



Habitat Regulations Assessment of the Local Plan for the Broads



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Habitats Regulations Assessment of the Local Plan for the Broads
at Publication stage

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Summary

Habitats Regulations Assessment (HRA) is required in accordance with the Conservation of Habitats and Species Regulations 2010, as amended, in order to ensure that plans and projects do not adversely affect any European wildlife sites. A plan being produced by a public body is the subject of Habitats Regulations Assessment, and it is the responsibility of the public body to produce the assessment in accordance with the legislation, to inform any necessary changes to the plan, prior to its adoption.

This report provides the Habitats Regulations Assessment of the Local Plan for the Broads, being undertaken by Footprint Ecology on behalf of the Broads Authority. This report assessed the emerging plan at Preferred Options stage and then at Publication stage. It will be updated as required prior to adoption by the Broads Authority.

The Broads has a wealth of internationally important biodiversity, primarily focussed on the wetlands and their associated habitats. This report assesses the implications of the Local Plan for European sites, which are those designated through European Directives, and also includes those listed as Ramsar sites as a matter of Government policy. The Habitats Regulations Assessment process involves a number of assessment stages. This report provides a screening of the plan at both Preferred Options and Publication stages. The findings and recommendations have informed the refinement of the Local plan prior to Examination.

The plan has been screened to check for 'likely significant effects,' i.e. risks to European sites as a result of the plan and the implementation of its policies. The results of the screening are set out in Section 3 of this report, where a number of recommendations were made to modify and strengthen the plan wording, both within policy and also as part of the supporting text. Risks were identified in terms of the progression of new housing and the promotion of tourism, boating and water's edge development and navigation. Disturbance to wildlife, and deterioration of habitat, particularly through nutrient enrichment, arising or increasing as a result of the plan should be avoided in order to rule out likely significant effects, and suggestions are made relating to the requirement for adequate recreation provision as part of the housing allocations to deliver the proposed 146 houses over the plan period.

Lower tier project level Habitats Regulations Assessment will be necessary for a number of projects promoted through the local plan. The wording recommended for the plan, particularly for the main housing allocations, should make clear that project level Habitats Regulations Assessment is an integral part of project design and early evidence gathering is required.

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1. Introduction

Context

- 1.1 This document is a Habitats Regulations Assessment (HRA) of the Local Plan for the Broads, currently being prepared by the Broads Authority. It is one of three strategic documents published by the Authority, with the Broads Sustainable Tourism Strategy and the Broads Plan, for the management of the Broads, also having been recently prepared.
- 1.2 The Broads Authority is a Special Statutory Authority established under the Norfolk and Suffolk Broads Act 1988 with similar responsibilities to those of the English National Park Authorities. It is the local planning authority for the area and a harbour and navigation authority. The Broads is over 300 square kilometres in area, dominated by scenic and wildlife rich wetlands, with a strong culture and heritage associated with historic use of the lakes and waterways. The Broads Authority was established by the Broads Act 1989. The Authority has a duty to manage the Broads for the following three purposes, none of which takes precedence:
- Conserving and enhancing the natural beauty, wildlife and cultural heritage of the Broads;
 - Promoting opportunities for the understanding and enjoyment of the special qualities of the Broads by the public; and
 - Protecting the interests of navigation.
- 1.3 The Broads Authority therefore produces a range of plans and strategies to guide and drive their work and meet their legislative and national policy duties. As a public body, and therefore a competent authority under the Conservation of Habitats and Species Regulations 2010, as amended (the Habitats Regulations), the preparation of plans and strategies for the Broads by the Authority must have regard for European wildlife sites.
- 1.4 The Broads Authority has recently prepared the three plans referred to above, all of which require Habitats Regulations Assessment; the process by which implications of plans and projects for European wildlife sites are assessed. The plans are all key documents for the Authority's range of work, covering planning, management and tourism. The Broads Authority has commissioned Footprint Ecology to undertake the Habitats Regulations Assessments. As competent authority under the Habitats Regulations, the Broads Authority must retain ownership and responsibility for the assessments, and Footprint Ecology has therefore worked closely and collaboratively with the Authority as the plans and their respective assessments have been progressed.
- 1.5 As each Habitats Regulations Assessment has been completed, the Broads Authority has adopted the assessments to meet their duties. This report provides supporting evidence for the Examination of the Local Plan, having informed the preparation of the Local Plan for the Broads through an iterative process of assessment and plan updates. It is of fundamental importance that the Broads Authority is fully agreeable to any measures recommended by this assessment, which seek to protect the European sites,

as the measures that have been recommended within this report need to be easily assimilated into the Local Plan for the Broads, be capable of implementation and, if necessary, enforcement, by the Authority.

The Habitats Regulations

- 1.6 A 'Habitats Regulations Assessment' is the step by step process of ensuring that a plan or project being undertaken by, or permitted by a public body, identified within the legislation as a competent authority, will not adversely affect the ecological integrity of a European wildlife site. Ecological integrity refers to *'the coherence of a site's ecological structure and function across its whole area, that enables it to sustain the habitats, complex of habitats and/or the levels of the populations of species for which the [European] site was classified/designated.'*¹
- 1.7 Where it is deemed that adverse effects cannot be ruled out, a plan or project must not proceed, unless exceptional tests are met. This is because European legislation, which is transposed into domestic legislation and policy, affords European sites the highest levels of protection in the hierarchy of sites designated to protect important features of the natural environment.
- 1.8 The relevant European legislation is the Habitats Directive 1992² and the Wild Birds Directive 2009³, which are transposed into domestic legislation through the Conservation of Habitats and Species Regulations 2010, as amended. These Regulations are normally abbreviated to the 'Habitats Regulations' and are referred to as such throughout this report and subsequent assessment work for the three plans.
- 1.9 The legislation sets out a clear step by step approach for competent authorities making decisions relating to any proposed plan or project. In England, those duties are also supplemented by national planning policy. Within the National Planning Policy Framework (NPPF) there is a requirement for Ramsar sites, which are listed in accordance with the international Ramsar Convention, for competent authorities to apply the same protection and process to Ramsar sites as that set out in legislation for European sites. Formally proposed European sites, and those providing formal compensation for losses to European sites, are also given the same protection.
- 1.10 The duties set out within the Habitats Regulations apply to any public body or individual holding public office with a statutory remit and function, under the collective term of 'competent authorities.' The requirements are applicable in situations where the competent authority is undertaking or implementing a plan or project, or authorising others to do so.
- 1.11 The Habitats Regulations require the competent authority to demonstrate that adverse effects on European site integrity have been ruled out, and that requirement relies on the use of information and evidence to demonstrate that such effects have been

¹ Defra 2012: Core guidance on HRA for developers, regulators and land/marine managers. DRAFT ONLY.

² Council Directive 92/43/EEC

³ Council Directive 2009/147/EC

prevented, *'beyond reasonable scientific doubt.'*⁴ Where there isn't enough information to demonstrate that adverse effects have been prevented, the competent authority must assume that such effects will occur. This approach is commonly referred to as the 'precautionary principle' and should be applied at all stages in the Habitats Regulations Assessment process.

- 1.12 A more detailed guide to the step by step process of Habitats Regulations Assessment is provided in this report at Appendix 1.

The Local Plan for the Broads – an overview

- 1.13 The Broads Local Plan is a statutory planning policy document, which sets the direction, quantum and nature of sustainable development for the area, through a plan period up to 2036. Planning documents set the agenda for growth over a number of years, but during that time are regularly reviewed and updated. Currently, planning policy is contained within the Broads Local Development Framework, which consists of a number of plan documents that were adopted between 2007 and 2014, and also the minerals and waste planning documents prepared by Norfolk and Suffolk County Councils. Given the importance of flood management in the Broads, the Local Plan also includes a recently adopted Flood Risk SPD to assist with appropriate siting, design and flood risk management in development. Neighbourhood Plans will also become an important aspect of local planning, with Strumpshaw, Salhouse, Brundall and Acle Neighbourhood Plans already adopted and others in development.
- 1.14 The Local Plan is being prepared to replace the existing Local Development Framework. The Local Development Framework includes a Core Strategy document, a Development Management Policies document and a Site Specific Policies Document, all of which were the subject of Habitats Regulations Assessment.
- 1.15 Inevitably, recreation pressure, water resources and water quality have been the key considerations in previous assessment work, and these themes are likely to continue to be the main areas of concern for the new Local Plan. These themes are considered as part of the screening assessment at Section 3 of this report. Recreation pressure was primarily considered in terms of disturbance to SPA birds and previous Habitats Regulations Assessment work relied heavily on a general protective policy for wildlife and the need for project level Habitats Regulations Assessment.
- 1.16 A sustainability appraisal is being produced to support the preparation of the Local Plan. An important aspect of sustainability appraisal is the assessment of options included in the plan. This assessment is normally undertaken independently of the Habitats Regulations Assessment, whilst recognising the cross over where the sustainability appraisal includes consideration of designated sites. A Habitats Regulations Assessment is similarly undertaken independently, but should highlight where a range of mitigation options to remove adverse effects may need to be assessed for sustainability purposes in order to determine the most appropriate approach. A situation where there are a

⁴ In accordance with EU case law – Case C-127/02 'Waddenzee case.'

range of mitigation options is very rare, and normally a mitigation approach is developed as a package of measures that best provide certainty in delivery. Evidence is not normally available to give a range of options, but rather a number of options need to be implemented together to give greater certainty. This Habitats Regulations Assessment has not identified any measures that should be considered as part of the sustainability appraisal.

Other plans being produced by the Broads Authority

- 1.17 The additional two strategic planning documents recently produced by the Broads Authority are closely linked to the Local Plan for the Broads, all of which collectively inform the functions of the Broads Authority. These plans have also been the subject of Habitats Regulations Assessment, and the assessment findings are relevant to each, and to some extent interlinked, particularly in relation to topic such as navigation and tourism. Where previous versions of the three plans have been the subject of an assessment, that historic assessment work can provide useful information for the new assessment being progressed.

The Broads Management Plan – the Broads Plan

- 1.18 The Broads Plan is the key strategic management plan for the Broads. It sets out a long-term vision and guiding action for the area, and integrates a wide range of strategies, plans and policies relevant to the Broads with the purposes and duties in the Broads Acts. The previous, and now recently updated and published plan, reflect the uniqueness of the Broads, its cultural heritage that frames its landscape and biodiversity, its value to people, both local and visitors, and how the area can sustain itself into the long term, having regard for natural and human induced changes. As a water-dominated landscape, the management plan also incorporates consideration of sustainable use of the waterways, the rights to that use and effective management of the navigation areas. The newly published plan focuses on these key elements, drawing on up to date information to inform its content and direction.

The Broads Plan provides the framework for securing and delivering the legislative duties required by the legislation under which the Broads Authority operates, primarily the Norfolk and Suffolk Broads Act 1988.

- 1.19 The Broads Authority must manage for the three purposes stated above at paragraph 1.2, whilst having regard for:
- National importance of the Broads as an area of natural beauty and one which affords opportunities for open-air recreation;
 - The desirability of protecting the natural resources of the Broads from damage; and
 - The needs of agriculture and forestry and the economic and social interests of those who live or work in the Broads.
- 1.20 The management of the Broads to meet these duties is set out within the Broads Plan. The plan is reviewed every five years, and the new plan was adopted in March 2017.

The Broads plan is a strategic management plan, with its direction for management of the Broads being high-level guiding principles and priority setting, with more detailed action being included in 'mechanisms for delivery' documents. It includes a long-term vision for the Broads, informed by public consultation, and consideration of how that vision can be met whilst continuing to protect the special qualities of the area.

- 1.21 The plan sets out strategic objectives under topic headings, and the new plan has taken opportunities to incorporate recommendations from the Habitats Regulations Assessment in terms of high-level objectives for European site protection, and also for identifying key restoration needs. It is here that water management becomes particularly relevant, and the Broads Plan provides strategic direction for further work. A review of progress on rectifying any previously identified issues has been made, drawing on the work of a range of current strategies in place in relation to water resources in the Broads, such as sediment management, catchment flood management and Anglian Water's resource plans. It is the implementation of plans and strategies below the overarching Broads Plan that the previous Habitats Regulations Assessment work highlighted as a potential threat to European site interest, and it was therefore important to check and confirm the effectiveness of measures to protect European sites that have been put in place for those lower tier documents.

The Tourism Plan – the Broads Sustainable Tourism Strategy

- 1.22 The Sustainable Tourism Strategy or Destination Management Plan for the Broads is not a statutory requirement, but makes a significant contribution to the suite of plans and strategies that steer the management of the Broads, by providing a strategic direction for sustainable tourism in the Broads that recognises the invaluable resource of the Broads and the careful balance between protecting and enabling everyone to enjoy the beauty of the Broads. It is a key document to assist the Broads Authority in meeting its statutory responsibilities. The Destination Management Plan has recently replaced the previous Sustainable Tourism Strategy for the Broads.
- 1.23 Tourism drives much of the economy of the Broads, and provides the livelihood of many people. The Broads Authority must continue to understand the current tourism parameters, and the nature and levels of tourism necessary for the long-term sustainability of the Broads.
- 1.24 The new plan will focus on both visitor numbers and the type of tourism that will be most beneficial for the Broads and the Habitats Regulations Assessment therefore played an early and informative role in the development of the strategic approach to tourism, to ensure that the direction being promoted by the new plan is complementary to the maintenance and where necessary the restoration of European site interest. As a non-statutory plan, the Broads Authority did not undertake a Habitats Regulations Assessment of the previous strategy, and the new assessment was not able to refer to previous work. As a plan produced by the Broads Authority, the new tourism plan has now been the subject of Habitats Regulations Assessment.

Other local planning documents

- 1.25 It is important to note that the administrative area covered by the Broads Authority encompasses areas that adjoin six local planning authority areas, and that each has their own local planning documents. These are Waveney, South Norfolk, Broadland, Great Yarmouth, Norwich and North Norfolk. The Habitats Regulations Assessment of the three plans, and this assessment of the Local Plan in particular, should have regard for the proposals within the neighbouring local plans, in terms of the growth proposed and the measures that each authority is putting in place to protect the European sites within the Broads.
- 1.26 Each of the local planning authorities is at different stages of plan preparation, and the levels of detail in their Habitats Regulations Assessment will therefore vary. A Joint Core Strategy, adopted in 2014, is in place for Broadland District Council, Norwich City Council, South Norfolk District Council and Norfolk County Council, which sets co-ordinated objectives for development within the three districts to deliver growth requirements for the wider area covered by the authorities. It aims to deliver 37,000 new homes over the plan period, which is a challenging target. The plan places the natural environment at the heart of plan policy, with the first policy of the plan committing to the following
- 1.27 *“All new developments will ensure that there will be no adverse impacts on European and Ramsar designated sites and no adverse impacts on European protected species in the area and beyond including by storm water runoff, water abstraction, or sewage discharge. They will provide for sufficient and appropriate local green infrastructure to minimise visitor pressures. Development likely to have any adverse affect on nationally designated sites and species will be assessed in accordance with national policy and legislation.”*
- 1.28 As with the Habitats Regulations Assessment of the Broads Local Development Framework documents, the adjoining areas have particularly focussed on water resources and water quality as threats to European sites. Water utility company plans and strategies are therefore key documents for securing adequate measures to prevent harm.
- 1.29 Each of the neighbouring local plans has been checked as part of this assessment. Importantly, a number of issues relating to the European site features relate to impacts from outside the Broads, particularly in relation to water quality. Information on the mitigation measures being employed by neighbouring authorities, and their effectiveness to date is summarised below.
- 1.30 Waveney District is currently consulting on its first draft Local Plan, with a view to publishing a final draft plan in winter 2017/2018 and adoption in summer 2018. The current iteration of the Habitats Regulations Assessment screens the plan out from having any likely significant effects. Great Yarmouth commissioned Footprint Ecology to prepare the Habitats Regulations Assessment for its Local Plan, incorporating a suite of mitigation measures that complement those now recommended for the Local Plan

for the Broads. As described within the Local Plan for the Broads, Great Yarmouth Borough Council and the Broads Authority are co-operating over the delivery of housing to meet identified needs; 44 houses in the part of the Broads that falls within the Borough of Great Yarmouth. The mitigation measures within the plan level Habitats Regulations Assessments for both Great Yarmouth and the Broads should be drawn upon as the options for delivering the 44 houses are further progressed. Importantly, as described below, the Norfolk Authorities are all working together to gather more evidence in the form of visitor survey data and to assess implications of increased recreation for European sites, and this collaborative working will inform all emerging local spatial planning documents in due course.

A positive approach to assessing the plans and informing their progression

- 1.31 The three plans being prepared by the Broads Authority are the subject of public consultations at various stages, and have been updated in light of those consultations. It is apparent from all three plans that the protection, maintenance and restoration of natural environment is a prominent theme, and one which has been effectively integrated into the policies and actions. This Habitats Regulations Assessment, like the assessments undertaken for the other two plans, makes recommendations for changes to ensure compliance with the legislation, but at the same time recognises the positive work already evident within the plans, particularly the focus given to restoring water quality, for example.
- 1.32 This Habitats Regulations Assessments haven been undertaken and updated in a timely manner, in order to make meaningful recommendations that can be acted upon in the next iteration of each plan, to strengthen the protection afforded to European sites and ensure that the plans fully meet the requirements of the legislation prior to their adoption by the Authority.
- 1.33 A Habitats Regulations Assessment is an intrinsic part of plan making, in the same way that all other evidence gathering undertaken by the Authority will inform plan progression. It identifies potential risks to European sites posed by an emerging policy approach, and it should also seek to find solutions that enable sustainable development, sustainable tourism and sustainable management of the Broads, to meet its multiple needs and purposes whilst protecting European sites. The Habitats Regulations Assessment should therefore be mindful of the objectives of the plans being assessed, and should wherever possible seek to recommend measures to allow those objectives to be met whilst avoiding or minimising risk. Whatever recommendations are made, it is for the Broads Authority to own and implement those recommendations. Where solutions are not available or evidence to support a solution is not robust, it will then be necessary to consider a different policy approach.

Information and Evidence

- 1.34 As described above Habitats Regulations Assessment should be evidence based. The key information sources relevant to this Habitats Regulations Assessment are summarised below. This is not an exhaustive list but rather the main pieces of evidence are identified. This Habitats Regulations Assessment report initially provided

an assessment at the Preferred Options stage of plan making and has now been updated for the Publication stage of plan making. Key information has been revisited to ensure that this assessment continued to be based on up to date evidence as it progressed alongside the plan.

Water related studies, strategies and management plans

1.35 The Broads Authority and partner organisations have undertaken or commissioned a broad range of documents relating to water quality and water resources. The Broadland Rivers Catchment Plan is produced by the Broadland Catchment Partnership, seeking to improve the water environment of the Broads through a suite of measures including land management, flood risk management and waste water management. This partnership includes all the main bodies involved in water management and regulating use of water, including water utilities, Natural England, the National Farmers Union, Norfolk County Council and the RSPB. This partnership is an important source of information for the assessment, and also an ideal partnership to support the delivery of measures that may be necessary to protect European site interest. Other potentially relevant studies, plans and strategies include:

- Water Cycle Studies undertaken to support the preparation of local planning documents
- Water utility company resource plans
- Environment Agency strategies relating to flood management
- Environment Agency consents for water abstraction, and associated assessments
- CAMS Catchment Abstraction Management Strategy
- Restoring Sustainable Abstraction
- Water company and Environment Agency Drought Plans

Water Resource Management Plans and their Habitats Regulations Assessments

1.36 Water utility companies produce a number of plans, including Water Resource Management Plans, which cover a 25-year planning period and should demonstrate how they intend to provide a sustainable water supply to meet needs whilst also maintaining adequate water resources in the environment. The current plan period is from 2015 to 2040. Where in place, Drought Plans are also relevant. The plans for the Broads are those produced by Anglian Water and Essex & Suffolk Water.

1.37 The Water Resource Management Plan prepared by Anglian Water was the subject of Habitats Regulations Assessment, which considered European sites throughout the Anglian area, including those that would potentially be affected by water resource requirements for development within the Broads Executive Area. The plan and its assessment concluded that for a small number of schemes, likely significant effects could not be ruled out and appropriate assessment was undertaken, explaining possible mitigation options. The assessment concludes that with the application of mitigation measures, resources can be sustainably supplied whilst ensuring no adverse effects on European site interest.

- 1.38 Parts of the Broads (towards Great Yarmouth and Lowestoft) are also covered by Essex & Suffolk Water, and again the Water Resource Management Plan for this company advises that their resource management over the Water Resource Management Plan period will be a supply surplus. The Habitats Regulations Assessment includes consideration of the Alde-Ore Estuary SPA and focuses on the Trinity Broads SSSI and Geldeston Meadows SSSI as components of the Broadland SPA/Ramsar site and the Broads SAC.
- 1.39 For the Broads sites, the Habitats Regulations Assessment identifies mud pumping as a potential hazard, but screens the issue out as no likely significant effect due to the measures in place to manage the operation, and the subsequent sediment movement as a result. Abstractions pose a risk to Geldeston Meadows, and compensatory water resource will be added back into the system to negate effects. River support compensation discharges are also used for the River Alde to remove likely significant effects on relation to the Alde-Ore Estuary.
- 1.40 Whilst both Water Resource Management Plans and their associated Habitats Regulations Assessments indicate that water resource provision for planned growth should not present an issue for European sites, there is a need to re-check mitigation effectiveness for future Local Plan reviews. The Essex & Suffolk Water plan in particular identifies the importance of monitoring the mitigation measures in place, and the environmental monitoring results should therefore be obtained for informing future Local Plan reviews.

Strategic Flood Risk Assessment Position Statement

- 1.41 A joint statement by the Broads Authority and Environment Agency, published in May 2017, advises that the current Strategic Flood Risk Assessment, prepared as part of a joint study with neighbouring authorities in 2007/8, does not include the most recent flood modelling data or climate change allowances. Currently, the Norfolk local planning authorities (with the exclusion of Breckland) are working together to produce an updated assessment, with a target completion date of October 2017. However, some data will be lacking as this will not be available from the Environment Agency until 2019. The Broads Authority is proceeding with the publication of the Local Plan in the absence of this data, on the basis that the majority of the Broads is at risk of flooding, and policies therefore have a strong focus on flood management through development. As noted earlier, a Flood Risk SPD is also in place for the Broads, forming part of the Local Plan. Waveney District Council are proceeding with producing their Strategic Flood Risk Assessment, and this may need to be revisited in light of the Environment Agency data becoming available.
- 1.42 Flood risk is of relevance to the European sites, as flooding can increase pollution, siltation and damage sensitive habitats. Whilst a Strategic Flood Risk Assessment is an important part of the Local Plan evidence base, its purpose is to identify areas of differing flood risk. For the Broads, with the majority of the area at risk, there is a clear requirement to focus on flood risk for all development. Policies within the Local Plan require stringent assessment and submission of flood risk and flood management

information. This policy focus enables this HRA to have confidence that the impact of flooding and the subsequent risk to European sites will be appropriately managed at the development project level, in accordance with the policies in place.

Biodiversity strategies

1.43 The Broads Authority, in conjunction with all nature conservation partners operating within the 'Broads Biodiversity Partnership' such as Natural England, research institutions and the Local Nature Partnership, has produced an extensive range of biodiversity delivery documents that support the progression of biodiversity action within the Broads, to protect, restore and expand the biodiversity resource of the Broads. These are supported by comprehensive audits that highlight the nature conservation importance of the Broads (Dolman, Panter & Mossman 2012). Key documents overseen by the Broads Biodiversity Partnership that provide background information for this Habitats Regulations Assessment include:

- The Broads Biodiversity and Water Strategy
- The Lake Restoration Review
- Biodiversity audit and sensitivity mapping
- Species of conservation concern restricted to the Broads
- Wetland conservation reports
- The Broads Biodiversity Action Plan

Visitor survey work

1.44 The Broads is a nationally renowned tourism destination and maintaining a comprehensive level of up to date information on tourism is a fundamental part of delivering the three overarching duties (set out at paragraph 1.2) and maintaining a sustainable tourism economy. The Broads Authority has undertaken and commissioned a range of research on the use of the area by visitors. This Habitats Regulations Assessment includes consideration of visitors to the Broads, both residential and non-residential. Evidence relating to visitor numbers, visit types, key locations, required accommodation and infrastructure and the times of year is all relevant to this assessment.

1.45 Visitor information includes surveys undertaken by Insight Track (Terry & Davey 2014; Insight Track 2015). These provide a range of data including information on site choice, visit types and spend.

1.46 Footprint Ecology has undertaken visitor surveys from European sites across Norfolk, as part of a joint commission by the Norfolk local planning authorities over 2016/17. The surveys targeted a sample of locations with access and where sensitive wildlife occurs. This work now informs the relative balance of recreation pressure from local residents and tourists and provides information to inform long-term access management for the European sites.

East Inshore and East Offshore Marine Plans

1.47 The Broads Authority has recently prepared an assessment of the conformity of the Local Plan with the Marine Plans, finding that the Local Plan is in conformity. The

Marine Plans include high level policies to protect the marine environment, including designated sites. This does not raise any issues relevant to the HRA.

Greater Norwich Infrastructure Plan

1.48 The Broads Authority is working jointly with neighbouring authorities across Norfolk on a number of matters, including co-ordination of delivery of housing need, infrastructure to support growth, and enhancing the green infrastructure network. The Greater Norwich Infrastructure Plan informs the prioritisation of investment and delivery of infrastructure to support growth across the Greater Norwich area. Whilst the Broads Authority Executive Area lies outside the remit of this plan, it is important to note the development of biodiversity opportunity mapping as part of the plan, and the potential role this could play in supporting European sites within the Broads. It would be beneficial for the Broads Authority to be involved in this aspect of the Infrastructure Plan, which is currently in the early stages of development.

2. European sites

- 2.1 In this section, the relevant European sites are discussed, identifying those sites that could potentially be affected by the policies and proposals within the Local Plan for the Broads, and then examining their site interest features, conservation objectives, sensitivities and any current conservation issues.
- 2.2 In assessing the implications of any plan or project for European sites, it is essential to fully understand the sites in question, their interest features, current condition, sensitivities and any other on-going matters that are influencing each of the sites that may be affecting the achievement of conservation objectives.
- 2.3 This section of the report, along with detailed site information in Appendix 2, provides that information. Every European site has a set of 'interest features,' which are the ecological features for which the site is designated or classified, and the features for which Member States should ensure the site is maintained or, where necessary restored. Each European site has a set of 'conservation objectives' that set out the objectives for the site interest, i.e. what the site should be achieving in terms of restoring or maintaining the special ecological interest of European importance.
- 2.4 The site conservation objectives are relevant to any Habitats Regulations Assessment, because they identify what should be achieved for the site, and a Habitats Regulations Assessment may therefore consider whether any plan or project may compromise the achievement of those objectives. Further information on European site conservation objectives can be found at the end of this section of the report.
- 2.5 European sites are at risk if there are possible means by which any aspect of a plan can, when being taken forward for implementation, pose a potential threat to the wildlife interest of the sites. This is often referred to as the 'impact pathway' as it is an identifiable means by which the plan or project could potentially affect the European site. Impact pathways are discussed in Section 3 of this report, in relation to informing the screening for likely significant effects.

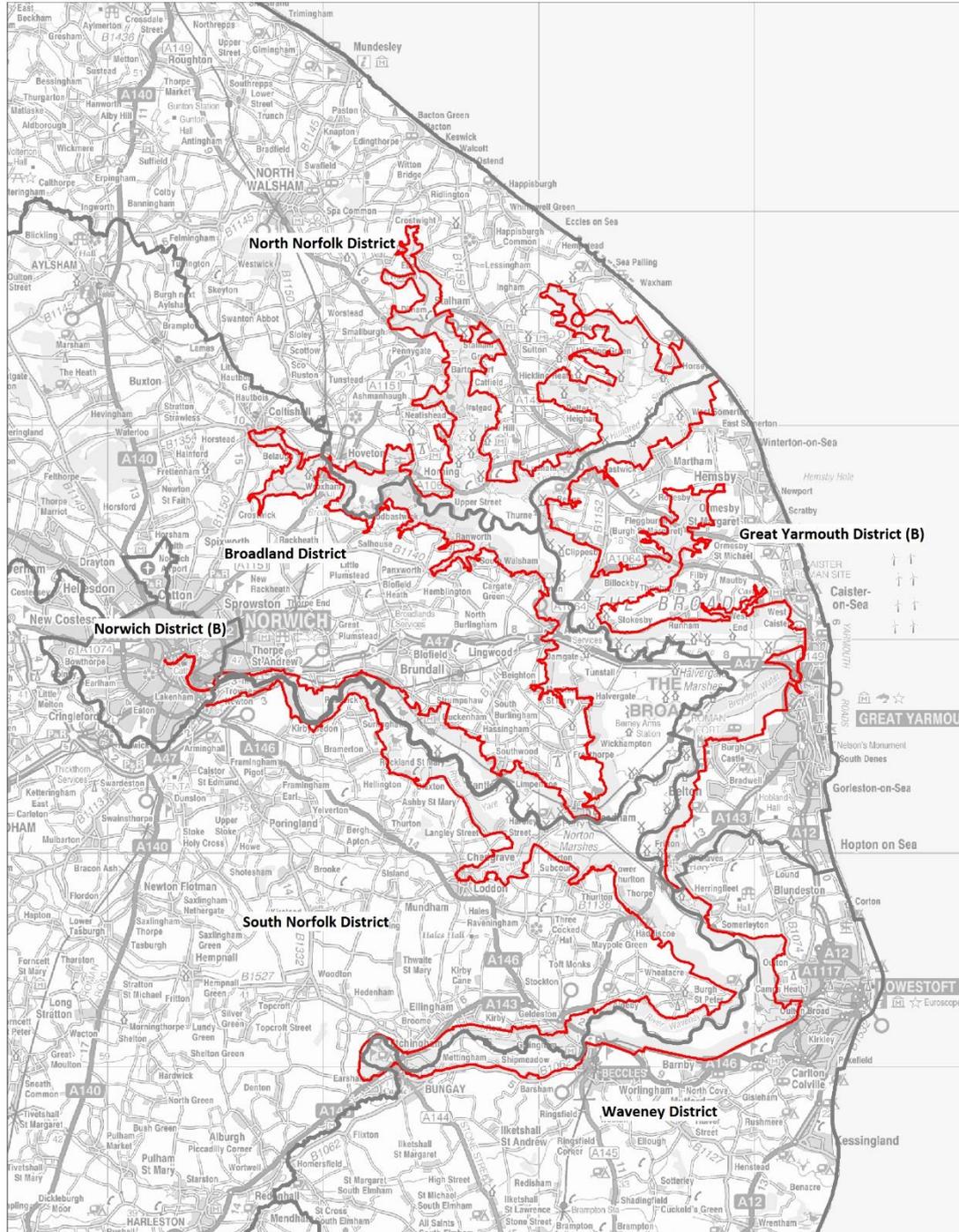
The boundary of the Broads Authority Executive Area is shown in Map 1. There are several European sites in or relatively close to the Broads; Maps 2-4 show the locations of the SPAs, SACs and Ramsar sites respectively, selected for consideration in this HRA. Of these sites, it is considered that there is the potential for a number of European sites to be at risk.

- 2.6 Table 1 lists the relevant European sites. Note that, where there is more than one type of designation in the same location, the boundaries of the three types of designated site may not follow exactly the same line.
- 2.7 The detailed ecological information and site sensitivities for each site are provided in Appendix 2 of this report.

Table 1: European Sites within or close to the Broads Authority Executive Area.

SPA	SAC	Ramsar
Broadland	The Broads	Broadland
Breydon Water		Breydon Water
Great Yarmouth North Denes	Winterton-Horsey Dunes	
Outer Thames Estuary		
	Haisborough, Hammond and Winterton candidate marine SAC	

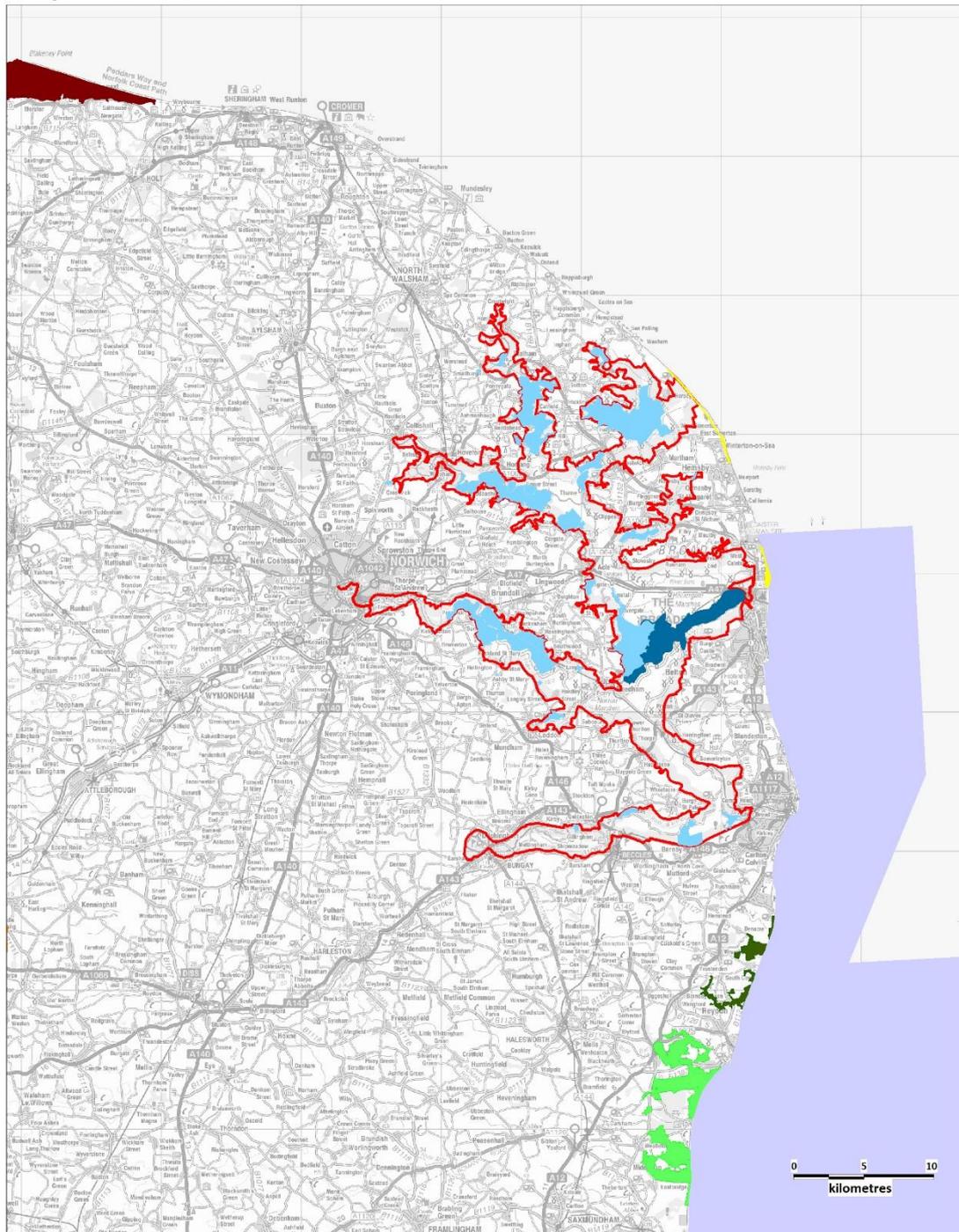
Map 1: Broads Authority Executive Area and relevant authorities



- Local authority boundaries
- Broads Authority Executive Area

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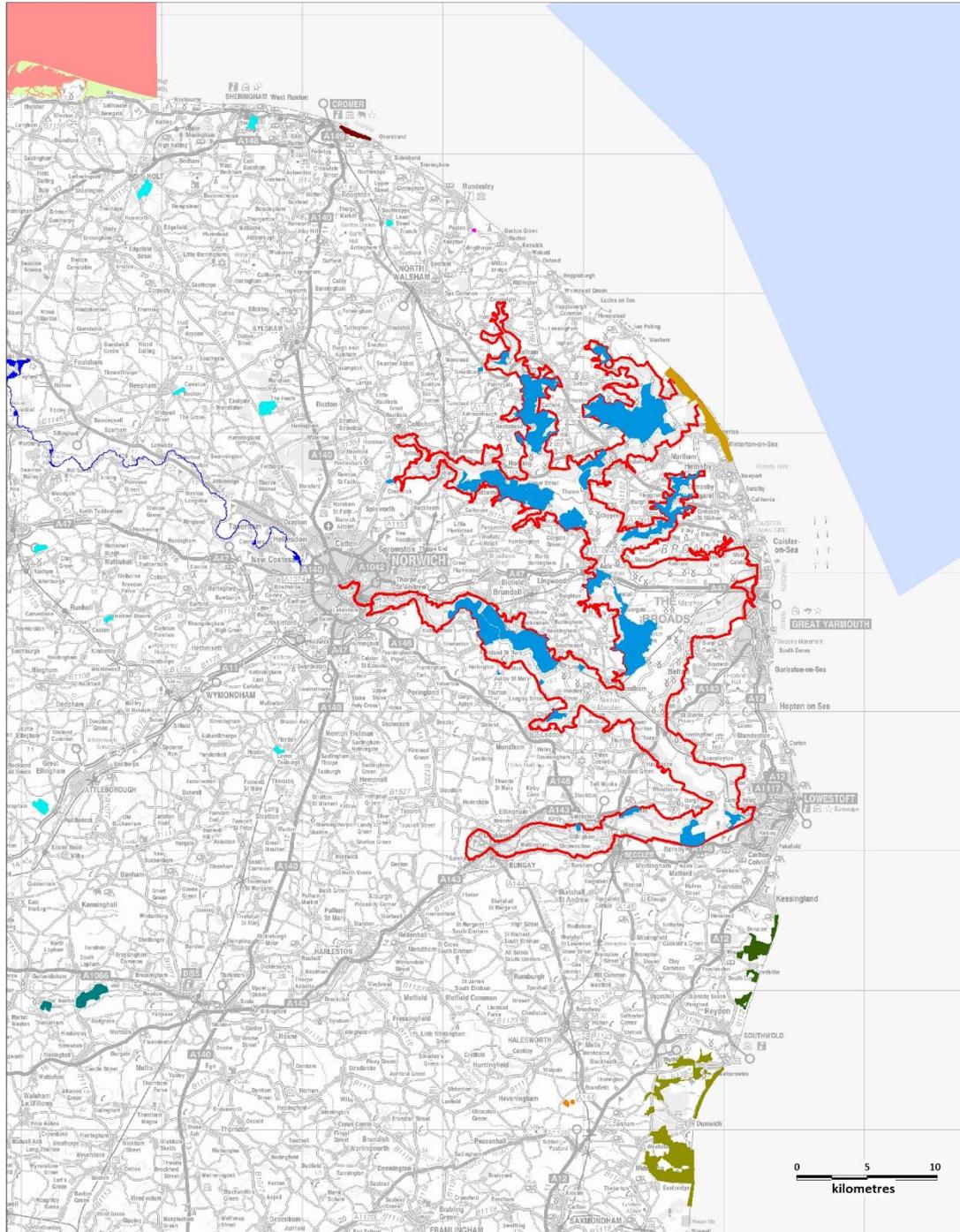
Map 2: Selected SPAs



- | | | | | | | |
|---|--|-------------|---|-----------------------------------|---|-----------------------------|
|  | Broads Authority Executive Area | SPAs |  | Benacre to Easton Bawents |  | Minsmere-Walberswick |
| | | |  | Breydon Water |  | N Norfolk Coast |
| | | |  | Broadland |  | Outer Thames Estuary |
| | | |  | Great Yarmouth North Dunes | | |

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Map 3: Selected SACs

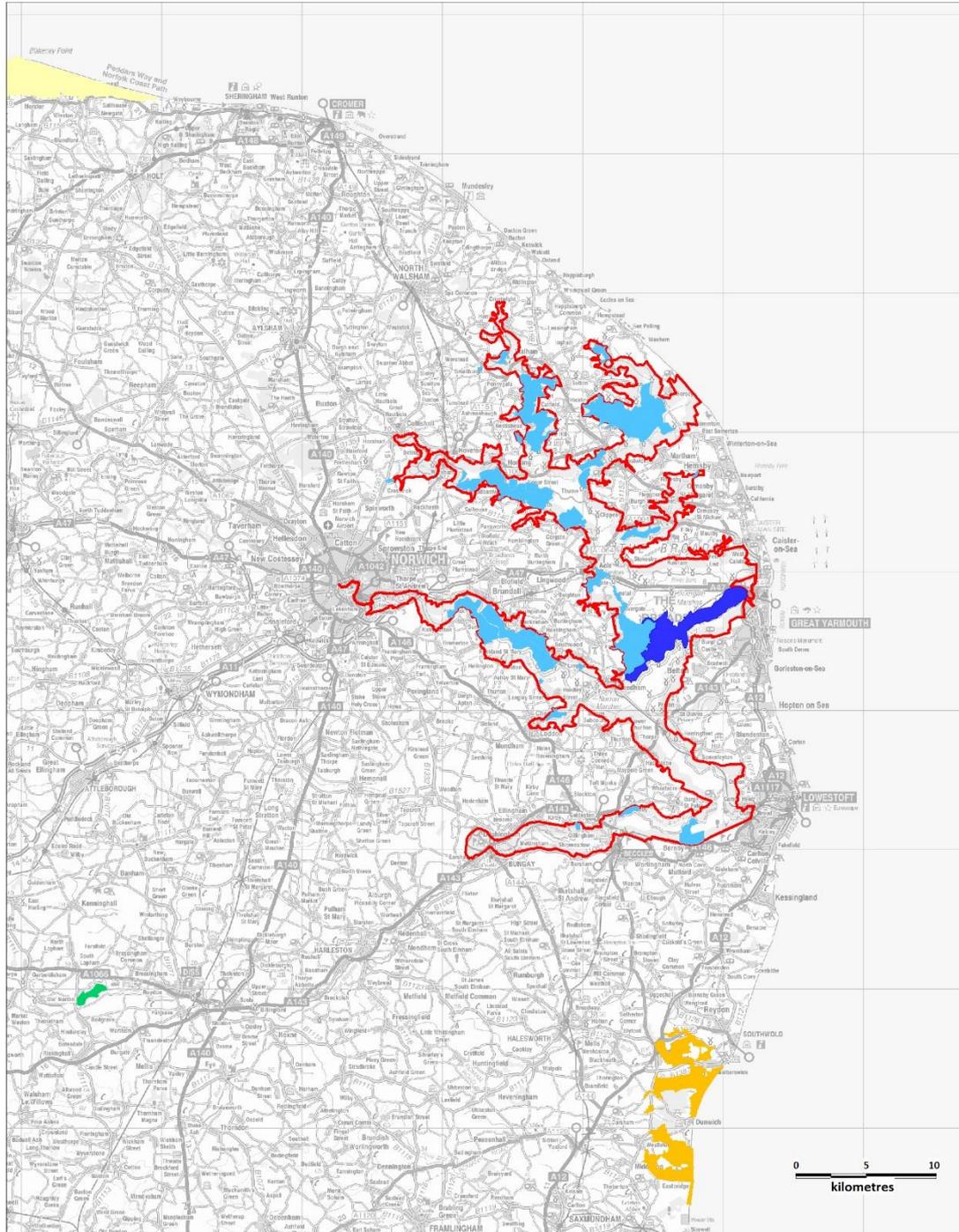


SACs

- Benacre to Easton Bawents Lagoons
- Dew's Ponds
- Haisborough, Hammond and Winterton
- Minsmere to Walberswick Heaths & Marshes
- Norfolk Valley Fens
- North Norfolk Coast
- Overstrand Cliffs
- Paston Great Barn
- River Wensum
- The Broads
- The Wash & North Norfolk Coast
- Waveney & Little Ouse Valley Fens
- Winterton-Horsey Dunes
- Broads Authority Executive Area

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Map 4: Selected Ramsar Sites



Ramsar Sites

- Breydon Water
- Broadland
- North Norfolk Coast
- Redgrave & South Lopham Fens
- Minsmere-Walberswick

Broads Authority Executive Area

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European site conservation objectives

- 2.8 Conservation Objectives are the objectives to be achieved by European member states for their sites that ultimately then contribute to the Natural 2000 network and favourable conservation status of habitats and species for which the sites are designated or classified.
- 2.9 As required by the Directives, Conservation Objectives have been established by Natural England, which should define the required ecologically robust state for each European site interest feature. All sites should be meeting their conservation objectives. When being fully met, each site will be adequately contributing to the overall favourable conservation status of the species or habitat interest feature across its natural range. Where Conservation Objectives are not being met at a site level, and the interest feature is therefore not contributing to overall favourable conservation status of the species or habitat, plans should be in place for adequate restoration.
- 2.10 Natural England has embarked on a project to renew all European site Conservation Objectives, in order to ensure that they are up to date, comprehensive and easier for developers and consultants to use to inform project level Habitats Regulations Assessments in a consistent way. In 2012, Natural England issued a set of generic European site Conservation Objectives, which should be applied to each interest feature of each European site. These generic objectives are the first stage in the project to renew conservation objectives. The second stage, which is to provide more detailed and site-specific information for each site to support the generic objectives, is now underway. Whilst some European sites now have the benefit of this supplementary advice, the relevant European sites for this HRA do not yet have finalised supplementary advice.
- 2.11 The new list of generic Conservation Objectives for each European site includes an overarching objective, followed by a list of attributes that are essential for the achievement of the overarching objective. Whilst the generic objectives currently issued are standardised, they are to be applied to each interest feature of each European site, and the application and achievement of those objectives will therefore be site specific and dependant on the nature and characteristics of the site. The second stage, provision of the more supplementary information to underpin these generic objectives, will provide much more site-specific information, and this detail will play a fundamental role in informing Habitats Regulations Assessments, and importantly will give greater clarity to what might constitute an adverse effect on a site interest feature.
- 2.12 In the interim, Natural England advises that Habitats Regulations Assessments should use the generic objectives and apply them to the site-specific situation. This should be supported by comprehensive and up to date background information relating to the site.
- 2.13 For SPAs, the overarching objective is to:

‘Avoid the deterioration of the habitats of qualifying features, and the significant disturbance of the qualifying features, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving the aims of the Birds Directive.’

2.14 This is achieved by, subject to natural change, maintaining and restoring:

- The extent and distribution of the habitats of the qualifying features.
- The structure and function of the habitats of the qualifying features.
- The supporting processes on which the habitats of the qualifying features rely.
- The populations of the qualifying features.
- The distribution of the qualifying features within the site.

2.15 For SACs, the overarching objective is to:

‘Avoid the deterioration of the qualifying natural habitats and the habitats of qualifying species, and the significant disturbance of those qualifying species, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving Favourable Conservation Status of each of the qualifying features.’

2.16 This is achieved by, subject to natural change, maintaining and restoring:

- The extent and distribution of the qualifying natural habitats and habitats of qualifying species.
- The structure and function (including typical species) of qualifying natural habitats and habitats of qualifying species.
- The supporting processes on which qualifying natural habitats and habitats of qualifying species rely.
- The populations of qualifying species.
- The distribution of qualifying species within the site.

2.17 Marine objectives are applied to the Haisborough, Hammond and Winterton candidate marine SAC, with objectives for the site being the maintenance and restoration of:

- Extent of the habitat (and elevation and patchiness for reef)
- Diversity of the habitat
- Community structure of the habitat (e.g. population structure of individual species and their contribution to the functioning of the habitat)
- Natural environmental quality (e.g. water quality, suspended sediment levels, etc.)

2.18 Conservation objectives inform any Habitats Regulations Assessment of a plan or project, by identifying what the interest features for the site should be achieving, and what impacts may be significant for the site in terms of undermining the site’s ability to meet its conservation objectives. Whilst the site specific supplementary information remains unavailable, the generic objectives must underpin the assessment of impacts

by focusing considerations on the structure and function of supporting habitats and supporting processes as well as the site interest features themselves.

European site condition and sensitivities

2.19 The information provided in Appendix 2 relates to the European sites and their vulnerabilities. The current status of each of the European sites, mechanisms in place to maintain their interest in order to meet conservation objectives, and progress on any restoration needs have been reviewed as this assessment has progressed.

3. Screening for likely significant effects

- 3.1 Habitats Regulations Assessment is a step by step process, with the competent authority required to undertake a screening for likely significant effects on European sites, after determining that the plan or project in question is not one that is entirely necessary for site management. The Local Plan for the Broads is prepared in order to meet a vision and objectives for sustainable development in the Broads, and is therefore not wholly focussed on European site management. The screening for likely significant effects is therefore undertaken. The screening stage is applicable to all parts of the plan, and the screening then informs whether a detailed appropriate assessment of the plan or project is required, where it is concluded that significant effects cannot be ruled out.
- 3.2 When a Habitats Regulations Assessment is being undertaken on a plan or project that is initiated by the competent authority themselves, there is greater opportunity to identify potential issues arising from the plan or project in the initial stages of design or preparation. Where a competent authority is authorising a proposal being made by another party, the application for permission is usually made when the proposal has already been designed and all details finalised, thus the opportunity to identify issues early on is more limited unless an applicant chooses to hold early discussions with the competent authority.
- 3.3 For the Local Plan for the Broads, the Broads Authority is both the plan proposer and the competent authority, thus allowing the Habitats Regulations Assessment to influence the plan in its earlier stages, up to submission for Examination.

What constitutes a likely significant effect?

- 3.4 At the screening stage of Habitats Regulations Assessment, there is the opportunity to identify changes to the plan that could be made to avoid risks to European sites. The screening for likely significant effects is an initial check to identify risks and recommend any obvious changes that can avoid those risks. As described in Appendix 1, screening for likely significant effect is an initial check to identify risks that could potentially be significant for the European sites, and to recommend any obvious changes that can avoid those risks. Where risks cannot be avoided, a more detailed assessment is undertaken to gather more information about the likely significant effects, which is the appropriate assessment stage of Habitats Regulations Assessment.
- 3.5 The screening check of each aspect of the plan is essentially looking for two things; whether it is possible to say with certainty that there are no possible impacts on European sites, or whether, in light of a potential risk, adequate measures are built into the policy and/or its supporting text, which serve to avoid any likely impacts. If one of these categories is met, it enables a competent authority to screen out from further stages of assessment. Where there is the potential for European sites to be affected, more detailed consideration is required and this then screens those aspects of the plan in to the appropriate assessment.

- 3.6 A likely significant effect could be concluded on the basis of clear evidence of risk to European site interest, or there could be a scientific and plausible justification for concluding that a risk is present, even in the absence of direct evidence. The latter is a precautionary approach, and follows the principles established in case law relating to the use of such a principle in applying the European Directives and domestic Habitats Regulations. In particular, the European Court in the ‘Waddensee’ case⁵ refers to “*no reasonable scientific doubt*” and the ‘Sweetman’ case⁶ the Advocate General identified that a positive conclusion on screening for likely significant effects relates to where there “*is a possibility of there being a significant effect*”.

Screening table

- 3.7 The screening of the full plan at both Preferred Options (October 2016) and then Publication stage (August 2017) is provided in Table 2 below. Each section and policy has been considered in turn, and a record made of whether likely significant effects can be screened out or not. Where it is concluded that there are likely significant effects, i.e. there is a possibility of effects, the screening table made recommendations to modify and strengthen policy and/or supporting text where risks to European sites are identified. A re-screening exercise at Publication stage enabled a check to be made as to whether previous recommendations have been incorporated.
- 3.8 The screening exercise identified a number of risks at Preferred Options, and made recommendations accordingly. These included a number of actions that are relatively minor text modifications. Key changes required to avoid likely significant effects were highlighted within the table in the previous iteration of this report at Preferred Options, to enable the Broads Authority to review and make the recommended changes to the plan. At Publication stage, after consideration of the revised plan, some further recommendations are now made within the screening table. Additionally, the screening table highlights opportunities for text changes to maximise restoration and enhancement opportunities, which are in keeping with the overall objectives of the legislation to maintain and restore European sites. Seeking enhancement opportunities through spatial planning is also in keeping with the Government’s objectives for biodiversity and the principles set out within the ‘Lawton Review,’ which was an independent review commissioned by government, of England’s wildlife sites and ecological network, chaired by Professor Sir John Lawton⁷.

European sites; their impact pathways and Site Improvement Plans

- 3.9 In assessing the implications of any plan or project for the full suite of European sites, an understanding of the ecology and sensitivity of the sites is necessary in order to identify how they may be affected. The conservation objectives for each European site, as described in earlier, set out the objectives for the site interest, i.e. what the site

⁵ European Court of Justice case C - 127/02

⁶ European Court of Justice case C - 258/11

⁷The [Making Space for Nature](#) (PDF) Review, 2010.

should be achieving in terms of restoring or maintaining the special ecological interest of European importance. The consideration of how the local plan may affect the achievement of each site's conservation objectives therefore underpins all assessment decisions.

- 3.10 European sites are at risk if there are possible means by which any aspect of a plan can, when being taken forward for implementation, pose a potential threat to the wildlife interest of the sites. This is often referred to as the 'impact pathway' as it is an identifiable means by which the plan or project could potentially affect the European site. Threats to the site are found in the Site Improvement Plan (SIP) for each site. The SIPs are prepared by Natural England in conjunction with a wide range of partner organisations, such as the Environment Agency and Internal Drainage Boards, for example. The SIPs can provide helpful information for Habitats Regulations Assessments because they highlight current site sensitivities and therefore the types of impacts that may have significant effects on site interest features.
- 3.11 The following risks have been identified as a result of the screening for likely significant effects, having regard for the policies within the plan, the site sensitivities and impact pathways, and the SIPs for each site.

Residential development

- 3.12 The Local Plan for the Broads at Publication stage provides for 146 new homes over the plan period, at a small number of sites. There are a range of ways in which new development may have an impact for European sites, and an increase in recreation, due to more people living in the area is a concern where sites are vulnerable to impacts such as disturbance, eutrophication (e.g. from dog fouling), spread of alien species and direct damage (e.g. from trampling). Besides recreation, cumulative impacts of development in surrounding countryside can include fragmentation, effects on local hydrology and changes in predator distribution and numbers (including pet cats). Such impacts are often grouped as 'urban effects' (for general reviews and discussion see Vitousek *et al.* 1997; Underhill-Day 2005; Mcdonald, Kareiva & Forman 2008; Mcdonald *et al.* 2009).
- 3.13 The SIP for Broadland SPA and the Broads SAC highlights increased recreation pressure as a threat, citing both SAC habitat damage and SPA bird disturbance as issues. Recreation pressure is also the subject of the Norfolk wide visitor survey work undertaken by Footprint Ecology. The commissioning of this work has partly stemmed from the actions identified in the SIP, as well as individual local authority Habitats Regulations Assessment work at the plan level. This commission has provided the Norfolk authorities with predicted visitor increases as a result of new housing across the Norfolk area. A 14% increase is predicted for the Broads, but this is less directly linked to housing than for some of the other sites, as there are high visitor numbers from a wide geographical area.
- 3.14 The report concludes that the results provide local authorities in Norfolk with information to underpin future reviews of local plans, Habitats Regulations Assessments and potential mitigation approaches. The results highlight how recreation change (particularly at the North Coast, the Broads and the Valley Fens) will be linked to

development across multiple local authorities and solutions are likely to be most effective if delivered and funded in partnership. In other parts of the country strategic mitigation schemes have been established involving partnerships of local authorities delivering mitigation funded through developer contribution schemes. Such approaches would provide Norfolk authorities with an effective way of delivering mitigation and some recommendations for mitigation approaches are given.

- 3.15 The recommendations are currently being considered by the Norfolk local planning authorities and it is anticipated that they will start to take forward the recommendations in the near future and look at options for collaborative measures to manage recreation pressure at European sites. A strategic approach to avoiding and mitigating for recreation pressure arising from new residential growth is being developed for the Suffolk coast, estuary and heathland European sites. This is nearly ready for implementation and may offer good practice that can be applied in a Norfolk scheme. The Broads Authority is delivering very few houses in comparison to the other Norfolk authorities, and it is anticipated that the housing allocations for the 146 homes over the plan period should be able to develop appropriate mitigation at the project level. However, by the time these sites come forward there may be a more strategic approach in place across Norfolk, and the Broads Authority will therefore need to have regard for this when assessing impacts at a project level.
- 3.16 Recognising the relatively low level of housing promoted in the plan, and the fact that this will be concentrated at a small number of brownfield housing sites, it is recommended that the Local Plan highlights the need to provide adequate recreation space associated with the housing sites, in terms of both size and quality. The Local Plan includes strategic housing policies as well as site specific policies for the allocations (and also identified in the separate Site Specific Plan, which was adopted by the Broads Authority in 2014). The strategic housing policy proposing the 146 houses is PUBSP19 and the three policies relating to the allocations are PUBNOR1 Utilities Site, PUBOUL3 Oulton Broad former Pegasus/Hamptons site and PUBTHU1 Hedera House, Thurne. Smaller residential sites are within policies PUBHOV3 and PUBSTO1. At the Preferred Options stage, it was recommended that these policies should identify the need for comprehensive and evidence based project level HRA to consider what recreation space is required to provide a viable alternative to the sensitive areas of European sites. Evidence relating to dog walking needs and recreation facilities should be drawn upon. It was particularly highlighted that the policies should make clear that adequate greenspace provision to protect European sites is an essential requirement. These additions have now been made in supporting text for PUBSP19, and within policy wording for the three main housing sites. PUBHOV3 and PUBSTO1 promoting the smaller residential allocations are screened out due to the very small number of units to be delivered.

Increased navigation and access to the water's edge

- 3.17 The Local Plan for the Broads includes management of the water space for navigation, in accordance with the navigation duties bestowed upon the Broads Authority. Boating can have particular impacts (for general reviews see Liddle & Scorgie 1980 and ;

Mosisch & Arthington 1998) that include disturbance to birds (e.g. Keller 1989; Galicia & Baldassarre 1997; Burger 1998; Knapton, Petrie & Herring 2000; Bright *et al.* 2003), disturbance to fish (Graham & Cooke 2008), impacts from waves/wash on aquatic life (Bishop 2004, 2007; Kucera-Hirzinger *et al.* 2008), bankside erosion from wash (Nanson *et al.* 1994) damage to bankside and aquatic vegetation (Coops *et al.* 1996), damage to aquatic vegetation (Murphy & Eaton 1983; Asplund & Cook 1997), increased turbidity (Moss 1977; Garrad & Hey 1987) and contamination/nutrient enrichment. Increased boating may also result in more activity on the shore/banks, which may result in impacts relating to terrestrial habitats and species.

- 3.18 Increased boating therefore has a risk of having an impact on the Broads SAC, Broadlands SPA/Ramsar site and Breydon Water SPA/Ramsar site. The extent to which such impacts occur will relate to the scale of any increase, types of activity and the locations where the increase takes place. Changing the number and distribution of moorings has the potential to redistribute boating access and therefore also could have impacts. Marked increases in boat traffic in otherwise undisturbed or less visited areas are likely to have the most impact.
- 3.19 Much has already been done in the Broads relating to impacts from boating⁸ including reducing discharges from boats into the water, managing speeds, promoting low-wash hulls, developing a network of charging points to allow electric boats to become more common and a green boat accreditation (The Green Boat Mark). Any specific measures to increase boating would constitute a project under the Habitats Regulations (whether undertaken by the Broads Authority or permitted by the Authority or another competent authority) and the project specific Habitats Regulations Assessments should therefore consider the location, likely level of increase and any measures that can be targeted to ensure no further impacts on European sites.
- 3.20 Recommendations were made at Preferred Directions stage within the screening table, for policies relating to access to land and water. There is a risk of habitat deterioration and disturbance arising from increased waterside access. Recommendations to strengthen policy text to secure adequate protection for designated sites, making clear that improved access will only be allowed where impacts have been assessed and fully mitigated for, has been incorporated.

Tourism

- 3.21 The Local Plan for the Broads includes the creation, enhancement and expansion of high quality and inclusive tourist attractions. The plan does not specify particular types of tourist development, or promote particular locations. Risks are described above in relation to recreation pressure potentially increasing disturbance and habitat deterioration, and in relation to boating activity. Both are equally relevant to the promotion of tourism.

⁸ Details can be found on the [Broads Authority website](#)

- 3.22 All three of the Broads plans; the Local Plan, Management Plan and Sustainable Tourism Strategy, all seek to improve the quality of new tourist facilities coming forward, and encourage year-round tourism. The Habitats Regulations Assessments for the other two plans highlight that impacts such as bird disturbance can occur throughout the year, but that birds are likely to be more vulnerable to disturbance when breeding (e.g. Liley & Sutherland 2007) or during the winter when cold weather and depletion of food resources may have particular consequences (Clark *et al.* 1993; Goss-Custard *et al.* 2006).
- 3.23 The screening table below included recommendations at Preferred Directions stage for additional policy wording to be added to the tourism policy. The policy has now been reworded to give clarity in relation to adverse effects.
- 3.24 The SIPs produced by Natural England for the coastal sites; Winterton-Horsey Dunes SAC and Great Yarmouth North Denes SPA, both identify public access and resultant recreation pressure as a threat to site interest. There is a risk that encouraging tourism in the Broads and promoting the year-round visitor experience will also increase visits to the coastline as a consequence. Depending on location, some tourism development in the Broads may need to give project level consideration to the coastal European sites.

Water quality and water resources

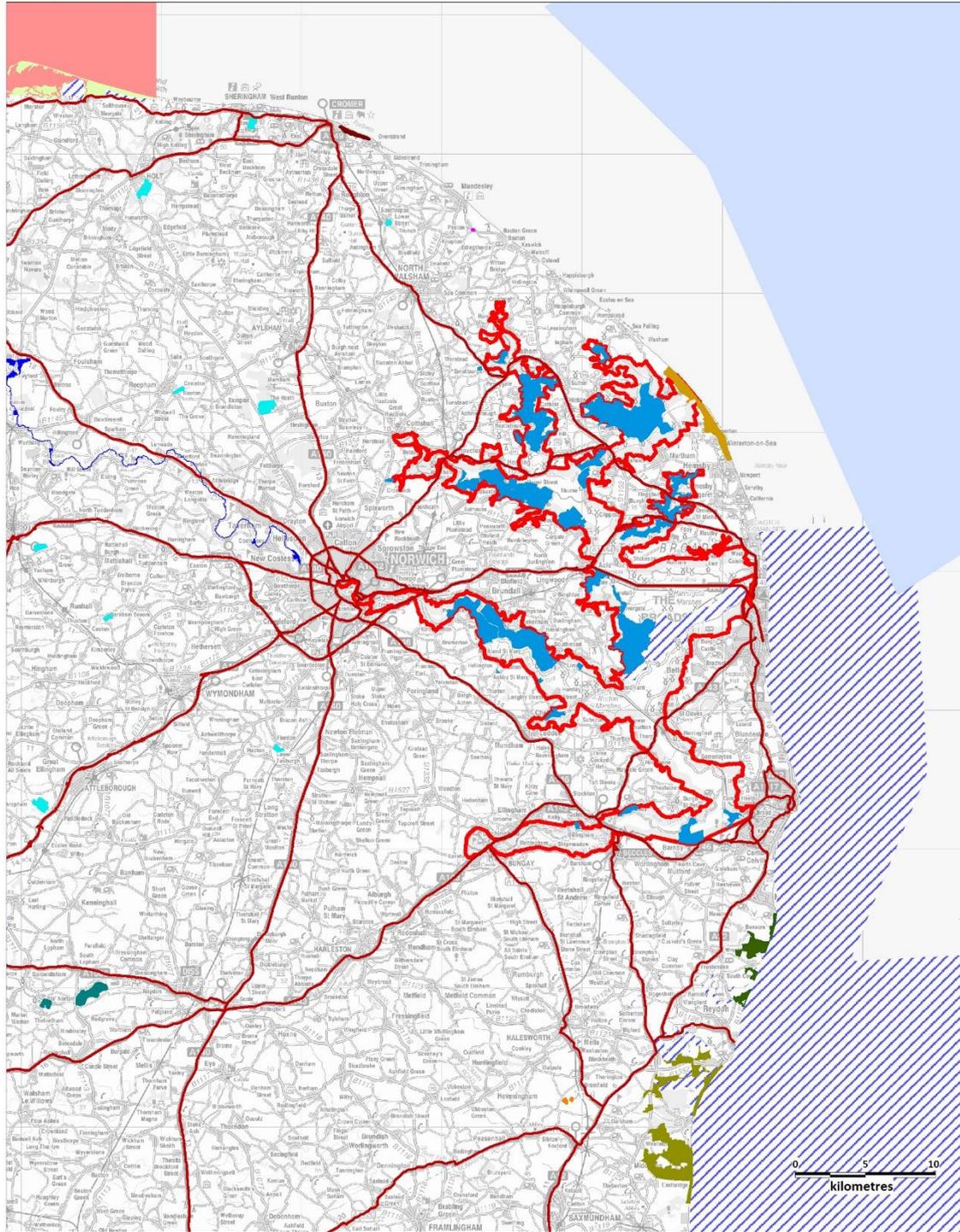
- 3.25 The issue of development impacts on water quality and water resources is an on-going concern and at the forefront of the work of the Broads Authority. All three plans prepared by the Authority prioritise the water asset of the Broads, protecting and improving wherever possible, in recognition of its invaluable and unique multifunctional benefits.
- 3.26 As discussed in Section 1 of this report, the Water Resources Management Plan prepared by Anglian Water has been the subject of Habitats Regulations Assessment, concluding that any potential impacts arising from the proposed schemes to deliver sustainable water resources over the next 25 years can be fully mitigated for and adverse effects on European sites prevented. It will be necessary to continue to liaise with Anglian Water and the Environment Agency as the Local Plan for the Broads is finalised and development progressed, and also as the plan begins to be reviewed in future.
- 3.27 Water quality is a predominant theme in policy wording within the Local Plan for the Broads. Improving water quality is one of the plan objectives. The water quality policy PUBDM1 is the first development management policy in the plan, and provides strong protection for the water environment, requiring all development to demonstrate that it will not have an adverse impact, and includes reference to adherence to the Water Framework Directive and Habitats Regulations. It is concluded that the plan adequately protects European sites against water quality deterioration impacts, and seeks to improve the situation through the implementation of the plan.

Air quality

- 3.28 Airborne nitrogen (mostly as ammonia and nitrous oxides) from burning fossil fuels by industry, traffic, shipping and agriculture, can be detrimental for habitats with low nutrient systems and poor buffering capability against inputs of nutrients (mostly airborne nitrogen) or increases in acidity (mostly a side effect of nitrogen or from airborne sulphur). Following a recent High Court decision relating to Ashdown Forest⁹ there is some uncertainty over the correct approach to assessment of plans or projects with air quality impacts. The High Court's decision criticised the advice that Natural England (and by analogy others e.g. the Environment Agency) had given about there being no need to carry out an express "in combination assessment" in relation to plans and projects which, alone, have air quality impacts falling below a particular threshold.
- 3.29 In drawing lessons learnt from this case, it is important to reiterate that protecting, maintaining and restoring European wildlife sites should not be reactive when there are clear indicators of deterioration. Rather, the legislation and NPPF policy in relation to the environment indicates that it is an integral part of sustainable development and an ongoing area of work. The objectives of the European Directives are to maintain European site interest, and restore where there is existing deterioration. It follows therefore that putting in place checks to avoid deterioration, or gathering further evidence to inform future action if necessary, is a meaningful measure to achieve these objectives.
- 3.30 Map 5 shows all the main 'A' roads within the Broads Authority Executive Area, and how they relate to the European sites. The Broads SAC has the most roads in close proximity, and the SIP from this site does identify atmospheric nitrogen deposition as a threat for the site. Measures within the SIP include the need for a Site Nitrogen Action Plan, but this has not yet been progressed. The development levels promoted within the Broads Local Plan are very low, and the largest allocations (76 dwellings at the Pegasus site and 120 at the Utilities site) as well as those at Hoveton are relatively central to settlements, offering facilities, services and public transport in close proximity. Smaller site allocations at Stokesby and Thurne are more isolated but the housing numbers are very low.
- 3.31 A plan level solution for air quality is therefore not recommended at this stage. However, whilst not a recommendation for Local Plan policy, the Broads Authority should liaise with Natural England to determine whether there may be opportunities for the Authority to contribute to the Site Nitrogen Action Plan, which may then be relevant for future plan reviews or for co-ordinated work with neighbouring authorities. The Broads Authority works closely with Great Yarmouth Borough Council and Waveney District Council on cross boundary issues, and there is the opportunity to work collaboratively on air quality, and also link into the Norfolk Strategic Framework where there is an opportunity to include measures to contribute to air quality improvements.

⁹ Wealden District Council v Secretary of State for Communities and Local Government, Lewes District Council and South Downs National Park Authority [2017] EWHC 351

Map 5: European sites and road network (main roads only)



SACs

- Benace to Easton Barents Lagoons
- Dew's Ponds
- Halsborough, Hammond and Winterton
- Minsmere to Walberswick Heaths & Marshes
- Norfolk Valley Fens
- North Norfolk Coast
- Overstrand Cliffs
- Paston Great Barn
- River Wensum
- The Broads
- The Wash & North Norfolk Coast
- Waveney & Little Ouse Valley Fens
- Winterton-Horsey Dunes
- SPAs (outside SACs)

- Broads Authority Executive Area
- A Road

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 Designated site boundaries downloaded from the Natural England website. ©Natural England

Screening the European sites

- 3.32 The European sites initially considered in this Habitats Regulations Assessment are listed in Table 1 within Section 1 of this report. Site specific details are provided for each European site in Appendix 2. In screening the plan for likely significant effects, as documented in Table 2, it was apparent from the policy by policy check that some of the sites initially considered due to proximity to the Broads could be screened out. The Local Plan for the Broads does not promote any development that poses a risk to marine sites, and there is strong policy protection to avoid any risk relating to water quality and resources.
- 3.33 Recreation pressure on sites from residents of new housing and from increased tourism, and the potential impact of increased navigation and waterside development are issues that are flagged in the discussion above in relation to impact pathways, and within the screening assessment table in relation to housing, tourism and navigation/boating/waterside access policies. Such pressures are relevant to those European sites within and in close proximity to the Broads Administrative area; Broadland SPA/Ramsar site, the Broads SAC, Great Yarmouth North Denes SPA, Breydon Water SPA and Winterton-Horsey Dunes SAC. With the addition of the measures described in the screening table to avoid likely significant effects added to the plan, it is concluded that these sites can be screened out.

Table 2: Screening the Local Plan for the Broads at Preferred Options (October 2016) and at Publication (August 2017)

Specific part of the Plan	Description	Initial LSE screening	Enhancement opportunities	Recommendations at Preferred Options stage	Recommendations at Publication stage	Action
Sections 1 to 7 - Introductory chapters						
Introduction, Overview, consultation process.	Purpose of the new plan	LSE – HRA explanation inaccuracies	Better explanation of HRA required.	Re-word and expand HRA section. <i>“The Conservation of Habitats and Species Regulations 2010, as amended, normally referred to as ‘the Habitats Regulations,’ transpose the requirements of the EU Habitats and Birds Directives into UK law. The Regulations require a Habitats Regulations Assessment (HRA) to assess potential impacts from the plan on European wildlife sites. This plan has been the subject of HRA, and measures have been embedded within the plan to protect European sites, including in relation to recreation pressure, tourism and water based activities. The HRA is updated alongside the plan, informing any modifications in light of potential effects on European sites. The final plan is adopted with certainty that European</i>	HRA explanation is included in the plan at Publication stage. No LSE	No

Specific part of the Plan	Description	Initial LSE screening	Enhancement opportunities	Recommendations at Preferred Options stage	Recommendations at Publication stage	Action
				<i>sites will not be adversely affected by its implementation. Project level HRAs will be required to ensure that detailed project design secures European site protection"</i>		
Spatial portrait, policy context, duty to co-operate, challenges and opportunities	Background and context with current planning documents. Local information and the strengths and weaknesses/challenges for the Broads.	No LSE - Importance and value of biodiversity in the Broads is made clear. Pressure on the natural environment is explained.	Already in text, clear that habitat deterioration needs to be reversed.	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE.	No
Section 8 – Vision, objectives and existing policies						
Draft vision, objectives and special qualities	The plan’s vision for the Broads in 2036	No LSE – Strong wording in relation to protection and enhancement of the natural environment, and fully integrated into the overall vision and the objectives.	Already in text, reference to enhancement as well as protection	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE.	No
Sections 9 to 29 - Sustainable development/Development management policies						
PUBSP1 – DCLG/PINS model policy	Presumption in favour of sustainable development	LSE – Policy/supporting text does not currently highlight that where there is a likely significant effect on a European site the	N/A	Add reference in policy and/or text to make clear that the presumption in favour does not apply where there is a likely significant effect on a	Supporting text now highlights that presumption in favour does not apply where there is LSE on a European site	No

H R A o f t h e L o c a l P l a n f o r t h e B r o a d s

Specific part of the Plan	Description	Initial LSE screening	Enhancement opportunities	Recommendations at Preferred Options stage	Recommendations at Publication stage	Action
		presumption does not apply		European site, triggering an appropriate assessment.	No further concerns therefore no LSE	
PUBDM1 – Water quality and foul drainage	Ensuring that development is only permitted where the water environment is not degraded, in relation to water quality and quantity	No LSE – Specific reference to the need to protect European sites and adhere to the requirements of the Habitats Regulations, as well as reference to the Water Framework Directive	Already in text with reference to biodiversity benefits from reed bed filtration, providing additional habitat outside designated sites.	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE. Additional supporting text provides detailed explanation of water pollution risks and development restrictions currently in place.	No
PUBDM2 – Boat wash down facilities	Adequate provision of wash down facilities to avoid water pollution	No LSE – protective policy for the water environment	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE.	No
PUBDM3 – Water efficiency	Requiring water efficiency standards for new development	No LSE – beneficial for water resources	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE. Further clarification added in relation to water resource restrictions, and application to both E&S Water and AWS areas.	No
PUBSP2 – Strategic flood risk policy	Ensuring new development adequately provides for flood management	No LSE – reference to protecting designated habitats within policy	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE. Additional supporting text provides further context for requirements in policy.	No

Specific part of the Plan	Description	Initial LSE screening	Enhancement opportunities	Recommendations at Preferred Options stage	Recommendations at Publication stage	Action
PUBDM4 – Flood risk	Criteria to be met for development management in relation to flood management	No LSE – reference to protecting designated habitats within policy	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE. Policy and supporting text now significantly strengthened The recent position statement on Strategic Flood Risk Assessment also adds weight here.	No
PUBDM5 – Surface water run off	Requiring adequate management of surface water in new development	No LSE – protecting the water environment	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE. Policy and supporting text now significantly strengthened, with references to natural environment included.	No
PUBDM6 – Open space on land, play, sports fields and allotments	Protecting existing open space and ensuring adequate provision of new open space	LSE – qualitative and does not promote development. Does not contradict other policies where recommendations are made for additional wording in relation to open space. However, this policy should include a reference to providing open space for mitigation purposes, in order to be	Reference to biodiversity under cemeteries. There is opportunity for further reference to enhancing biodiversity and wider ecological networks that support designated sites (and relate to ‘Lawton principles’).	Under part b) New Provision, it is recommended that wording added as follows: <i>“Open space provision may also be required to reduce recreation pressure on sensitive designated wildlife sites”</i>	Policy at Publication includes previous recommendation for additional text re reducing recreation pressure function of open space. Other policy and supporting text refinements at Publication stage also checked - no LSE.	No

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Specific part of the Plan	Description	Initial LSE screening	Enhancement opportunities	Recommendations at Preferred Options stage	Recommendations at Publication stage	Action
		consistent with recommendations for housing policies.				
PUBDM7 – Green infrastructure	The protection of green infrastructure assets and securing compliance with green infrastructure strategies.	No LSE – protecting existing assets	The policy already highlights the contribution that green infrastructure should make to nature conservation and ecological networks, which support designated sites	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE.	No
PUBSP3 – Climate change	Minimising the effect of climate change through adaptation and mitigation	No LSE – protective of the natural environment	Reference is made in text to measures to improve the ability of habitats and species to adapt. It is suggested that the policy itself includes this point by adding reference to the natural environment (or could just state the environment to encompass other aspects).	Recommendation under the ‘enhancement opportunities’ column is a suggestion for strengthening the enhancement aspect of the text, it is not an essential requirement to remove LSE	Policy at Publication includes previous recommendation for additional text re helping biodiversity adaptation to climate change. Other policy and supporting text refinements at Publication stage also checked - no LSE.	No
PUBDM8 – Climate smart checklist	Promoting the use of a climate smart checklist for new development proposals	No LSE – protective of the natural environment	The recommendations above for POSP5 and existing references in explanatory text should trigger consideration of species and habitat adaptation where appropriate, no further changes required.	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE.	No

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Specific part of the Plan	Description	Initial LSE screening	Enhancement opportunities	Recommendations at Preferred Options stage	Recommendations at Publication stage	Action
PUBSP4 - Soils	Protection of the soil resource	No LSE – protective of the natural environment and BMV soils	Supporting text refers to peat restoration projects and biodiversity value.	New policy at Publication stage	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE. Whilst reference to peat restoration is now removed, this now features in a separate new policy on peat soils, PUBDM9, below. No LSE.	No
PUBDM9 – Peat soils	Protection of finite peat resources	No LSE – protective of peat soils as an important resource for flood prevention, biodiversity, archaeology and carbon storage	Supporting text already includes a description of the importance of habitats on peat soils for biodiversity.	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE.	No
PUBSP5 – Historic environment	Development management policy for the historic environment	No LSE – protective policy relating to the historic environment	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE.	No
PUBDM10– Heritage assets	Protection of historic assets	No LSE – protective policy relating to the historic environment	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE.	No
PUBDM11 – re-use of historic buildings	Development management policy for the historic buildings	No LSE – protective policy relating to the historic environment	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE.	No
PUBSP6 – Biodiversity	Protecting and enhancing biodiversity assets from	No LSE – protective biodiversity policy	Supporting text makes very positive reference to biodiversity enhancement	New policy at Publication stage, formerly part of POSP2 at Preferred Options	Biodiversity enhancement, whether within or outside designated sites, makes an	Yes

Specific part of the Plan	Description	Initial LSE screening	Enhancement opportunities	Recommendations at Preferred Options stage	Recommendations at Publication stage	Action
	international to local, and wider biodiversity.		opportunities within development and that this will be sought through development proposals. It is therefore recommended that the policy text itself makes this point clear. It is suggested that additional wording is inserted into the policy - “...and local nature conservation designations <i>and should demonstrate biodiversity gains wherever possible by paying attention to habitats and...</i> ”		important contribution to the long-term resilience of European sites. Biodiversity is still in decline and deterioration of biodiversity resources outside designated sites erodes the support systems for designated sites (food sources, commuting corridors, genetic dispersal etc). Reference to striving for biodiversity net gains, as per the recommendation for additional policy text, recognises the important contribution that development should play in restoring the natural environment, in accordance with the NPPF, and fits with the objectives of the Habitats Directive for resilience across the European site network and outside it in the wider landscape.	
PUBDM12 – Natural Environment	Natural environment protection and enhancement as part of sustainable development	No LSE – A strong and positive protective policy for the natural environment including designated sites.	Already in text with reference to ensuring that all development maximises opportunities for restoration and enhancement and adds	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE. However, in order to be consistent with PUBSP10	Yes

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Specific part of the Plan	Description	Initial LSE screening	Enhancement opportunities	Recommendations at Preferred Options stage	Recommendations at Publication stage	Action
			beneficial features. Supporting text also provides additional explanation in relation to enhancement.		above, it is suggested that specific reference to biodiversity net gain could be included at the end of the first paragraph of supporting text. Add..." in order to secure a net gain for biodiversity" at the end of the last sentence of the first paragraph.	
PUBDM13 – Energy demand and performance	Promoting energy efficiency in new development	No LSE – Resource efficiency	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No
PUBDM14 – Renewable energy	Design criteria for renewable energy proposals in terms of scale and impacts on the natural environment	No LSE – a protective policy with reference to preventing unacceptable impacts on biodiversity, alongside landscape, recreational experience and cultural heritage	Policy already makes reference to seeking environmental improvements over the current condition of the site as a result of the development	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE.	No
PUBSP7 – Landscape character	Strategic landscape policy securing consideration of landscape character and the defining qualities of the Broads	No LSE – protection of the landscape links to protection of habitats	N/A	New policy at Publication stage, formerly part of POSP2 at Preferred Options	N/A	No
PUBDM15 – Development and landscape	Protecting local landscape character of the Broads	No LSE – protection of the landscape links to protection of habitats	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No

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Specific part of the Plan	Description	Initial LSE screening	Enhancement opportunities	Recommendations at Preferred Options stage	Recommendations at Publication stage	Action
PUBDM16 – Land raising	Criteria for allowing land raising	No LSE – includes protective wording relating to habitat	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No
PUBDM17 – Excavated material	Criteria for the disposal of excavated material	No LSE – potential for effects but reference is made to EA licensing, therefore protect level HRA will be undertaken for this purpose.	Includes reference in supporting text to the use of material for habitat benefits	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No
PUBDM18 – Utilities infrastructure development	Criteria for utilities infrastructure development	No LSE – protection of species and habitats is included in the policy	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No
PUBDM19 – Protection and enhancement of settlement fringe landscape character	Protecting the Broads landscape	No LSE – protection of the landscape links to protection of habitats	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No
PUBDM20 - Amenity	Provision of satisfactory levels of amenity	No LSE – qualitative policy only	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No
PUBDM21 – Light pollution and dark skies	Protecting tranquillity	No LSE – qualitative policy only	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No
PUBSP8 – Getting to and around the Broads	Promoting sustainable travel	No LSE – requires compatibility with sustainability objectives,	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous	No

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Specific part of the Plan	Description	Initial LSE screening	Enhancement opportunities	Recommendations at Preferred Options stage	Recommendations at Publication stage	Action
		and does not promote particular development			conclusion of no LSE. Supporting text strengthened re reducing car use and therefore air pollution.	
PUBSP9 – Recreational access around the Broads	Promoting sustainable travel Protecting and improving access, on land and water	LSE – Focus on improving access, waterside spaces and launching sites, which poses a risk to European site interest through habitat damage and disturbance	N/A	Policy should make clear that improved access will only be allowed where impacts on the natural environment have been assessed and mitigated for. Supporting text should highlight risk of habitat deterioration and disturbance arising from increased waterside access	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No
PUBDM22 – Transport, highways and access	Requirements for development where access is required.	No LSE – protection of species and habitats is included in the policy	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No
PUBDM23 – Recreation facilities and parking areas	Requirements for appropriate access to recreation facilities	No LSE – protection of species and habitats is included in the policy	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No
PUBSP10 – A prosperous local economy	A strategic policy promoting sustainable economic growth, but does not specifically promote a quantum or any location.	No LSE – Policy refers to ensuring no adverse impacts on the special qualities of the Broads, which includes the natural environment	N/A	New policy at Publication stage	N/A	No
PUBSP11 – Waterside sites	Encouraging the retention of existing waterside sites	No LSE – policy refers to existing sites and does not	N/A	New policy at Publication stage	N/A	No

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Specific part of the Plan	Description	Initial LSE screening	Enhancement opportunities	Recommendations at Preferred Options stage	Recommendations at Publication stage	Action
		promote additional waterside development				
PUBDM24 – New employment development	Criteria to be met by new employment development proposals	No LSE – criteria based only, and includes reference to environmental impact	Criteria includes protection of landscape character and water but not biodiversity. It is therefore suggested that the supporting text could make a specific link back to PUBSP10 – Biodiversity and seeking biodiversity enhancement/net gains	New policy at Publication stage	No LSE, but an opportunity to encourage and link back to biodiversity enhancement in the supporting text.	Yes
PUBDM25 – Protecting general employment	Criteria based and protective policy for existing employment sites	No LSE – criteria based only	N/A	New policy at Publication stage	N/A	No
PUBDM26 – Business and farm diversification	Criteria based policy for allowing farm diversification	No LSE – reference to protecting designated site interest within the supporting text	Supporting text already highlights that farm businesses can help maintain biodiversity	New policy at Publication stage	N/A	No
PUBDM27 – Development on waterside sites in employment or commercial use, including boatyards	Criteria based policy for where development on existing waterside sites may be permitted	No LSE – criteria based only. Project level HRA may be required and this is referred to in supporting text	N/A	New policy at Publication stage	The waterside is a sensitive location and individual projects may need to be the subject of HRA. Supporting text reflects this – no LSE	No
PubSP12 – Sustainable tourism	Promoting sustainable tourism, and criteria for accommodation and visitor attractions	LSE – Tourism poses a risk to European site interest. The policy refers to refusing proposals with an adverse impact on the special qualities of the	Add supporting text to highlight the potential opportunities for wildlife enhancement through sustainable tourism	Edit last sentence of policy to remove the word ‘unacceptable’ as adverse is unacceptable, and currently the sentence suggests there could be acceptable adverse	Policy now reworded to refer to adverse impacts on the natural environment – no LSE. Supporting text refers to enhancing the special	Yes

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Specific part of the Plan	Description	Initial LSE screening	Enhancement opportunities	Recommendations at Preferred Options stage	Recommendations at Publication stage	Action
		Broads, but protection of the natural environment needs to be more explicit. Supporting text refers to striking a balance, indicating compromise. Supporting text does positively refer to ecological sensitivity.	(education and awareness raising, funding etc).	effects. Also add in natural environment to the final sentence of the policy, as follows: <i>“Development proposals for visitor accommodation and visitor attractions that would have an adverse effect on the National Park’s special qualities <u>and natural environment</u> will be refused.”</i> Change supporting text to refer to finding solutions that are beneficial and integrated, rather than balancing.	features of the Broads, but there is still the opportunity to make reference to wildlife enhancement through sustainable tourism, as per previous recommendation. No LSE, but enhancement opportunity not yet actioned.	
PUBDM28 – Sustainable tourism and recreation development	Development management of tourism related development	No LSE – protection of species and habitats is included in the policy, and supporting text refers to HRA.	Add supporting text to highlight the potential opportunities for wildlife enhancement through sustainable tourism (education and awareness raising, funding etc).	Recommendation under the ‘enhancement opportunities’ column is a suggestion for strengthening the enhancement aspect of the text, it is not an essential requirement to remove LSE	Policy now refers to contributing positively to protected species and habitats. No LSE.	No
PUBDM29 – Holiday accommodation – new provision and retention	Development management of holiday accommodation	No LSE –supporting text refers to the need for project level HRA.	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No
PUBSP13 – Navigable water space	Explains the strategic management of the water space of the Broads	No LSE – policy refers to avoiding adverse impacts on the environment (but note error in wording that needs correcting)	N/A	N/A	No LSE, but the word ‘unavoidable’ needs removing from the policy wording in relation to adverse impacts. Word included in error and	Yes

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Specific part of the Plan	Description	Initial LSE screening	Enhancement opportunities	Recommendations at Preferred Options stage	Recommendations at Publication stage	Action
					makes the sentence confusing.	
PUBDM30 – Access to the water	Criteria for allowing access to the water	No LSE – reference to conserving Broads ecology is included in the criteria within the policy	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No
PUBDM31 – Riverbank stabilisation	Criteria for allowing riverbank stabilisation	No LSE – reference to protected and priority habitats and species is included in the criteria within the policy	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE. Reference to protected habitats changed to simply refer to biodiversity, which is all encompassing. No LSE conclusion remains.	No
PUBSP14 – Mooring provision	High level policy relating to provision of visitor moorings	No LSE – whilst this short policy does not refer to risks to European sites, the following development management policy for moorings includes protective wording	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE. Supporting text now strengthened further to refer to protecting the ecological value of waterways. No LSE.	No
PUBDM32 – Moorings, mooring basins and marinas	Development management of moorings related development	No LSE – reference to protected and priority habitats and species is included in the criteria within the policy	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE. Reference to protected habitats changed to simply refer to biodiversity, which is	No

Specific part of the Plan	Description	Initial LSE screening	Enhancement opportunities	Recommendations at Preferred Options stage	Recommendations at Publication stage	Action
					all encompassing. No LSE conclusion remains	
PUBSP15 – Residential development	Planning for 146 new homes over the plan period within the Executive Area	LSE – risk of increased pressure on European sites through disturbance and habitat deterioration, particularly through nutrient enrichment. Daily recreation needs of residents needs to be met without increasing pressure on local sensitive sites, which are easily accessible.	N/A	The three sites providing the 212 houses need to provide adequate provision for recreational needs and dog walking, to prevent the sensitive European sites being used to meet this requirement. Project level HRA will need to assess implications for European sites arising from increased recreation pressure and provide adequate green infrastructure – HRAs should be evidence based and draw on available information in relation to standards for dog walking sites (length of walk, facilities etc). Supporting text should provide details to this effect. The plan should include reference to recreation facilities in policy/supporting text.	Policy now states a reduced overall housing figure for the plan period of 146 new homes. The low level of growth over the plan period suggests that mitigation measures can be determined at the project level. Supporting text makes reference to the need for project level HRA for housing development, with particular reference to assessing recreation pressure and mitigating accordingly. Text should be amended to refer to the particular need to assess recreation pressure, as there may be other impacts to assess, and should also refer to the provision of adequate mitigation, such as green infrastructure, as there may be other mitigation needs or opportunities. It is also recommended that this supporting text paragraph is expanded to make reference to the	Yes

Specific part of the Plan	Description	Initial LSE screening	Enhancement opportunities	Recommendations at Preferred Options stage	Recommendations at Publication stage	Action
					Norfolk wide visitor survey work undertaken by Footprint Ecology, which concludes that a partnership approach across the authorities to managing recreation pressure arising from new growth is the most appropriate way forward. Whilst this is most relevant for the authorities delivering much higher housing numbers, the Broads Authority will need to have regard for the progress made with this recommendation as the residential housing sites come forward for approval over the Local Plan period, as this will be relevant for the project level HRAs.	
PUBDM33 – Affordable housing	Criteria for where affordable housing will be permitted	No LSE – whilst all types of housing poses a risk to European sites, the policy is qualitative and the recommendations above for PODM31 will cover all housing types. NB – mitigation will still need to be secured even where	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No

Specific part of the Plan	Description	Initial LSE screening	Enhancement opportunities	Recommendations at Preferred Options stage	Recommendations at Publication stage	Action
		particular funding sources don't apply (e.g. CIL)				
PUBDM34 – Residential development within defined development boundaries	Requires all new residential development to be within defined boundaries	No LSE – whilst housing poses a risk to European sites, the recommendations above for PODM31 will apply. European site issues are raised in supporting text.	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No
PUBDM35 – Gypsy, traveller and travelling show people	Criteria based policy for Gypsy, traveller and travelling show people development	No LSE – policy text refers to protecting European sites	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No
PUBDM36 – New residential moorings	Criteria for allowing new residential moorings	No LSE – policy and supporting text refers to protecting designated sites	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No
PUBDM37 – Permanent and temporary dwellings for rural enterprise workers	Criteria for allowing rural worker dwellings	No LSE – reference to protected habitats and species is included in the criteria within the policy	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No
PUBDM38 – Residential ancillary accommodation	Requirements and restrictions for ancillary accommodation, integral to the main dwelling	No LSE – Not a net increase in dwellings and policy text prevents this. Supporting text refers to preventing impacts on the environment	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No

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Specific part of the Plan	Description	Initial LSE screening	Enhancement opportunities	Recommendations at Preferred Options stage	Recommendations at Publication stage	Action
PUBDM39 – Replacement dwellings	One for one replacement criteria	No LSE – no net increase in dwellings	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No
PUBDM40 – Elderly and specialist needs housing	Criteria for the development of specialist accommodation	No LSE – reference to protected habitats and species is included in the criteria within the policy alongside landscape and the historic environment	N/A	New policy at Publication stage	N/A	No
PUBDM41 – Custom/self-build	Encouraging self-build, but in accordance with the plan policies	No LSE – will be assessed in accordance with all other policies and does not increase new dwellings. Project level HRA will be required.	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No
PUBDM42– Design	Qualitative policy in relation to development design	No LSE – policy and supporting text refers to biodiversity enhancement	Already within text as policy and supporting text refers to biodiversity enhancement	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No
PUBSP16 – New community facilities	General support for provision of community facilities where appropriate	No LSE – does not promote new development	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No
PUBDM43 – Visitor and community facilities and services	Criteria for visitor and community facilities	No LSE – policy wording includes protection of species and habitat	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No

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Specific part of the Plan	Description	Initial LSE screening	Enhancement opportunities	Recommendations at Preferred Options stage	Recommendations at Publication stage	Action
PUBDM44 – Designing places for healthy lives	Development promoting healthy living	No LSE – promoting health and wellbeing, does not increase development	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No
PUBDM45 – Safety by the water	Requiring a water safety plan for development with a water frontage	No LSE – qualitative policy, and safety related only	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No
PUBSP21 – Developer contributions	Stating the use of contributions where required	No LSE – statement only	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No
PUBDM46 – Planning obligations and developer contributions	List of requirements where contributions may be sought	No LSE – list includes for green infrastructure and biodiversity, therefore allowing for this option if required. Note that where mitigation for European sites is funded by developer contributions, housing types exempt from contributions must still be mitigated for by other means.	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No
PUBDM47 – Conversion of buildings	Criteria for allowing building conversion	No LSE – includes biodiversity within policy text. Project level HRA may identify project specific requirements.	Biodiversity enhancement is within text, which could relate to European sites or supporting habitat where relevant.	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No

Specific part of the Plan	Description	Initial LSE screening	Enhancement opportunities	Recommendations at Preferred Options stage	Recommendations at Publication stage	Action
PUBDM48 – Advertisements and signs	Restrictive criteria for signs	No LSE – does not promote development, restrictive only	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No
PUBDM49 – Leisure plots and mooring plots	Restrictive criteria for where plots will be allowed	No LSE – policy wording includes reference to conserving Broads ecology	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE	No
Section 30 – Site specific policies						
Site specific development proposals – all of the list except those specifically listed below	A set of policies for site specific development, with reference to compliance with flood risk principles and EA permit rules	No LSE – specific developments checked and do not pose a risk to European sites due to nature of proposal and location. Project level HRA will be required. EA permits will also generate project level HRA. Some policies carry some risk and wildlife protection is referred to. Specific policies with a risk are listed below in relation to housing allocations.	N/A	N/A	Policy and supporting text refinements at Publication stage do not alter previous conclusion of no LSE. All sites re-checked. Additional policies added at publication stage – PUBCHE1, PUBHOV4 include reference to designated sites and or nature conservation, and supporting text explains nature conservation value and need for protection. PUBHOV5, PUBOUL3 relate to retail in Hoveton and Oulton Broad PUBPOT1 relates to further enhancing the already existing boating focus at this location PUBSOL2 is small scale reuse	No

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Specific part of the Plan	Description	Initial LSE screening	Enhancement opportunities	Recommendations at Preferred Options stage	Recommendations at Publication stage	Action
					PUBTSA2 seeks to rationalise existing unauthorised uses of Thorpe Island	
Small scale housing sites PUBHOV3 – Brownfield land off Station Road, Hoveton PUBSTO1 – Land adjacent to Teidam, Stokesby	Reference to use for residential	No LSE – PUBHOV3 only provides for a very small number of houses and project level HRA will be required. Site map checked in relation to location.	N/A	N/A	An additional residential development site has been added at Publication stage – PUBSTO1. This is a very small site, likely to accommodate 3 or 4 dwellings. As with PUBHOV3, no LSE but project level HRA may be required and this is referred to in supporting text.	No
PUBNOR1 – Utilities Site PUBOUL3 – Oulton Broad – former Pegasus/Hamptons site PUBTHU1 – Hedera House, Thurne	The housing sites allocated to meet the 146 new homes requirement for the plan	LSE – risk of increased pressure on European sites through disturbance and habitat deterioration, particularly through nutrient enrichment. Daily recreation needs of residents needs to be met without increasing pressure on local sensitive sites, which are easily accessible.	Enhancement of biodiversity is referred to. Supporting text could add more specific reference to European sites and functionally linked land, where appropriate.	Policy and supporting text refers to greenspace provision and designated sites, but this should be expanded to make explicit that there is the requirement for an evidence based, project level HRA, to inform the provision of greenspace that provides adequate daily recreation and dog walking facilities to meet needs, with reference to best practice elsewhere for European site mitigation	Each of the allocations now includes policy wording that refer to the need for project level HRA and the potential need for mitigation such as high-quality GI. This is repeated for each of these allocations, and given the relatively low level of development within the Executive area, it is considered appropriate to allow project level resolution, as there is confidence that mitigation can be delivered for housing of this scale over the plan period. This enables a conclusion of no LSE.	Yes

Specific part of the Plan	Description	Initial LSE screening	Enhancement opportunities	Recommendations at Preferred Options stage	Recommendations at Publication stage	Action
					This provides clarity to the potential applicant. An alternative to repeating the text in each of the three policies is to state the requirement upfront at the beginning of the site-specific section, with reference to allocations delivering residential development. This avoids repetition but there is a need to ensure that the requirements are still clear for these policies.	
Section 31 – Implementation, Monitoring and Review						
Monitoring the plan	Explains that monitoring requirements for each policy are explained within each policy section. A monitoring plan outlining what data will be collected for each policy has been prepared.	No LSE – information relating to policy monitoring.	The opportunity to gather meaningful data in relation to European sites and wider biodiversity gains part of plan monitoring, particularly for strategic biodiversity policy PUBSP6 and natural environment policy PUBDM12 has been incorporated into the monitoring plan	N/A	In developing the monitoring approach opportunities for gathering meaningful data that identifies where development has contributed to biodiversity enhancement (either directly relating to designated sites or relating to wider biodiversity priorities) are being pursued. The monitoring plan indicates that for PUBSP6 and PUBDM12 there will be comprehensive monitoring of project level	No

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Specific part of the Plan	Description	Initial LSE screening	Enhancement opportunities	Recommendations at Preferred Options stage	Recommendations at Publication stage	Action
					HRAs, and wider biodiversity enhancements.	
Appendices						
Appendix A – Climate Smart Checklist Appendix B – Climate Smart Planning Cycle	Checklist re climate change for new development	No LSE – checklist is positive for the environment	Where appropriate, development may seek opportunities for habitat and species adaptation, as per wording in policy and supporting text. No changes to the checklist required as the list focuses on impacts.	N/A	No changes from Preferred Options to Publication stage – no LSE.	No
Appendix C – Map of zones for dark skies	Not included in Preferred Options	Not included in Preferred Options	N/A	N/A	No changes from Preferred Options to Publication stage – no LSE.	No
Appendix D – District polices for affordable housing	Proportions from districts for affordable housing provision	No LSE – all housing types will need to mitigate for any impacts and project level HRA will be required.	N/A	N/A	No changes from Preferred Options to Publication stage – no LSE.	No
Appendix E – Building for life criteria	Building for life criteria	No LSE – qualitative only	N/A	N/A	No changes from Preferred Options to Publication stage – no LSE.	No
Appendix F – List of policies in the Local Plan	Full list of policies and references	No LSE – informative only	N/A	N/A	N/A	No
Appendix G – Superseded policies	All superseded policies, none of which are ‘saved.’	No LSE – informative only	N/A	N/A	N/A	No

H R A o f t h e L o c a l P l a n f o r t h e B r o a d s

Specific part of the Plan	Description	Initial LSE screening	Enhancement opportunities	Recommendations at Preferred Options stage	Recommendations at Publication stage	Action
Appendix H – Location of peat	Map of peat resource	No LSE – informative only	N/A	N/A	N/A	No
Appendix – I Acle Straight and considerations/ constraints	Map of Acle Straight	No LSE – informative only	N/A	N/A	N/A	No
Appendix J – Evidence base and supporting documents	List of all evidence and supporting documentation	No LSE – informative only	N/A	N/A	N/A	No
Appendix K – Housing and residential Mooring trajectory	Graph illustrating anticipated development levels over the plan period	No LSE – informative only	N/A	New appendix at Publication stage	N/A	No
Appendix L – Agricultural classification map	Map depicting agricultural classification of soils	No LSE – informative only	N/A	New appendix at Publication stage	N/A	No

4. Conclusions and Next Steps

- 4.1 This Habitats Regulations Assessment has assessed the Local Plan for the Broads at Preferred Options and Publication stages. The assessment at both stages included a comprehensive screening of every aspect of the plan, policy by policy. Recommendations have been made for minor text modifications, and for avoiding likely significant effects arising from the key threats; housing, tourism and navigation/boating/waterside access. Initial recommendations have been checked for their incorporation into the plan at Publication stage, and some further recommendations have been made
- 4.2 It is evident from the screening undertaken that many of the policies already provide strong protection for the natural environment. Protection and maintenance of wildlife assets, and notably the restoration of essential supporting processes such as water quality, are key themes throughout the Local Plan for the Broads.
- 4.3 Additional recommendations in the screening table, under the enhancement column, highlight further potential opportunities that the Broads Authority may wish to take, for building in restoration and enhancement that will be either directly or indirectly beneficial for European sites. Those made at Preferred Options stage have in the main been incorporated, and there are now some additional enhancement opportunities highlighted as a result of re-screening the plan at Publication stage.
- 4.4 This assessment is not complete until the plan is ready for adoption, and further checks may need to be undertaken if there are modifications to the plan after Examination. At Publication stage, it is concluded that with the further recommendations made in this HRA report incorporated into the plan, it can be concluded that likely significant effects are avoided, and the Local Plan will be compliant with the Habitats Regulations.

5. References

- Asplund, T.R. & Cook, C.M. (1997) Effects of Motor Boats on Submerged Aquatic Macrophytes. *Lake and Reservoir Management*, **13**, 1–12.
- Bishop, M.J. (2004) A Posteriori Evaluation of Strategies of Management: The Effectiveness of No-Wash Zones in Minimizing the Impacts of Boat-Wash on Macrobenthic Infauna. *Environmental Management*, **34**, 140–149.
- Bishop, M.J. (2007) Impacts of boat-generated waves on macroinfauna: Towards a mechanistic understanding. *Journal of Experimental Marine Biology and Ecology*, **343**, 187–196.
- Bright, A., Reynolds, G.R., Innes, J. & Waas, J.R. (2003) Effects of motorised boat passes on the time budgets of New Zealand dabchick, *Poliiocephalus rufopectus*. *Wildl. Res.*, **30**, 237–244.
- Burger, J. (1998) Effects of motorboats and personal watercraft on flight behavior over a colony of Common Terns. *Condor*, **100**, 528–534.
- Clark, J.A., Baillie, S., Clark, N.A. & Langston, R.H.W. (1993) *Estuary Capacity Following Severe Winter Weather*. British Trust for Ornithology, Thetford, Norfolk.
- Conti, M. & Long, A. (2011) *The Broads Plan 2011. A Strategic Plan to Manage the Norfolk and Suffolk Broads*. The Broads Authority.
- Coops, H., Geilen, N., Verheij, H.J., Boeters, R. & van der Velde, G. (1996) Interactions between waves, bank erosion and emergent vegetation: an experimental study in a wave tank. *Aquatic Botany*, **53**, 187–198.
- Dolman, P.M., Panter, C.J. & Mossman, H.L. (2012) The biodiversity audit approach challenges regional priorities and identifies a mismatch in conservation. *Journal of Applied Ecology*, **49**, 986–997.
- English Nature. (2001) *Breydon Water European Marine Site. English Nature's Advice given under Regulation 33(2) of the Conservation (Natural Habitats &c.) Regulations 1994*. English Nature.
- Galicia, E. & Baldassarre, G.A. (1997) Effects of motorized tourboats on the behavior of nonbreeding American flamingos in Yucatan, Mexico. *Conservation Biology*, **11**, 1159–1165.
- Garrad, P.N. & Hey, R.D. (1987) Boat traffic, sediment resuspension and turbidity in a Broadland river. *Journal of Hydrology*, **95**, 289–297.
- Goss-Custard, J.D., Triplet, P., Sueur, F. & West, A.D. (2006) Critical thresholds of disturbance by people and raptors in foraging wading birds. *Biological Conservation*, **127**, 88–97.
- Graham, A.L. & Cooke, S.J. (2008) The effects of noise disturbance from various recreational boating activities common to inland waters on the cardiac physiology of a freshwater fish, the largemouth bass (*Micropterus salmoides*). *Aquatic Conservation: Marine and Freshwater Ecosystems*, **18**, 1315–1324.
- Insight Track. (2015) *Broads Authority Stakeholder Research*.

- Keller, V. (1989) Variations in the response of great crested grebes *Podiceps cristatus* to human disturbance - A sign of adaptation. *Biological Conservation*, **49**, 31–45.
- Knapton, R.W., Petrie, S.A. & Herring, G. (2000) Human disturbance of diving ducks on Long Point Bay, Lake Erie. *Wildl. Soc. Bull.*, **28**, 923–930.
- Kucera-Hirzinger, V., Schludermann, E., Zornig, H., Weissenbacher, A., Schabuss, M. & Schiemer, F. (2008) Potential effects of navigation-induced wave wash on the early life history stages of riverine fish. *Aquatic Sciences*, **71**, 94–102.
- Liddle, M.J. & Scorgie, H.R.A. (1980) The effects of recreation on freshwater plants and animals: A review. *Biological Conservation*, **17**, 183–206.
- Liley, D. & Sutherland, W.J. (2007) Predicting the population consequences of human disturbance for Ringed Plovers *Charadrius hiaticula*: a game theory approach. *Ibis*, **149**, 82–94.
- Lowen, J., Liley, D., Underhill-Day, J. & Whitehouse, A.T. (2008) Access and Nature Conservation Reconciliation: supplementary guidance for England.
- Mcdonald, R.I., Forman, R.T.T., Kareiva, P., Neugarten, R., Salzer, D. & Fisher, J. (2009) Urban effects, distance, and protected areas in an urbanizing world. *Landscape and Urban Planning*, **93**, 63–75.
- Mcdonald, R.I., Kareiva, P. & Forman, R.T.T. (2008) The implications of current and future urbanization for global protected areas and biodiversity conservation. *Biological Conservation*, **141**, 1695–1703.
- Mosisch, T.D. & Arthington, A.H. (1998) The impacts of power boating and water skiing on lakes and reservoirs. *Lakes & Reservoirs: Research & Management*, **3**, 1–17.
- Moss, B. (1977) Conservation problems in the norfolk broads and rivers of East Anglia, England—Phytoplankton, boats and the causes of turbidity. *Biological Conservation*, **12**, 95–114.
- Murphy, K.J. & Eaton, J.W. (1983) Effects of Pleasure-Boat Traffic on Macrophyte Growth in Canals. *Journal of Applied Ecology*, **20**, 713–729.
- Nanson, G.C., Von Krusenstierna, A., Bryant, E.A. & Renilson, M.R. (1994) Experimental measurements of river-bank erosion caused by boat-generated waves on the Gordon river, Tasmania. *Regulated Rivers: Research & Management*, **9**, 1–14.
- Natural England. (2008) *Responding to the Impacts of Climate Change on the Natural Environment: The Broadlands. A Summary*. Natural England.
- Ratcliffe, N., Schmitt, S., Mayo, A., Tratalos, J. & Drewitt, A. (2008) Colony habitat selection by little terns *Sterna albifrons* in East Anglia: implications for coastal management. *Seabird*, **21**, 55–63.
- Terry, H. & Davey, L. (2014) *Norfolk Tourism SWOT Research. Research Findings for Visit Norfolk*. Insight Track.
- Underhill-Day, J.C. (2005) *A Literature Review of Urban Effects on Lowland Heaths and Their Wildlife*. English Nature, Peterborough.

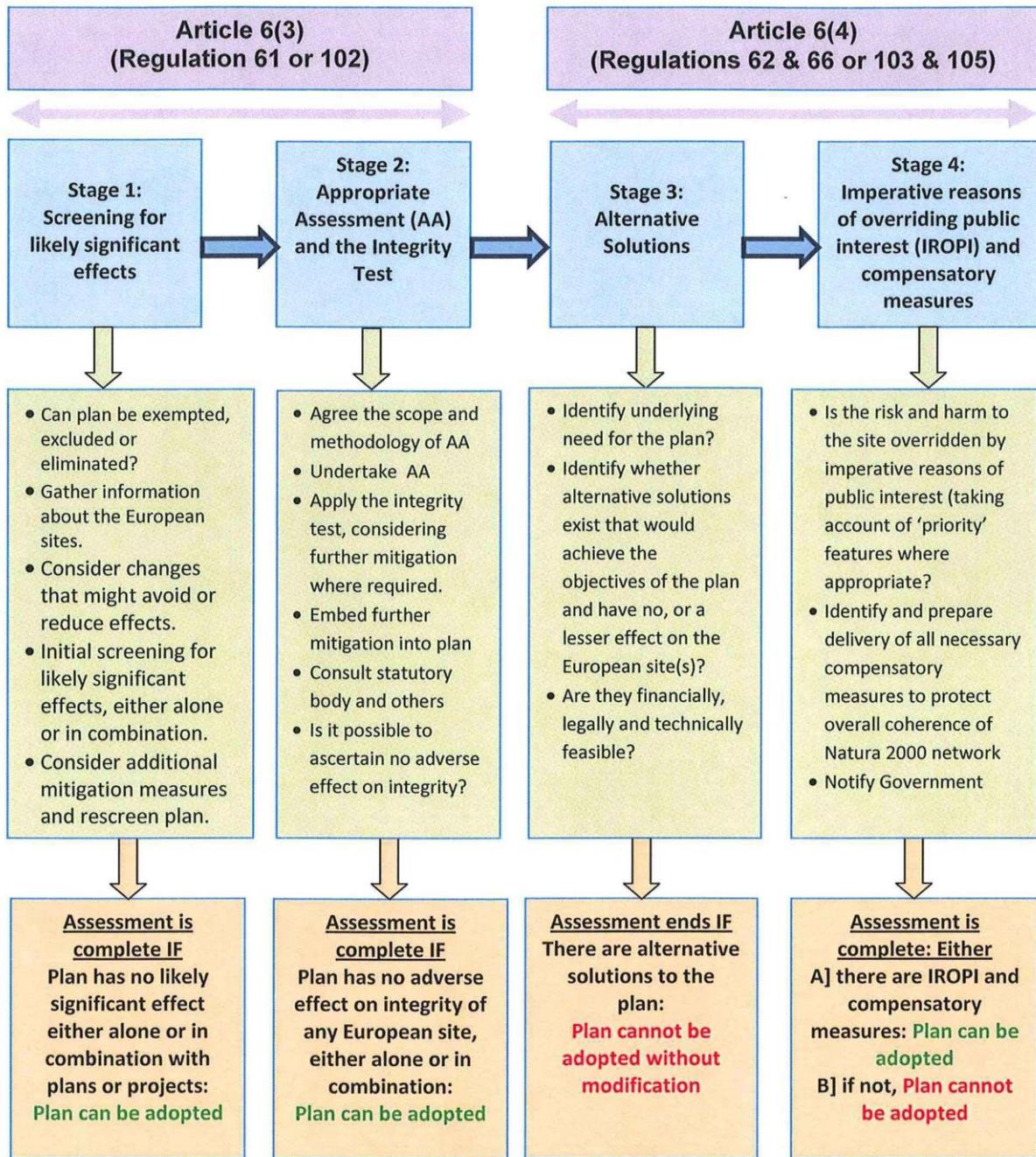
Vitousek, P.M., Mooney, H.A., Lubchenco, J. & Melillo, J.M. (1997) Human Domination of Earth's Ecosystems. *Science*, **277**, 494–499.

6. Appendix 1 – The Habitats Regulations Assessment Process

- 6.1 The designation, protection and restoration of European wildlife sites is embedded in the Conservation of Habitats and Species Regulations 2010, as amended, which are commonly referred to as the ‘Habitats Regulations.’ Recent amendments to the Habitats Regulations were made in 2012. The recent amendments do not substantially affect the principles of European site assessment as defined by the 2010 Regulations, the focus of this report or the previous Habitats Regulations Assessment work undertaken by the Broads Authority, upon which some of this Habitats Regulations Assessment relies.
- 6.2 The Habitats Regulations are in place to transpose European legislation set out within the Habitats Directive (Council Directive 92/43/EEC), which affords protection to plants, animals and habitats that are rare or vulnerable in a European context, and the Birds Directive (Council Directive 2009/147/EC), which originally came into force in 1979, and which protects rare and vulnerable birds and their habitats. These key pieces of European legislation seek to protect, conserve and restore habitats and species that are of utmost conservation importance and concern across Europe. Although the Habitats Regulations transpose the European legislation into domestic legislation, the European legislation still directly applies, and in some instances, it is better to look to the parent Directives to clarify particular duties and re-affirm the overarching purpose of the legislation.
- 6.3 European sites include Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) classified under the Birds Directive. The suite of European sites includes those in the marine environment as well as terrestrial, freshwater and coastal sites. European sites have the benefit of the highest level of legislative protection for biodiversity. Member states have specific duties in terms of avoiding deterioration of habitats and species for which sites are designated or classified, and stringent tests have to be met before plans and projects can be permitted, with a precautionary approach embedded in the legislation, i.e. it is necessary to demonstrate that impacts will not occur, rather than they will. The overarching objective is to maintain sites and their interest features in an ecologically robust and viable state, able to sustain and thrive into the long term, with adequate resilience against natural influences. Where sites are not achieving their potential, the focus should be on restoration.
- 6.4 The UK is also a contracting party to the Ramsar Convention, which is a global convention to protect wetlands of international importance, especially those wetlands utilised as waterfowl habitat. In order to ensure compliance with the requirements of the Convention, the UK Government expects all competent authorities to treat listed Ramsar sites as if they are part of the suite of designated European sites, as a matter of government policy, as set out in Section 118 of the National Planning Policy Framework. Most Ramsar sites are also a SPA or SAC, but the Ramsar features and boundary lines may vary from those for which the site is designated as a SPA or SAC.

- 6.5 It should be noted that in addition to Ramsar sites, the National Planning Policy Framework also requires the legislation to be applied to potential SPAs and possible SACs, and areas identified or required for compensatory measures where previous plans or projects have not been able to rule out adverse effects on site integrity, yet their implementation needs meet the exceptional tests of Regulation 62 of the Habitats Regulations, as described below.
- 6.6 The step by step process of Habitats Regulations Assessment is illustrated in Figure 1 below. Within the Habitats Regulations, local planning authorities, as public bodies, are given specific duties as ‘competent authorities’ with regard to the protection of sites designated or classified for their species and habitats of European importance. Competent authorities are any public body individual holding public office with a statutory remit and function, and the requirements of the legislation apply where the competent authority is undertaking or implementing a plan or project, or authorising others to do so. Regulation 61 of the Habitats Regulations sets out the Habitats Regulations Assessment process for plans and projects, which includes development proposals for which planning permission is sought. Additionally, Regulation 102 specifically sets out the process for assessing emerging land use plans.
- 6.7 The step by step approach to Habitats Regulations Assessment is the process by which a competent authority considers any potential impacts on European sites that may arise from a plan or project that they are either undertaking themselves, or permitting an applicant to undertake. The step by step process of assessment can be broken down into the following stages, which should be undertaken in sequence:
- Check that the plan or project is not directly connected with or necessary for the management of the European site
 - Check whether the plan or project is likely to have a significant effect on any European site, from the plan or project alone
 - Check whether the plan or project is likely to have a significant effect on any European site, from the plan or project in-combination with other plans or projects
 - Carry out an Appropriate Assessment
 - Ascertain whether an adverse effect on site integrity can be ruled out
- 6.8 Throughout all stages, there is a continual consideration of the options available to avoid and mitigate any identified potential impacts. For projects, the project proposer may identify potential issues and incorporate particular avoidance measures to the project, which then enables the competent authority to rule out the likelihood of significant effects. A competent authority may however consider that there is a need to undertake further levels of evidence gathering and assessment in order to have certainty, and this is the Appropriate Assessment stage. At this point the competent authority may identify the need to add to or modify the project in order to adequately protect the European site, and these mitigation measures may be added through the imposition of particular restrictions and conditions.

- 6.9 For plans, the stages of Habitats Regulations Assessment are often quite fluid, with the plan normally being prepared by the competent authority itself. This gives the competent authority the opportunity to repeatedly explore options to prevent impacts, refine the plan and rescreen it to demonstrate that all potential risks to European sites have been successfully dealt with.
- 6.10 When preparing a plan, a competent authority may therefore go through a continued assessment as the plan develops, enabling the assessment to inform the development of the plan. For example, a competent authority may choose to pursue an amended or different option where impacts can be avoided, rather than continue to assess an option that has the potential to significantly affect European site interest features.
- 6.11 After completing an assessment, a competent authority should only approve a project or give effect to a plan where it can be ascertained that there will not be an adverse effect on the integrity of the European site(s) in question. In order to reach this conclusion, the competent authority may have made changes to the plan, or modified the project with restrictions or conditions, in light of their Appropriate Assessment findings.
- 6.12 Where adverse effects cannot be ruled out, there are further exceptional tests set out in Regulation 62 for plans and projects and in Regulation 103 specifically for land use plans. Exceptionally, a plan or project could be taken forward for imperative reasons of overriding public interest where adverse effects cannot be ruled out and there are no alternative solutions. It should be noted that meeting these tests is a rare occurrence and ordinarily, competent authorities seek to ensure that a plan or project is fully mitigated for, or it does not proceed.
- 6.13 In such circumstances where a competent authority considers that a plan or project should proceed under Regulations 62 or 103, they must notify the relevant Secretary of State. Normally, planning decisions and competent authority duties are then transferred, becoming the responsibility of the Secretary of State, unless on considering the information, the planning authority is directed by the Secretary of State to make their own decision on the plan or project at the local level. The decision maker, whether the Secretary of State or the planning authority, should give full consideration to any proposed 'overriding reasons' for which a plan or project should proceed despite being unable to rule out adverse effects on European site interest features, and ensure that those reasons are in the public interest and are such that they override the potential harm. The decision maker will also need to secure any necessary compensatory measures, to ensure the continued overall coherence of the European site network if such a plan or project is allowed to proceed.



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Figure 1: Outline of the assessment of plans under the Habitat Regulations

7. Appendix 2 – European Site Information

The Broads

Description

- 7.1 The Broads is one of the finest marshland complexes in the UK. A diversity of aquatic and terrestrial wetland habitats developed after medieval peat diggings in fenland within the floodplains of five main river systems flooded. The wetlands were subject to patchy and diverse management, for example for reed, sedge and marsh hay. This, together with variations in hydrology and substrate, resulted in a complex and interlinked mosaic of different aquatic and terrestrial wetland habitats. The Broads retains some of the original fenland flora and contains one of the richest assemblages of rare and local aquatic species in the UK¹⁰.
- 7.2 The areas of floating woodland and wet woodland found in the Broads are the largest in Britain, and possibly in Western Europe, and form part of a complete successional sequence from open water through reedswamp to woodland.
- 7.3 The Broads also contains large example of calcareous fens, which form a mosaic with other fen types and Purple Moor-grass fen meadows, and there are small areas of transition mire, which have developed on cut peat.
- 7.4 The dykes that criss-cross the fens and drained marshes are particularly important, supporting plant communities that have been lost from many of the broads themselves and also two internationally rare snails. The Broads is the richest area for stoneworts in Britain.
- 7.5 The area is of international importance for a variety of wintering and breeding raptors and waterbirds associated with extensive lowland marshes.
- 7.6 Twenty-eight Sites of Special Scientific Interest (SSSI) notified in the Broads have been included within the European Directives as the Broads SPA and SAC as being of international importance for their habitats and/or bird populations or other species.

Pressures, threats and actions

- 7.7 A significant pressure for the Broads continues to be the levels of growth emanating in neighbouring local authority areas. This continues to add to the recreation, water quality/resource and urbanisation impacts. Natural succession as a consequence of management neglect has affected the Broads, and is being addressed through conservation measures by various bodies. Drainage has reduced the value of reclaimed wetlands; Water Level Management plans and agri-environment agreements are raising water levels and encouraging appropriate habitat management.
- 7.8 Water quality continues to be an issue in The Broads, with none of the Broads and only one of 27 rivers reaches monitored for Water Framework Directive purposes reaching

¹⁰ <http://publications.naturalengland.org.uk/publication/6190476679970816>

‘good’ overall ecological status/potential (Conti & Long 2011). Clear water now only occurs in around five of the 63 Broads¹¹. The naturally nutrient-rich water bodies have become hyper-eutrophic as a result of nutrient inputs entering the waterbodies through discharged sewage and agricultural run-off. Some point sources of pollution have been addressed through sewage works stripping phosphorus, and mud-pumping has been carried out in some broads to remove enriched sediment. A water-quality partnership¹², involving the Environment Agency, Natural England and other stakeholders is working to address the issues.

7.9 The Broads is a centre for recreation and tourism, which has been impacting on the site; the Broads Authority has been addressing this through the Broads Plan.

7.10 Climate change and sea-level rise present major challenges. Reduced summer water flow due to abstraction and sea-level rise are resulting in saline incursion and increased summer dryness. In addition, increased impacts from alien species and erosion are expected as a consequence of climate change, and the area of freshwater habitats is likely to decrease (Natural England 2008). There is a climate change adaption plan for the Norfolk Broads¹³.

¹¹ <http://www.broads-authority.gov.uk/looking-after/managing-land-and-water/water-quality>

¹² <http://www.broads-authority.gov.uk/looking-after/managing-land-and-water/water-quality>

¹³ See <http://www.broads-authority.gov.uk/looking-after/climate-change>

Table 2. Summary of designated features of The Broads SAC and Broadland SPA, which are also features of the Ramsar site. *indicates Annex I habitat that are present but not a primary reason for designation. Issues are based on Site Improvement Plans and SPA citations. Colour indicates BTO alert status (high, medium, no alert).

Site	Reason for designation, trends in key species (where known)	Issues	Notes
The Broads SAC	<ul style="list-style-type: none"> • Hard oligo-mesotrophic waters with Charophytes • Natural eutrophic lakes with <i>Magnopotamium</i> or <i>Hydrocharition</i> type vegetation • Transition mires and quaking bogs • Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caracion daravallianae</i> • Alkaline fens • Alluvial forests with <i>Alnus glutinosus</i> and <i>Fraxinus excelsior</i> • <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils* • Desmoulin's Whorl Snail <i>Vertigo moulinsiana</i> • Otter <i>Lutra lutra</i> • Fen Orchid <i>Liparis loeselii</i> 	<ul style="list-style-type: none"> • Diffuse pollution • Continuing pollution from further point sources • Saline incursion • Invasive species • Siltation • Water levels • Adaptation to climate change 	<p>Issues are addressed in the Broads Plan¹⁴, the Anglian District river basin management plan¹⁵ and the Broadland Rivers catchment plan¹⁶.</p>
Broadlands SPA	<ul style="list-style-type: none"> • Bittern (no trends available) • Marsh harrier (no trends available) • Hen Harrier (no trends available) • Bewick's Swan <i>Cygnus columbianus bewickii</i> • Whooper Swan • Wigeon <i>Anas Penelope</i> • Shoveler <i>Anas clypeata</i> • Gadwall • Ruff <i>Philomachus pugnax</i> 	<ul style="list-style-type: none"> • Management neglect and succession • Water abstraction, drainage, sea level rise and saline incursions • Sewage discharges and agricultural runoff • Tourism and recreation 	

¹⁴ http://www.broads-authority.gov.uk/__data/assets/pdf_file/0015/402045/Broads-Plan-2011.pdf

¹⁵ <https://www.gov.uk/government/publications/anglian-district-river-basin-management-plan>

¹⁶ http://www.broads-authority.gov.uk/__data/assets/pdf_file/0004/457177/Catchment-Plan-website-final.pdf

Breydon Water

Description

- 7.11 Breydon Water is an inland tidal estuary at the mouth of the River Yare and its confluence with the Rivers Bure and Waveney, adjoining The Broads. Its extensive areas of mud-flat are exposed at low tide, although shallow tidal water persists along the river channel. The mud-flats are fringed in places by small areas of saltmarsh and surrounded by floodplain grassland.
- 7.12 Breydon Water is internationally important for wintering waterbirds, some of which also feed in The Broads and/or on the grazing marshes on the landward side of the seawall (and therefore outside of the Breydon Water marine SPA).
- 7.13 The mudflats are used for feeding by wintering Avocet, Ruff and Lapwing, and are used as a high tide roost by Golden Plover and Ruff. The saltmarsh also provides important high tide roost sites for wintering Avocet and Lapwing. However, Lapwing mainly use the mudflats and saltmarshes during periods of harsh weather, otherwise spending much of their time feeding and roosting on the adjacent grazing marshes within and outwith Breydon Water SPA (where they also breed, although only the wintering populations are of international importance).
- 7.14 Shallow tidal waters also provide key feeding and roosting habitat for many of the Annex I species. In the past, wintering populations of Bewick's Swan regularly used the estuary as a night time roost and a day roost if they were disturbed from nearby farmland, but have roosted here less frequently since the establishment of the nearby Berney Marshes reserve (English Nature 2001). The shallow tidal waters and river channel are also used by breeding Common Tern catching small fish, particularly sand eels and sprats.
- 7.15 In addition to supporting internationally important populations of the above wintering and breeding species, Breydon water also qualifies as an SPA for its assemblage of wintering waterfowl. In addition to the Annex I species Bewick's Swan, Avocet, Golden Plover and Lapwing, this includes nationally important species such as Cormorant *Phalacrocorax carbo*, European white-fronted goose *Anser albifrons albifrons*, Wigeon, Shoveler and Black-tailed godwit *Limosa limosa islandica*.
- 7.16 The Ramsar citation for Breydon Water includes a suite of noteworthy plants found on coastal embankments, open areas of dry or seasonally inundated brackish mud. The mudflats are also notable for Eel Grass *Zostera* beds.

Pressures, threats and actions

- 7.17 Efficient drainage, recent droughts and poor water management systems have adversely affected the grazing marshes; these issues have been addressed through a Water Level Management Plan. Agri-environment schemes have helped to raise water levels and encourage sensitive management, particularly of grazing marsh ditches. The Site Improvement Plan suggests that improvements in the SPA over the last two decades in terms of bird numbers (but see BTO alert status for designated species) may

be due to the implementation of agri-environment schemes, and notes that the expiry of existing schemes, and potential change of land-use from grassland to arable, is a risk. However, Environmental Impact Assessment (EIA) regulations would apply where grassland has been without physical or chemical intervention for more than 15 years. Alterations to water levels in the ditches (both within and out with the SPA boundary) could affect aquatic plants and invertebrates that are important food sources for the notified birds of Breydon Water.

- 7.18 The high tide roost at the northern end of Breydon Water is considered a particularly sensitive feature. Recreation is highlighted as an issue within the Site Improvement Plan for Breydon water. It is suggested that more evidence is needed on the possible impact of recreational activities on designated features. The dependence on designated birds on the land surrounding Breydon Water also needs exploring, as some of this land is being used to entice wildfowl for shooting, which may impact on the SPA. The Broads Authority is developing a Breydon Water Space Management Plan
- 7.19 Any commercial fishing activities categorised as green or amber under Defra’s revised approach to European Marine Sites will require assessment and if appropriate, management. Interactions between surface-feeding birds and netting/bait digging are known to occur in Breydon Water. The Inshore Fishers and Conservation Authority (IFCA) is currently working on a mono-filament nets database and a bait digging investigation in order to quantify the extent of these activities and inform any further regulatory notices applied to manage them in the future

Table 3. Designated features of Breydon Water SPA (Ramsar designated features overlap with those of the SPA). Issues are based on Site Improvement Plans and SPA citations. Colour indicates BTO alert status (high, medium, no alert).

Site	Reason for designation, trends in key species (where known)	Issues	
Breydon Water SPA	<ul style="list-style-type: none"> • Bewick’s swan • Avocet <i>Recurvirostra avosetta</i> • Golden plover <i>Pluvialis apricaria</i> • Ruff (no trends available) • Common tern <i>Sterna hirundo</i> (no trends available) • Lapwing <i>Vanellus vanellus</i> • Internationally important assemblage of wintering waterfowl (>40,000) 	<ul style="list-style-type: none"> • Shooting and scaring of wildfowl • Changes in land management • Public access/disturbance • Hydrological changes • Commercial marine and estuarine fisheries 	<p>Several of these species use grazing marsh, improved grassland and arable crops out with the site boundary for feeding.</p> <p>It is suggested that a reduction in the frequency with which European white-fronted geese use the estuary is connected with the loss through natural erosion of Scroby Island, a sand bar just off the coast of Great Yarmouth</p>

Great Yarmouth-Winterton-Horsey

Description of Great Yarmouth-Winterton-Horsey

- 7.20 Winterton-Horsey Dunes SAC is the only significant area of dune heath on the east coast of England. In contrast to the nearby calcareous, species-rich dune systems of north Norfolk, it is acidic. The vegetation is influenced by its eastern location and low rainfall, including species such as the rare Grey Hair-grass *Corynephorus canescens*. The site includes embryo and mobile dunes, and acidic fixed dunes characterised by Heather *Calluna vulgaris*, lichen heath and acid grassland. Humid dune slacks are present and support acidic swamp and mire communities in addition to more typical Creeping Willow *Salix repens* dominated slacks. Small pools support Natterjack Toad *Bufo calamita*. The site also includes areas of grazing marsh and Downy Birch-Oak woodland, although these are not qualifying features
- 7.21 Winterton-Horsey Dunes SAC has an actively accreting 'ness', and shows a full successional sequence of vegetation running inland from the shore from foredune to dune heath and woodland. The dune heath and acid dune slacks represent an extreme of the variation in dune vegetation found in the UK.
- 7.22 Great Yarmouth-North Dene SPA includes two sites, one of which falls within the Winterton-Horsey SAC and occupies the beach and foredune ridge. The other, North Dene, is about 5 miles to the south between Caistor and Great Yarmouth and occupies an actively accreting low dune system and beach. The two areas are linked due to the high mobility of the terns and the dynamic nature of the beaches, which influences their suitability for breeding. The SPA includes land covered continuously or intermittently by tidal waters, which is a European Marine Site, in addition to land not subject to tidal influence.
- 7.23 The SPA is designated for the presence of Little Tern, for which it is one of the most important breeding colonies in the UK. The species is present from mid-April to mid-September. It requires sparsely vegetated sand and shingle for nesting, and so is dependent on mobile sediment which prevents vegetation from becoming established. However, it is also highly sensitive to the removal of sediment; the creation of artificial reefs for coastal protection purposes have disrupted the sediment transport system in the area. Little Terns feed on small fish, mainly in shallow coastal waters.
- 7.24 A colony of Grey Seal *Halichoerus grypus* is present at Horsey Gap. Although an Annex II species, it is not a designated feature of the site as it is due to its relatively recent development. The colony is substantial (with 550 adults counted in November 2015¹⁷) and is a significant tourist attraction.

Pressures, threats and actions

- 7.25 The presence of the sea wall north of Beach Road at Winterton is compromising the natural coastal processes and preventing dynamism within the dune features. The

¹⁷ <http://friendsofhorseyseals.co.uk/wp-content/uploads/2015/11/Report-26.11.15ER.pdf>

Kelling to Lowestoft Ness Shoreline Management Plan promotes ‘*investigating the potential for change whilst still defending, with a view to longer term set-back of the defences, as and when it is confirmed that it is no longer sustainable to defend*’. This is due to the considerable social and biodiversity impacts flooding would have for the Broads. The Site Improvement Plan (SIP) for Great Yarmouth-Winterton-Horsey recognises, therefore, that short-term adaptive measures will be needed.

- 7.26 Coastal squeeze is threatening parts of the SAC - erosion combined with changing sediment transportation and the presence of a fixed sea wall mean that designated features will be lost. This will need to be addressed in the next Eccles to Winterton coastal strategy. It is suggested in the SIP that development should be controlled in the coastal zone to optimise future potential to roll back/ adapt.
- 7.27 Recreation has an impact on the site both in terms of disturbance to breeding Little Tern and damage to dune vegetation communities. Breeding terns are highly sensitive to disturbance and avoid highly disturbed beaches (Ratcliffe et al. 2008) Direct disturbance is currently leading to reduced breeding success and trampling of nests¹⁸. Dune habitats are particularly vulnerable to trampling damage and eutrophication (e.g. from dog waste) (Lowen *et al.* 2008). The degree of anthropogenic erosion is considered to be at the limit of acceptable levels on the dune heath and fixed dune grassland and is also an issue on the other dune habitats¹⁹. A better understanding of levels of recreational use, patterns and impacts is required. Current work includes a study of dog behaviour at Winterton. A long-term recreation management strategy and measures to reduce impacts in the coastal access route, including specific actions for Little Tern is recommended in the SIP (electric fencing, interpretation and 24 hours volunteer wardening are already in place). Appropriate mitigation as a consequence of development in East Norfolk/Suffolk and the Greater Norwich area is also recommended.
- 7.28 The quality of water in the dune slacks at Winterton is thought to be deteriorating, which has impacted on the Natterjack Toad population, although artificial pools have been created. Species diversity may have declined; for example, Round-leaved Wintergreen *Pyrola rotundifolia*, present at the time of SSSI designation, has not been seen for several years. Scrub encroachment, particularly Rhododendron and the control of non-native invasive species, is an on-going issue, and the level of grazing is considered inadequate to maintain dwarf-shrub heath in the north of the site. Action is needed to control, reduce and ameliorate the impacts of atmospheric nitrogen.
- 7.29 Disturbance, particularly from dogs, is an issue for Grey Seal at Horsey Gap. Since 2012 The Friends of Horsey Seals has been working to increase knowledge and enjoyment of and reduce disturbance to the seals, and has a wardening scheme in place.

¹⁸ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/356903/winterton-access-conservation-assessment.pdf

¹⁹ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/356903/winterton-access-conservation-assessment.pdf

Table 4. Designated features of Winterton-Horsey SAC and Great Yarmouth-North Denes SPA. Issues are based on Site Improvement Plans and SPA citations. Colour indicates BTO alert status (**high**, **medium**, no alert). *Habitat present but not a primary qualifying feature.

Site	Reason for designation, trends in key species (where known)	Issues	
Winterton-Horsey Dunes SAC	<ul style="list-style-type: none"> • H2110 Embryonic shifting dunes* • H2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes")* • H2150 Atlantic decalcified fixed dunes (Calluno-Ulicetea) • H2190 Humid dune slacks 	<ul style="list-style-type: none"> • Inappropriate coastal management • Coastal squeeze • Public access/disturbance • Water quality (dune slacks) • Inappropriate scrub control (fixed dunes) • Invasive species • Under-grazing (fixed dunes) • Air pollution: impact of atmospheric Nitrogen deposition 	
Great Yarmouth-North Denes SPA	<ul style="list-style-type: none"> • Breeding Little Tern <i>Sterna albifrons</i> 	<ul style="list-style-type: none"> • Inappropriate pest control • Public access/disturbance 	

Outer Thames Estuary

Description

7.30 This is the largest marine SPA in the UK and extends from Margate in Kent as far north as Caistor-on-sea. Its landward boundary directly abuts several inshore SPAs with marine component, which cover the estuaries and parts of the coast. The site is designated for the presence of the Annex I species Red-throated Diver *Gavia stellata*, which is present in numbers of European importance in the winter. The site is split into three areas. The two northern sections are adjacent to the coast from near Felixstowe in Suffolk to Caistor and further offshore parallel with Caistor in the north and Beccles in the south respectively. These areas include areas of shallower and deeper water with a range of mobile sediments (mud, sand, silt and gravelly sediments) and several sandbanks.

Pressures, vulnerability and actions

7.31 These are discussed fully in a departmental brief on the site produced by NE and JNCC²⁰. Most issues are related to the particular sensitivity of Red-throated Diver to disturbance at sea.

7.32 The SPA supports several fish species of commercial importance, including Herring *Clupea harengus* and Sprat *Sprattus sprattus*, which are among the most commonly

²⁰ <http://publications.naturalengland.org.uk/publication/3233957>

recorded prey species of Red-throated Diver. Around 180 commercial fishing vessels operate within the site. The exposure of Red-throated Diver to prey depletion is currently considered to be low in the Natura 2000 data form for the site.

- 7.33 There is extensive shipping activity within the site, although this is of a much greater scale around the large ports in the south of the site. However, new port capacity at Great Yarmouth has recently been developed. Great Yarmouth is the main port supporting energy industry in the southern North Sea and also accommodates container traffic. However, dredging and shipping activities are confined to shipping channels, which are already avoided by divers. Red-throated Divers are also vulnerable to oil pollution when they moult flight feathers during September and October, and there is potential for catastrophic spills from ship-to-ship transfers that take place off Southwold or normal shipping traffic.
- 7.34 Scroby Sands Wind Array, comprising 30 turbines, has been operational since 2004. The southern end of the wind farm is within the SPA off the Norfolk Coast. Disturbance to Red-throated Divers associated with wind farms (visual and from related shipping) is significant - research suggests 80-100% displacement of Red-throated Divers from wind farm footprints.
- 7.35 Aggregate extraction occurs off-shore from Great Yarmouth. Activities tend to be localised.

Table 5. Designated features of the Outer Thames Estuary SPA and Haisborough, Hammond and Winterton candidate marine SAC. Issues are based on the SPA citation.

ite	Reason for designation, trends in key species (where known)	Issues	Notes
Outer Thames Estuary SPA	<ul style="list-style-type: none"> • Wintering Red-throated Diver <i>Gavia stellata</i> 	<ul style="list-style-type: none"> • Prey depletion (low exposure) • Disturbance from shipping traffic, wind farms and fishing activities • Potential for catastrophic oil spills 	<p>Fishing licence arrangements and by-law restrictions overseen by the Marine Management Organisation and/or local Inshore Fishery and Conservation Authority</p> <p>Great Yarmouth oil spill contingency plan in place; transfers overseen by Maritime and Coastguard Agency</p>
Haisborough, Hammond and Winterton candidate marine SAC	<ul style="list-style-type: none"> • 1110 Sandbanks which are slightly covered by sea water all the time • 1170 Reefs 	<ul style="list-style-type: none"> • Physical loss by removal (aggregate dredging) and obstruction (oil, gas and windfarm infrastructure) (moderate threat to sandbank; high threat to reef) • Physical damage by surface and shallow abrasion (demersal fishing, aggregate dredging) (moderate threat 	<p>Demersal fishing is not subject to prior authorisation or licensing; this pressure is currently considered to pose a high risk of damage to the sandbank and reef habitats</p> <p>Competent Authorities are advised to assess and, if necessary, consider management actions that might need to be taken to reduce the risk of damage.</p>

ite	Reason for designation, trends in key species (where known)	Issues	Notes
		to sandbank, high threat to reef)	

Haisborough, Hammond and Winterton candidate marine SAC

Description

- 7.36 Lying just of the north-east corner of Norfolk this marine site comprises a series of distinct sand banks. The main sandbank consists of ridges that have developed over the past 5,000 to years and were originally associated with coastal alignment during the Holocene marine transgressions (when global sea levels rose as a consequence of the retreat and shrinking of ice sheets and glaciers). Along the outer boundary, the ridges are older, dating from around 7,000 BP, while the sands in the south west corner are more recent, dating from around the fifth Century (current era). The sand banks are permanently covered with shallow seawater.
- 7.37 Arising from the coarse sandy seabeds are reefs formed of consolidated structures of sand tubes of a marine polychaete, Ross Worm *Sabellaria spinulosa*. The reefs rich a height of 5-10cm, and cover between 30 and 100% of the seafloor where present. Some parts appear to act as sediment traps, meaning the exposed tube height is reduced.
- 7.38 The sand around the crests of the sandbanks is highly mobile due to the strong tidal currents within the site. The crests are characterised by species which can rapidly re-bury themselves, and support a polychaete-amphipod community of low diversity.
- 7.39 The flanks are more stable and formed of gravelly muddy sands. The infaunal and epifaunal diversity is correspondingly greater, with the most stable areas supporting attached bryozoans, hydroids and sea anemones. Sand Mason Worms *Lanice conchilega* and Keel Worms *Pomatoceros* sp. along with bivalves and crustaceans are also present.

Pressures, vulnerability and actions

- 7.40 There is a lack of detailed information on levels of exposure to human activities and their ecological impact on the designated feature at this site²¹, although some anthropogenic damage has been observed. The sandbanks and reefs are currently considered vulnerable to physical loss and damage. Loss may occur by removal through aggregate dredging and obstruction from oil, gas and windfarm infrastructure. Damage through surface and shallow abrasion may be caused by demersal fishing and aggregate dredging. Demersal fishing in particular is currently considered to pose a high risk to the interest features.

²¹ publications.naturalengland.org.uk/file/6165031