection Area (SPA) – Designated 21st September 1994
- The Broads Special Area of Conservation (SAC) – Designated 1st April 2005

Site Condition

Of the 5462.4 hectares, or 100% of the protected area, within the administrative boundaries of the Broads Authority, 46% is considered to be in “favourable” or “unfavourable recovering” condition. The remaining 54% is considered to be in unfavourable condition.

Description

Broadland is a low-lying wetland complex straddling the boundaries between east Norfolk and northern Suffolk and comprises some 5865.60 hectares. The Broads are a series of flooded medieval peat cuttings within the floodplains of five principal river systems. The area includes the river valley systems of the Bure, Yare and Waveney and their major tributaries. Component sites include Alderfen Broad SSSI, Ant Broads and Marshes SSSI, Broad Fen, Dilham SSSI, Bure Broads and Marshes SSSI, Calthorpe Broad SSSI, Ludham–Potter Heigham Marshes SSSI, Priory Meadows, Hickling SSSI, Smallburgh Fen SSSI and Upper Thurne Broads and Marshes SSSI. Throughout the District the SPA and SAC sites overlay each other. Two additional component SSSIs that contribute to the Broads/Broadland are situated a little way outside the District boundary and might be affected by this plan. These SSSIs are Upton Broad and Marshes SSSI and Shallam Dyke Marshes, Thurne SSSI.

The open distinctive landscape comprises a complex and interlinked mosaic of wetland habitats including open water, reedbeds, carr woodland, grazing marsh and fen meadow, forming one of the finest marshland complexes in the UK. The differing types of management of the vegetation for reed, sedge and marsh hay, coupled with variations in hydrology and substrate, support an extremely diverse range of plant communities. The region is important for recreation, tourism, agriculture and wildlife.

Determining Reasons For Designation

The freshwater habitats support internationally important numbers of overwintering wetland bird species (Bewick’s swan, bittern, hen harrier, ruff, whooper swan, gadwall, pink-footed goose, shoveler, cormorant, great crested grebe, coot, bean goose, white-fronted goose, wigeon, teal, pochard and tufted duck), and internationally important breeding populations of bittern and marsh harrier.

The Broads contain several examples of naturally nutrient-rich lakes. These lakes and the ditches in areas of fen and drained marshlands support relict vegetation of the original Fenland flora, and collectively the site contains one of the richest assemblages of rare and local aquatic species in the UK. The stonewort–pondweed–water-milfoil–water-lily associations are well represented, as are club-rush–common reed associations. The dyke systems support vegetation characterised by water-soldier, whorled water-milfoil and broad-leaved pondweed as well as being a stronghold for Desmoulin’s whorl snail in East Anglia. The range of wetlands and associated habitats also provides suitable conditions for otters.

The complex of sites contain the largest blocks of alder wood in England. Within the complex complete succession sequences occur from open water through reedswamp

to alder woodland, which developed on fen peat. The site also contains the largest example of calcareous fens in the UK. The Broads also contain examples of transition mire that are relatively small, having developed in re-vegetated peat-cuttings as part of the complex habitat mosaic of fen, carr and open water.

The site supports outstanding assemblages of rare plants and invertebrates including nine British Red Data Book plants and 136 British Red Data Book invertebrates.

Sites European qualifying features

Broadland SPA/SAC	Qualifying Features	Key Environmental Features that support site integrity
Broads SAC 1	3140 Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp.	Topography, hydrology, drainage, water quality
Broads SAC 2	3150 Natural eutrophic lakes with <i>Magnopotamion</i> or Hydrocharition-type vegetation	Topography, hydrology, drainage, water quality
Broads SAC 3	7140 Transition mires and quaking bogs	Topography, hydrology, drainage, water quality, management
Broads SAC 4	7210 Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i>	Topography, hydrology, drainage, water quality, soil conditions, management
Broads SAC 5	7230 Alkaline fens	Topography, hydrology, drainage, water quality, soil conditions, management
Broads SAC 6	91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)	Hydrology, lack of human intervention
Broads SAC 7	6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>)	Hydrology, management, drainage
Broads SAC 8	1903 Fen orchid <i>Liparis loeselii</i>	Hydrology, drainage, water quality, soil conditions, management
Broads SAC 9	1395 Desmoulin's whorl snail <i>Vertigo moulinsiana</i>	Hydrology, flood frequency, management
Broads SAC 10	1355 Otter <i>Lutra lutra</i>	Relative tranquillity, hydrology,
Broadland SPA 1	Breeding Populations: <ul style="list-style-type: none"> • bittern, 3 individuals representing up to 15.0% of the breeding population in Great Britain (Count as at 1998) • marsh harrier 21 pairs representing up to 13.1% of the breeding population in Great Britain (Count as at 1995) 	Relative tranquillity, hydrology,
Broadland SPA 2	Overwintering populations: <ul style="list-style-type: none"> • Bewick's Swan <i>Cygnus columbianus bewickii</i>, 320 individuals representing up to 4.6% of the wintering population in Great Britain (5 year peak mean 1991/2 - 1995/6) 	Relative tranquillity, hydrology, water quality.

	<ul style="list-style-type: none"> • Bittern <i>Botaurus stellaris</i>, 6 individuals representing up to 6.0% of the wintering population in Great Britain • Hen Harrier <i>Circus cyaneus</i>, 22 individuals representing up to 2.9% of the wintering population in Great Britain (5 year peak mean 1987/8-1991/2) • Ruff <i>Philomachus pugnax</i>, 96 individuals representing up to 13.7% of the wintering population in Great Britain (5 yr peak mean 87/8-91/2) • Whooper Swan <i>Cygnus cygnus</i>, 133 individuals representing up to 2.4% of the wintering population in Great Britain (5 yr peak mean 93/4-97/8) <p>The site also qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species:</p> <p>Over winter;</p> <ul style="list-style-type: none"> • Gadwall <i>Anas strepera</i>, 605 individuals representing up to 2.0% of the wintering Northwestern Europe population (RSPB: Count 99/00) • Pink-footed Goose <i>Anser brachyrhynchus</i>, 3,290 individuals representing up to 1.5% of the wintering Eastern Greenland/Iceland/UK population (5 yr peak mean 94/5-98/9) • Shoveler <i>Anas clypeata</i>, 401 individuals representing up to 1.0% of the wintering Northwestern/Central Europe population (RSPB: Count 99/00) <p>Assemblage qualification: A wetland of international importance.</p> <p>The area qualifies under Article 4.2 of the Directive (79/409/EEC) by regularly supporting at least 20,000 waterfowl</p> <p>Over winter, the area regularly supports 22,603 individual waterfowl (RSPB, Count 99/00) including: Cormorant <i>Phalacrocorax carbo</i>, Bewick's Swan <i>Cygnus columbianus bewickii</i>, Whooper Swan <i>Cygnus cygnus</i>, Ruff <i>Philomachus pugnax</i>, Pink-footed Goose <i>Anser brachyrhynchus</i>, Gadwall <i>Anas strepera</i>, Bittern <i>Botaurus stellaris</i>, Great Crested Grebe <i>Podiceps cristatus</i>, Coot <i>Fulica atra</i>, Bean Goose <i>Anser fabalis</i>, White-fronted Goose <i>Anser albifrons albifrons</i>, Wigeon <i>Anas penelope</i>, Teal <i>Anas crecca</i>, Pochard <i>Aythya ferina</i>, Tufted Duck <i>Aythya fuligula</i>, Shoveler <i>Anas clypeata</i>.</p>	
--	---	--

Vulnerability

The site has suffered from management neglect and natural succession during this century. This is slowly being reversed via conservation and other management

works undertaken through a number of bodies. Sea level rise and reduced summer flows in the River Bure brought about by abstraction are resulting in increasing saline intrusion into the site and generally drier summer conditions. The Environment Agency, Water Companies and Natural England are proceeding with a project to investigate options and remedy this situation via the Review of Consents process and AMP4/5. The site also suffers from eutrophication, brought through the build up of nutrients over a long period, primarily through sewage outfalls, agricultural practices and sedimentation. Some of the sewage works are now stripping phosphorus and there is a programme of mud pumping to remove enriched material from lakes. The Review of Consents process and AMP4/5 is examining if further improvements to sewage treatment works is required and the Catchment Sensitive Farming Project is starting to address the diffuse pollution problem. The region as a whole is a centre for tourism and recreation, however this pressure is now starting to be brought under control by the Broads Authority via management action including Water Space Management Plans. Efficient drainage within much of the reclaimed parts of the wetland has reduced the wildlife value. Water Level Management Plans and the Environmental Stewardship scheme are starting to raise water levels, revert arable areas back to grass and encourage sensitive management, particularly of the ditches. Flood management works are carried out in accordance with the Environmental Agency Broads Strategy and Broadland Rivers Catchment Flood Management Plan.

The SPA bird species are potentially vulnerable to disturbance and possible conflicts with tourism and water space use. In practice, most of the important SPA populations are centred on protected areas where visitor numbers are carefully managed. Conflicts may arise where species such as marsh harrier use the wider Broads area for nesting.

Breydon Water

Incorporating:

- Breydon Water SPA

Site Condition

Of the 1202.94 hectares, or 100% of the protected area, within the administrative boundaries of the Broads Authority, 100% is considered to be in favourable condition.

Determining Reasons For Designation

Breydon Water is an inland tidal estuary at the mouth of the River Yare and its confluence with the rivers Bure and Waveney. Extensive areas of mud are exposed at low tide and these form the only intertidal flats occurring on the east coast of Norfolk. Large numbers of wildfowl and waders are attracted to an abundant food supply when on passage and during the winter months. Several wintering wildfowl reach nationally important population levels and the site occupies a key position on the east coast for these species and for migrating birds. Rare species are regularly recorded. There is also considerable botanical interest with small areas of saltmarsh, reedbeds and brackish water communities in the surrounding borrow dykes. The invertebrate fauna is rich and includes one scarce species of snail.

The mudflats are characterised by growths of green algae *Enteromorpha sp.* and *Ulva sp.* and two uncommon species of Eel-grass *Zostera marina* and *Z. noltii*. These plants, together with an abundant invertebrate fauna, attract large numbers of ducks and waders to feed in the estuary at the appropriate seasons. There are nationally important wintering flocks of Wigeon (winter maximum 4,500 birds) and Shelduck (1,000) and an internationally important flock of Bewick's Swans (120). Other notable

wintering wildfowl include Goldeneye, Red-breasted Merganser, Pintail, White-fronted Goose and Pink-footed Goose. Large flocks of waders are also present with a total winter maximum of 3–6,000 birds. The most numerous species are Knot, Dunlin, Redshank and Ringed Plover.

Several uncommon species are recorded with some regularity, the most noteworthy being Spoonbill, Avocet and Mediterranean Gull. Breeding species include Little Grebe, Shelduck, Common Tern and Bearded Tit.

Small areas of saltmarsh occur at the lower end of the estuary. Glasswort *Salicornia sp.* is dominant on the lower marsh and this zone grades into midmarsh where typical species include Sea Lavender *Limonium vulgare*, Sea Aster *Aster tripolium*, Sea Purslane *Halimione portulacoides*, Sea Plantain *Plantago maritima* and Sea Poa *Puccinellia maritima*.

The saltmarsh is replaced by brackish reedswamp at the upper end of the estuary and there are extensive stands of Common Reed *Phragmites australis*.

A flood-bank surrounds the estuary and behind this is a borrow dyke which contains distinctive brackish water communities of plants and invertebrates. Marginal plants include Sea Club-rush *Scirpus maritimus* and Mud Rush *Juncus gerardi* while the dominant water plant is Spiked Water-milfoil *Myriophyllum spicatum*. The maritime grassland on the edge of the estuary includes the rare Bulbous Fox-tail *Alopecurus bulbosus*.

The uncommon mollusc, *Assiminea grayana* has been recorded from the upper estuary.

Breydon Water SPA	Qualifying Features	Key Environmental Features that support site integrity
Breydon SPA 1	Breeding populations: common tern, 155 pairs representing up to 1.3% of the breeding population in Great Britain (4 count mean, 1992-1994 & 1996)	Relative tranquillity, estuarine processes, water quality
Breydon SPA 2	Wintering populations: <ul style="list-style-type: none"> • Avocet <i>Recurvirostra avosetta</i>, 33 individuals representing up to 2.6% of the wintering population in Great Britain (5 year peak mean 1991/2 - 1995/6) • Bewick's Swan <i>Cygnus columbianus bewickii</i>, 391 individuals representing up to 5.6% of the wintering population in Great Britain (5 year peak mean 1991/2 - 1995/6) • Golden Plover <i>Pluvialis apricaria</i>, 5,040 individuals representing up to 2.0% of the wintering population in Great Britain (5 year peak mean 1991/2 - 1995/6) 	Relative tranquillity, estuarine processes, water quality
Breydon SPA 3	Winter bird assemblage: the area regularly supports 43,225 individual waterfowl (5 year peak mean 1991/2 - 1995/6) including: Black-tailed Godwit <i>Limosa limosa islandica</i> , Dunlin <i>Calidris alpina alpina</i> , Lapwing <i>Vanellus vanellus</i> , Shoveler <i>Anas clypeata</i> , Wigeon <i>Anas</i>	Relative tranquillity, estuarine processes, water quality

	<i>penelope</i> , White-fronted Goose <i>Anser albifrons albifrons</i> , Cormorant <i>Phalacrocorax carbo</i> , Golden Plover <i>Pluvialis apricaria</i> , Avocet <i>Recurvirostra avosetta</i> , Bewick's Swan <i>Cygnus columbianus bewickii</i> .	
--	---	--

Vulnerability

The Breydon Water estuary is a robust ecosystem, the most sensitive feature being the high tide roost at its northern end. However efficient drainage, recent droughts and poor water management systems have adversely affected the wet grassland part of the site (Halvergate Marshes). A Water Level Management Plan and a feasibility study to overcome the water resource problems have been completed, and it is hoped that a scheme will commence shortly with MAFF support. The Environmentally Sensitive Area scheme has helped to raise water levels and encouraged sensitive management, particularly of the ditches. Appropriate standards of flood defence are required for the wet grassland part of the site; works are currently underway via the Environment Agency Broads Strategy. Breydon Water and its hinterland lie within the Broads, one of the family of National Parks. As such, it is largely free from development pressures. Future pressure for development may arise around the site, associated with Great Yarmouth, but regulation of such plans is covered by the Habitats Regulations 1994.

Great Yarmouth North Denes & Winterton – Horsey Dunes

Incorporating

- Great Yarmouth North Denes Special Protection Area (SPA) – Designated 1st March 1993
- Winterton – Horsey Dunes Special Area of Conservation (SAC) – Designated 1st April 2005

Site Condition

Great Yarmouth North Denes SPA: Of the 26.28 hectares, or 17.6% of the protected area, within the Broads Authority area, 0% is considered to be in “favourable” or “unfavourable recovering” condition.

Winterton – Horsey Dunes SAC: Of the approximately 129 hectares, or 30.2% of the protected area, within the administrative boundaries of the Broads Authority, approximately 66.7% is considered to be in “favourable” or “unfavourable recovering” condition.

Description

The Great Yarmouth North Denes SPA contains two component SSSI areas: the low dune system and beach at Great Yarmouth (within Great Yarmouth Borough Council administrative area) and the beach and foredune ridge at Winterton – Horsey Dunes (from Warren Farm, Horsey in the north down to The Valley, Winterton in the south). Within this part of the SPA only the section from Warren Farm to Bramble Hill, about 17.6% is within the Broads Authority Area. The two component areas of the SPA are linked, due to the high mobility of little terns, and to the dynamic nature of the beach shapes which influences suitability for breeding.

Winterton – Horsey Dunes SAC covers an area of 425.94 hectares from Warren Farm, Horsey in the north to The Valley, Winterton in the south. Approximately 30.2% of the designation is within the Broads Authority Area. The site is a coastal

dune system, with foreshore, and associated areas of dry heathland, dry grassland and mesotrophic grassland.

Determining reasons for designation

Great Yarmouth North Denes SPA qualifies for SPA status under Article 4.1, by supporting a nationally important breeding population of little tern *Sterna albifrons*, representing 9.2% of the GB breeding population (5 year mean, 1992-1996).

Winterton – Horsey Dunes SAC: The primary reason for selection of this site is because it is the only significant area of dune heath on the east coast of England and also includes areas of acidic dune grassland as an associated acidic habitat. The Atlantic decalcified fixed dunes (*Calluno-Ulicetea*) vegetation, a priority feature, is characteristic of dune heath in an eastern locality with low rainfall, and Winterton – Horsey Dunes is considered to be one of the best sites in the UK. The drought-resistant grey hair-grass *Corynephorus canescens* is a characteristic species of the open dry dune soils. Also a primary feature are the Humid Dune Slacks, the slacks within Winterton – Horsey Dunes are chiefly of interest because they occur on an extremely base-poor dune system on the dry coast of East Anglia in eastern England. Because of their acidic soils, the dunes support swamp and mire communities, in addition to small areas of typical dune slack vegetation. As a result they represent an extreme of the geographical range and ecological variation of Humid dune slacks within the UK.

Also of importance are the Embryonic shifting dunes, for which the area is considered to support a significant presence; and shifting dunes along the shoreline with *Ammophila arenaria* (“white dunes”) for which the area is considered to support a significant presence.

Site’s European qualifying features

Great Yarmouth North Denes SPA/SAC	Qualifying Features	Key Environmental Features that support site integrity
W-HD SAC 1	2150 Atlantic decalcified fixed dunes (<i>Calluno-Ulicetea</i>)	Coastal processes
W-HD SAC 2	2190 Humid dune slacks	Topography, rainfall, hydrology
W-HD SAC 3	2110 Embryonic shifting dunes	Coastal processes
W-HD SAC 4	2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (‘white dunes’)	Coastal processes
GYND SPA 1	Breeding Populations: little tern <i>Sterna albifrons</i> .	Coastal processes, extent of site, relative tranquillity.

Vulnerability

The little tern colonies within the Great Yarmouth North Denes SPA are dependent upon the maintenance of high accreting beaches. Coast protection schemes have the potential to disrupt or reduce sediment supply to the SPA. However, Beach Management Plans are required before works proceed. These require mitigation measures should an adverse impact occur in the future. The success of the colonies at both sites is dependent upon wardening in order to exclude people and dogs and the control of predators. The wardening is jointly undertaken by the Natural England and the RSPB, with assistance of Great Yarmouth Borough Council.

A concrete wall constructed in the 1960s, together with sea defence works up-drift which reduce sediment supply, constrain and prevent the site from responding naturally to coastal processes. The embryonic shifting dune communities are most vulnerable. Beach-feeding operations pose a threat through the possible use of sand with shell fragments, particularly to the Atlantic decalcified fixed dunes. A Coastal Habitat Action Plan (ChaMP) was produced in 2002, and this provides guidance on how to address these issues. Recently the Shoreline Management Plan has been reviewed. The site is backed by intensively-farmed arable land, and water abstraction from this area is a threat to the humid dune slack communities. Visitor pressures are high especially in the summer, resulting in erosion, fire and disturbance impacts. The site relies on rabbits to maintain open habitats, and is therefore vulnerable to outbreaks of disease.

4.3 Other relevant plans or projects

The assessment of significant effects of a given option needs to take account of the impact in combination with other plans and projects. The guidance states that only those that are considered most relevant should be collected for the 'in combination' test - an exhaustive list could render the assessment exercise unworkable. The following plans or strategies are considered to have potential effects and therefore have been included within the assessment.

Draft Regional Spatial Strategy for the East of England

The East of England Plan has been subject to Examination and the revised document is awaited. This will set the general policies for the East of England and LDF's should be in consistency with it. Extracts from the following objectives are of particular relevance to the Broads:

- (i) To reduce the regions impact on, and exposure to, the effects of climate change by:
 - locating development so as to reduce the need to travel;
 - effecting a major shift in travel towards public transport, walking and cycling and away from car use;
 - maximising the energy efficiency of development and promoting the use of renewable and low carbon energy sources; and
 - reducing the risk of damage from flooding.
- (ii) To realise the economic potential of the region and its people by:
 - facilitating the development needed to support the region's business sectors and clusters, improving skills and widening opportunities in line with the Regional Economic Strategy.
- (iii) To improve the quality of life for the region's people by:
 - ensuring new development fulfils the principles of sustainable communities, providing a well designed living environment adequately supported by social and green infrastructure;
 - promoting social cohesion by improving access to work, services and other facilities, especially for those who are disadvantaged;
 - maintaining cultural diversity while addressing the distinctive needs of each part of the region;
 - promoting regeneration and renewal of disadvantaged areas; and
 - increasing community involvement in the implementation of the strategy at the local level.
- (iv) To improve and conserve the region's environment by:
 - ensuring the protection and enhancement of the region's environmental assets, including the built and historic environment, landscape and water;
 - re-using previously developed land and seeking environmental as well as development gains from the use of previously undeveloped land;
 - protecting and, where appropriate, enhancing biodiversity through the protection of habitats and species and through creating new habitats through development;

- providing a network of multi-function greenspace accessible to the region's people; and
- reducing the demand for and use of water and other natural resources and educating waste and increasing the sustainable management of waste.

Local Transport Plan for Norfolk 2006 – 2011 and Suffolk Local Transport Plan 2006-2011

These documents cover the five year period from April 2006 to March 2011 but with a longer term strategy up to 2021. The Plan contains five thematic strategies:

- Delivering sustainable growth
- Improving accessibility
- Reducing congestion
- Protecting and enhancing the environment
- Improving road safety

Area strategies seek to achieve a number of aims such as discouraging development that could be detrimental to the Broads.

Biodiversity Mapping and Ecological Networks, Norfolk Wildlife Trust

Norfolk Wildlife Trust and the Norfolk Biodiversity Partnership have prepared a series of maps showing areas for protection and enhancement in order to create an ecological network. Key habitats for protection and enhancement in North Norfolk include all coastal habitats, reedbed, calcareous grassland, lowland meadow, heath, fen, chalk river, woodland, grazing marsh on the coast and large river valleys.

Broads Sediment Management Strategy

Contains objectives for reducing, re-using and recycling sediment dredged from the Broads.

Norfolk Biodiversity Action Plan 2002-2005

This contains objectives for improving the sustainability of priority habitats and species in coastal, agricultural, heathland, wetland and urban environments and contains broad targets for creating or expanding new habitat.

Broadland Rivers Catchment Flood Management Plan, consultation draft June 2006

The Environment Agency is currently preparing CFMPs for all river catchments in England and Wales. These should provide a broad understanding of current and future flood risk, together with a set of justifiable long-term flood risk management policies and a prioritised set of further studies. The aim is to ensure that policies are sustainable and maximise benefits to the environment, as well as providing protection from flooding to people and property. The Broadland Rivers CFMP covers the Waveney, Yare, Wensum, Bure, Ant and Thurne catchments and gives detailed information on the flood risk in each area.

Norfolk Ambition (Community Strategy)

This document aims to improve the quality of life for all of the people of Norfolk. Specifically relevant:

- To reduce carbon dioxide emissions by reducing energy consumption, promoting low-emission technology and increasing the use of renewable resources
- To find an acceptable means of managing floodwaters
- To adopt an holistic approach to land and heritage management, land use and biodiversity enhancement.

- Norfolk retains an attractive and sustainable blend of rural villages, market towns and urban areas with a range of good quality, affordable housing, a significantly improved transport infrastructure to, from and within Norfolk, and accessibility to broadband throughout the county.

Norwich's Environment Strategy 2003-2008

Relevant objectives include:

- To significantly reduce activities in the city that contribute to climate change
- To protect and enhance the natural built and historic environment
- To work toward sustainable resource use
- To develop sustainable transport
- To protect and improve health and well-being
- To further integrate social, economic and environmental decision-making by promoting the principles of sustainable development

Broads Plan 2004

Relevant objectives include:

- social progress that recognises the needs of everyone;
- effective protection of the environment;
- wise use of natural and cultural resources; and
- maintenance of economically and socially thriving communities.

Neighbouring Districts

The districts neighbouring the Broads Authority Area are Great Yarmouth, Waveney, South Norfolk, Broadland and Norwich City. These Authorities are also in the process of preparing LDFs for their area, although they are all at different stages.

Authority	Core Strategy Preferred options report	Core Strategy Submission document
Norwich City	Started work 2007	tbc
North Norfolk	2007	May 2007
South Norfolk	Started work 2007	tbc
Waveney	July 2006	November 2007
Great Yarmouth	August 2006	May 2007
Broadland	Started work 2007	tbc

Most of the Districts have not prepared their submission Core Strategy, and timetables are frequently reviewed. Therefore the only LDF document that has been incorporated in the Appropriate Assessment is the Broads Authority Core Strategy submission document.

5. Appropriate Assessment and Plan Analysis

In order to determine whether the Broads Authority Development Control DPD represents an adverse affect to the integrity of any European Site a two stage assessment has been carried out.

Task 1 – Identifying whether a plan option is likely to have a significant effect.

Task 2 – Where there is found to be a likely significant effect, assess the affect to the integrity of the European site and explore any mitigation measures that could reduce or remove the impact.

Task 1 is a screening process. Those policies which are considered not to have a significant effect on any European Site within or outside of the Area boundaries at this stage, need be considered no further. Those that are considered to have a significant effect will be taken forward to Task 2. The screening process involves consultation with the statutory nature conservation body (Natural England), and is a judgement based on a number of factors including the proximity of proposals to the European Sites, the type of impacts likely to be caused by the policy, the qualifying features of the European Site, the probability of the impact, the duration, frequency and reversibility of the impact.

The term “significant” means not trivial or inconsequential but an effect that is potentially relevant to the site’s Conservation Objectives. The Conservation Objectives for each site are produced by Natural England, and are the objectives of management necessary to maintain the qualifying features in favourable condition. Maintenance implies restoration where the feature is currently in unfavourable condition.

Considered Impacts

This section sets out the nature of potential impacts that policies within the Local Development Framework document could have upon European sites within or around the Broads Authority area.

The impacts considered are as follows.

Loss of Supporting Habitats

As the European sites themselves are protected, it is unlikely that any developments will take place directly on these sites, but some could be located immediately adjacent to them, hence impacting any protected species which also use neighbouring land. This is particularly relevant to birds, where normally only roosting/nesting sites are protected whereas feeding/foraging areas are often overlooked and can therefore be located beyond the borders of the European site. If such land is used for developments, it reduces the amount of supporting habitat available for use by protected species and can therefore potentially affect the integrity of the SPA populations.

Habitat Fragmentation Impacts

This is where development increases the separation of available habitats, either by removing or degrading intermediate habitats, or splitting extensive areas of suitable habitat. Once again SPA bird populations are the most likely to be affected by this impact.

Proximity Impacts

These are the impacts on protected habitats and species brought about by their proximity to development. They are numerous, diverse and largely site and project specific, but can include the following:

- Disturbance effects from construction activities (including noise and lighting)
- Increased traffic impacts from construction activities.
- Increased human disturbance from use of the development.
- Increased predation from pets and animals associated with urban areas (cats, foxes, magpies, rats).
- Increased fly tipping.
- Increased levels of lighting.
- Increased random disturbance events.

Hydrological Impacts

Hard Surface Runoff

Changes in hard surface runoff (i.e. over urban areas) may lead to altered flow patterns in watercourses (storm water surges), and during the construction phase could increase nutrient and sediment discharge into watercourses. The Broads SAC/ Broadland SPA and Breydon Water SPA could be affected by increased sediment discharge and deposition.

Groundwater Supply

This is where water stored in aquifers or porous strata are depleted or contaminated by development activity. The Broads SAC/ Broadland SPA could be particularly vulnerable to this, as they are both dependent on a relatively stable groundwater level in the areas surrounding them. Any depletion or contamination could disastrously affect these sites as all protected species and habitats would be highly sensitive to such changes.

Sewerage Capacity

The capacity of the current sewerage system to process increased levels of human waste could form a limitation to development where nutrient levels are likely to exceed targets set for European sites, including the Broads SAC where phosphate levels are of critical importance to site condition.

Sewage discharge into the North Sea could also increase as the number of people living in the new housing developments rises. This could impact the mudflats, sandbanks and shingle of The Wash and North Norfolk Coast through changes in nutrient status.

Flood Risk Management

This impact may arise due to flood management proposals, altering river flows and possibly the extent of important habitats. Some of the Borough's European Sites are highly reliant on sustainable hydrological conditions.

Impacts from Increased Recreation and Leisure Pressures

The Greater Norwich Housing strategy aims to deliver up to 2000 new homes per year up to 2025. This will inevitably lead to increased use of the Broads area for recreational activity and tourism.

This will increase the usage of sites for informal recreation and leisure. A further potential impact is that of dog walkers disturbing SPA birds. The use of sites by increased resident populations may be significant in that there is likely to be less of a seasonal bias, and a resulting change in seasonal use of European sites.

Horse riders, cyclists/mountain bikers and joggers use protected European Sites, such as the coastline of Winterton/ Horsey Dunes, and established rights of way within the Broads SAC/ SPA. Increased levels of these activities could also disrupt protected birds' usage of these sites.

Navigational impacts also fall into this category. These impacts are possible where there are extensions to existing navigational limits, or new infrastructure associated with navigation.

Cumulative Impacts

Cumulative impacts are those where an impact in itself may not be significant, but in combination with other impacts from this plan, or from other plans and projects, may amount to a significant impact. Such impacts may arise from conflicting policies between districts, or from impacts on European sites shared between districts.

Other Impacts

It should be noted that none of the policies in the LDF are considered necessary for the conservation management of European Sites.

It should also be made clear that impacts on European sites could arise within the Area that are outside the scope of Local Plans and policies, such as those arising from changes in agriculture or those policies delivered at a county level such as mineral extraction and road network planning.

A series of matrices have been created which seek to assess the following:

Task 1:

- Whether the policy is necessary for the conservation management of a European Site.
- If a 'likely significant effect' can be expected.
- What is the likely mechanism for impact and the feature/features affected?
- Is an Appropriate Assessment required?

Where an Appropriate Assessment is required then move to Task 2:

Task 2:

- Can it be ascertained it will not adversely affect the integrity of the European Site?
- Can it be carried out in a different way or be conditioned or restricted?
- What modifications to the policy/option are required?
- Can the modified policy/option be pursued without adversely affecting the integrity of the European Site?

These are set out in the following pages, under the Task 1 and Task 2 stages

Task 1 – Identifying whether a policy is likely to have a significant effect

Policy	Necessary for conservation management of Natura 2000 site	Likely significant effect	European Site Affected: Possible Mechanism: Possible Feature Impacted:	Appropriate Assessment required?
DP1: Natural Environment	No	No	The policy clearly and explicitly addresses impacts on SPA, SAC and Ramsar	No
DP2: Trees and Landscape	No	No	The policy includes wording to take into account the possibility of large scale wetland restoration involving removal of wet woodlands or scrub.	No
DP3: Protection of Water Resources	No	No	Policy already takes full and sufficient account of potential risks and impacts.	No
DP4: Design	No	No	No mechanism for likely significant effects	No
DP5: Historic Environment	No	No	European Site Affected: Broadland SAC Possible Mechanism: Policy adequately covers the potential for large scale habitat restoration projects to influence historic landscapes. Possible Feature Impacted: Broads SAC habitats	No
DP6: Re-use of Historic Buildings	No	Yes	European Site Affected: Broadland SPA Possible Mechanism: Policy needs to be strengthened to protect against re-use of restored historic buildings creating additional disturbance to Natura 2000 sites Possible Feature Impacted: SPA birds	Yes
DP7: Energy Generation and Efficiency	No	No	No mechanism for likely significant effects	No
DP8: Renewable Energy	No	No	Policy takes into account alone and in combination effects on biodiversity	No
DP9: Telecommunications Development	No	No	No mechanism for likely significant effects	No
DP10: Advertisements	No	No	No mechanism for likely significant effects	No

Policy	Necessary for conservation management of Natura 2000 site	Likely significant effect	European Site Affected: Possible Mechanism: Possible Feature Impacted:	Appropriate Assessment required?
and Signs				
DP11: Access on the Land	No	No	The policy clearly and explicitly addresses impacts on European sites	No
DP12: Access to Water	No	No	The policy clearly and explicitly addresses impacts on European sites	No
DP13: Bank Protection	No	No	The policy clearly and explicitly addresses impacts on European sites	No
DP14: General Location of Sustainable Tourism and Recreation Development	No	No	The policy clearly and explicitly addresses impacts on European sites	No
DP15: Holiday Accommodation	No	No	The policy clearly and explicitly addresses impacts on European sites by cross reference to policy DP14	No
DP16: Moorings	No	No	The policy clearly and explicitly addresses impacts on European sites	No
DP17: Moorings and Leisure Plots	No	No	No mechanism for likely significant effects	No
DP18: Protecting General Employment	No	No	No mechanism for likely significant effects	No
DP19: Employment Diversification	No	No	The policy clearly and explicitly addresses impacts on European sites	No
DP20: Development on Waterside Sites in Commercial Use, including Boatyards.	No	No	No mechanism for likely significant effects	No
DP21: Conversion of Buildings in the Countryside	No	No	No mechanism for likely significant effects	No

Policy	Necessary for conservation management of Natura 2000 site	Likely significant effect	European Site Affected: Possible Mechanism: Possible Feature Impacted:	Appropriate Assessment required?
DP22: Affordable Housing	No	No	No mechanism for likely significant effects	No
DP23: Replacement Dwellings	No	No	No mechanism for likely significant effects	No
DP24: New Residential Moorings	No	No	The policy clearly and explicitly addresses impacts on designated sites	No
DP25: Permanent and Temporary Dwellings for Agricultural, Forestry and Other Workers	No	Yes	European Site Affected: Broadland SPA/ SAC Possible Mechanism: Policy needs to be strengthened to protect against temporary dwellings creating adverse effects to Natura 2000 sites Possible Feature Impacted: All SPA/SAC features	No
DP26: Visitor and Community Facilities	No	Yes	European Site Affected: Broadland SPA/ SAC Possible Mechanism: Policy needs to be strengthened to protect against temporary dwellings creating adverse effects to Natura 2000 sites Possible Feature Impacted: All SPA/SAC features	Yes
DP27: Amenity	No	No	No mechanism for likely significant effects	No
DP28: Development on Sites with High Probability of Flooding	No		No mechanism for likely significant effects	No
DP29: Developer Contributions	No	No	No mechanism for likely significant effects	No

Where Appropriate Assessment is required, move to Task 2

Task 2 - Assessing the possible impact and any mitigation measures that could reduce or remove the impact

Policy: European site(s): Possible Mechanism(s):	Can it be ascertained it will not adversely affect the integrity of the European Site	Can it be carried out in a different way or be conditioned or restricted?	Modification to original policy	Can it be ascertained that the modified proposal/policy will not adversely affect the integrity of the European Site
DP6; Re-use of Historic Buildings	No	Strengthen policy wording	Suggest additional criterion: d) The proposal would not significantly adversely affect nature conservation considerations	Yes
DP25; Permanent and Temporary Dwellings for Agricultural, Forestry and Other Workers	No	Strengthen policy wording	Suggest additional wording at beginning of policy as new criterion: a) The proposal would not significantly adversely affect nature conservation considerations	Yes
DP26; Visitor and Community Facilities	No	Strengthen policy wording	recast criterion d) to say: "The proposal is compatible with a Broads location and does not conflict landscape and nature conservation considerations"	Yes

Summary

Demonstration of an adverse effect on the integrity of the SPA/ SAC from any of these potential sources would require Task 3 of the AA process to be undertaken, involving consideration of alternative solutions and/ or mitigation. The guidance (DCLG, RSPB) states that mitigation be considered first, which would entail modifying the preferred option until no adverse effects are likely. After mitigation measures have been exhausted on an emerging option, and it is shown still to have a potentially negative effect on the integrity of a European site, and in absence of any other alternative solution,

the option should be dropped. However in an exception to that rule, if the pursuit of the option is justified by “imperative reasons of overriding public interest”, consideration can be given to proceeding in the absence of any other alternative solution. In those cases, compensatory measures must be put in place to offset negative impacts.

However, the effects tabulated above can be satisfactorily avoided by modifying the relevant policies as shown in Table 2. There is therefore no requirement to undertake Task 3.

Some policies in the Preferred Options document may result in an adverse impact on the European sites in the Area (see task 2 above), and will require minor amendment to emphasise consideration of issues relating to impacts on European sites. With the policy modifications outlined above, it should be possible to conclude no adverse effect from the plan on the integrity of any of the European sites both inside or outwith the district boundaries. In accordance with Regulation 85B(1) of the Habitats Regulations, the final Core Strategy, as presented for Examination should be re-checked to ensure that it can be ascertained that the plan in its final form is fully compliant, and that any potential adverse effects upon the integrity of any European site have been either avoided or mitigated for.