

Habitats Regulations Assessment of Greater Norwich Regulation 18 Draft Plan

for

Greater Norwich Development Partnership

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Status: Issue

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Non-technical summary

The Landscape Partnership was commissioned by the Greater Norwich Development Partnership to undertake a Habitat Regulations Assessment (HRA) of the Greater Norwich Local Plan (GNLP). This report is an assessment of the Consultation Draft stage v8.1 of the emerging Greater Norwich Local Plan, encompassing Norwich City, Broadland District (excluding the Broads Authority area), and South Norfolk District.

The objectives of the study were to identify European sites within and near the Greater Norwich Local Plan Area along with their qualifying features and to determine if these would be directly or indirectly affected by the emerging Local Plan. Overall, the aim was to determine whether the plan would have a likely significant effect upon the integrity of any European site. The focus of the assessment is on direct and indirect effects of proposed housing although other matters such as transport and employment land were also assessed. This report accompanies the Regulation 18 Consultation on the Draft Plan.

The report was written by Nick Sibbett CEcol MCIEEM CEnv CMLI and reviewed by Dr Jo Parmenter CEcol MCIEEM CEnv MIEMA.

Impacts considered for the proposed distribution of housing include water cycles (use and disposal), air pollution especially from new roads and an increase or change in the pattern of distribution of road users, water pollution or enrichment resulting from discharge to water, and the impacts of increased visitors to European sites. In addition to considering the potential impacts of the growth proposed by the GNLP alone, a number of other plans or projects were identified that could have in-combination impacts.

The GNLP seeks to deliver 40,541 homes between 2018 and 2038. 2,938 of these homes have already been delivered through completions between 1 April 2018 and 31 March 2019. The remainder will be delivered through the allocation of new sites for 7,840 new homes, and the delivery on existing allocations totalling 33,565 homes by 2028. The number of planned homes in the GNLP therefore totals 44,343, which is equivalent to a 9% housing delivery buffer. The GNLP considers the housing delivery buffer necessary to ensure the delivery of the housing requirement of 40,541, taking account of the fact that not all sites will be delivered as expected. A minimum of 1200 of these homes will be provided in village clusters in South Norfolk, to be allocated in a separate Local Plan document. In addition to the planned delivery buffer it is estimated that approximately 3,870 windfall homes will be delivered in and adjacent to the built-up area of Norwich, the main towns, key service centres and villages. The majority of homes that will be delivered will be in and around Norwich and in the Cambridge Norwich Tech Corridor. Strategic allocations of 360ha are made for employment land.

It is ascertained that the Greater Norwich Local Plan Strategy would have no adverse affect upon the integrity of any European site acting alone, subject to the following outstanding matters

- Mitigation of recreational impact upon European sites comprising a) a tariff based payment taken from residential, and other relevant accommodation e.g. tourist accommodation, that will be used to fund a mixture of mitigation measures, most likely of soft and hard mitigation measures at the European sites; b) the provision of suitable alternative natural green space (SANGs), which would be large enough to meet a range of recreational needs, c) implementation of a wider programme of Green Infrastructure Improvements in accordance with current and emerging project plans, so that residents have an alternative to European sites for regular activities such as dog walking.
- Satisfactory completion of a Water Cycle Study which demonstrates no adverse impact on European sites (Policy 1, Section 5)
- Clarification of Policy 6, Section 10 perhaps as a final bullet point '*Habitats Regulations Assessments will be required for small scale tourism accommodation within 1km, and for larger scale tourism accommodation within 10km, of a European site. Habitats Regulations Assessment will also be required for tourism, leisure, cultural and environmental activities which would utilise European sites*'. (Section 10.2)

The Norfolk Authorities are progressing a Norfolk-wide study, the Green Infrastructure and Recreational Impact Avoidance and Mitigation Strategy (GIRAMS). This strategy is expected to set out a proposed approach to a tariff contributions from new development, in accordance with the first part of the mitigation identified above. This study may also provide useful evidence/guidance for a future SANGs strategy.

1 Introduction

1.1 The plan being considered

1.1.1 Broadland District Council, Norwich City Council and South Norfolk Council, working with Norfolk County Council and Broads Authority, are working together to prepare the Greater Norwich Local Plan (GNLP). This will replace the Joint Core Strategy for Broadland, Norwich and South Norfolk (JCS), which was adopted in March 2011, and other more recently adopted 'lower tier' Development Plan Documents. The plan being considered in this assessment is the Regulation 18 Draft stage version 7.7 Strategy document of November 2019. The three local Planning Authorities have come together to form the Greater Norwich Development Partnership to deliver the GNLP.

1.2 The Joint Core Strategy for Broadland, Norwich and South Norfolk (2011)

1.2.1 The JCS plans for the housing and jobs needs of the area to 2026, and identifies the broad scale and distribution of proposed development over the Plan period. It aims to some deliver 37,000 homes and create 27,000 jobs in a way that minimises the impact on the environment and maximises the quality of life.

1.2.2 Growth is focussed in a large mixed-use urban extension within the Old Catton, Sprowston, Rackheath and Thorpe St Andrew, referred to as the 'Broadland Growth Triangle', and on brownfield land in the Norwich urban area. Other large-scale growth locations are identified in the A11 corridor, at Wymondham, Easton/Costessey, Cringleford, and Hethersett, and at Long Stratton. These locations all fall within the Norwich Policy Area.

1.2.3 Consultants Mott MacDonald were appointed to undertake the JCS Habitats Regulations Assessment (HRA) in accordance with the Conservation of Habitats and Species Regulations 2010. The report of the Assessment was published in February 2010, before the JCS was adopted. In brief, the HRA concluded that it was unlikely that the JCS policies would have a significant direct or indirect impact on European and Ramsar designated sites.

1.2.4 However, the report highlighted some areas of uncertainty regarding potential in combination and cumulative effects associated with water resources, water quality, water efficiency, growth and tourism on such sites, because of the dependence on the effectiveness and implementation of mitigation measures and actions required to avoid adverse impact on site integrity. These measures included:

- The allocation of greenspace to protect specific natural assets and designated sites to be implemented through area action plans and related green infrastructure measures; and
- The implementation of water infrastructure improvements (for water resources and waste water treatment) and water efficiency measures as recommended in the Water Cycle Study and delivered through Anglian Water's Water Resource Management Plan.

1.2.5 The report also recognised that, whereas green infrastructure requirements can, in large part, be delivered through the planning system, delivery of the necessary water resource mitigation measures lie beyond the powers of the local planning authorities. Hence water availability was identified as a major uncertainty at the time, and the longer-term water resources issue had not yet been fully resolved.

1.2.6 However, to allow the conclusion of the JCS HRA to stand, a process was agreed whereby restrictions on abstraction could be introduced at Costessey until such time as Anglian Water had evaluated a range of potential solutions and secured funding for a programme of further measures. The preparation of the GNLP provides an opportunity to review progress.

1.2.7 The JCS requires allocations to be made to ensure at least 36,820 homes can be delivered between 2008 and 2026, of which approximately 33,000 will be within the Norwich Policy Area. Specific site allocations are identified in five separate Local Plan documents:

- Broadland Site Allocations Development Plan Document (2016);

- Growth Triangle Area Action Plan (2016)
- Norwich site allocations and site specific policies local plan document (2014);
- South Norfolk Local Plan Site Specific Allocations and Policies Document (2015);
- Wymondham Area Action Plan (2015); and,
- Long Stratton Area Action Plan (2016).

1.3 The Greater Norwich Local Plan (GNLP)

- 1.3.1 The Draft Greater Norwich Local Plan (GNLP) Strategy document is the first part of the consultation draft of the Greater Norwich Local Plan. It provides the broad strategy for growth in Greater Norwich from 2018 to 2038 and supporting thematic policies.
- 1.3.2 The draft plan identifies where growth needed to 2038 should be built. There are plans in place already which identify locations for around 80% of the new homes, along with new jobs, green spaces and additional infrastructure (Section 1.2 above). The main locations include brownfield sites in Norwich, the major urban extension to its north-east, expanded strategic employment sites such as the Norwich Research Park and growth at most of our towns and larger villages. This plan provides additional sites in these areas to create new communities and support growth of the economy, as well as sites in villages to support rural services.
- 1.3.3 When adopted, the GNLP will supersede the current JCS and the Site Allocations documents in each of the three districts. The GNLP will not replace existing adopted Area Action Plans for Long Stratton, Wymondham and the Growth Triangle (NEGT) or Neighbourhood Plans, though in some cases additional allocations are made through the GNLP in these areas.

1.4 Alternatives for housing numbers

- 1.4.1 Housing numbers considered under 'Reasonable Alternatives' are those described in the Interim Sustainability Appraisal that accompanied the Regulation 18 Growth Options and Site Proposals Consultation that took place between January and March 2018. meeting papers for the Greater Norwich Development Partnership Board meeting on 23rd June 2017 (<http://www.gnlp.org.uk/downloads/>). These alternatives consider the Objectively Assessed Need (OAN) for housing, whether there is any reason that the plan's housing requirement should be higher or lower than OAN, the need for a buffer for delivery to account for some areas under-delivering the target, and the role of windfall development in relation to the housing requirement and delivery buffer. The four reasonable alternatives are
1. GNLP Housing Requirement is equal to OAN. Delivery buffer is approx 20%. Forecast Windfall Housing does not form part of the Delivery Buffer.
 2. GNLP Housing Requirement is equal to OAN. Delivery buffer is approx 20%. Forecast Windfall Housing forms part of the 20% Delivery Buffer.
 3. GNLP Housing Requirement is equal to OAN plus net Housing Response to City Deal. Delivery buffer is approx 20% of OAN. Forecast Windfall Housing does not form part of the Delivery Buffer.
 4. GNLP Housing Requirement is equal to OAN plus net Housing Response to City Deal. Delivery buffer is approx 20% of OAN. Forecast Windfall Housing forms part of the 20% Delivery Buffer.
- 1.4.2 The Sustainability Appraisal preferred alternative 2 and the Council's agreed this alternative for the purposes of the Regulation 18 Growth Options and Site Proposals Consultation.
- 1.4.3 The GNLP seeks to deliver 40,541 homes between 2018 and 2038. 2,938 of these homes have already been delivered through completions between 1 April 2018 and 31 March 2019. The remainder will be delivered through the allocation of new sites for 7,840 new homes, and the delivery on existing allocations totalling 33,565 homes by 2028. The number of planned homes in the GNLP therefore totals 44,343, which is equivalent to a 9% housing delivery buffer. The GNLP considers the housing delivery buffer necessary to ensure the delivery of the housing

requirement of 40,541, taking account of the fact that not all sites will be delivered as expected. A minimum of 1200 of these homes will be provided in village clusters in South Norfolk, to be allocated in a separate Local Plan document. In addition to the planned delivery buffer it is estimated that approximately 3,870 windfall homes will be delivered in and adjacent to the built-up area of Norwich, the main towns, key service centres and villages.

- 1.4.4 The majority of new homes will be in and around Norwich and in the Cambridge Norwich Tech Corridor. In Norwich city centre and other highly accessible locations, higher density homes including flats will be built, providing particularly for the needs of younger people and including purpose-built student accommodation, whilst also meeting the needs of other members of our community. This will help to create lively and vibrant city and district centres, enabling people to access services and jobs easily and to travel sustainably.

1.5 Employment land

- 1.5.1 The plan allocates employment sites totalling around 360 hectares including strategic employment land in Norwich City Centre, the Norwich Airport area, Rackheath, Broadland Business Park, Broadland Gate, NRP, Wymondham/Hethel, Longwater and the Food Enterprise Park. The strategic employment areas provide for growth of all of the key sectors and are supported by good quality infrastructure and nearby housing, either existing or planned.

1.6 What are the Habitats Regulations?

- 1.6.1 The Conservation of Habitats and Species Regulations 2017 are often abbreviated to the 'Habitats Regulations'. The Habitats Regulations interpret the European Birds Directive and Habitats Directive into English and Welsh law. For clarity, the following paragraphs consider the case in England only, with Natural England given as the appropriate nature conservation body. In Wales, the Countryside Council for Wales is the appropriate nature conservation body.
- 1.6.2 Special Protection Areas and Special Areas of Conservation are defined in the regulations as a 'European site'. The Regulations regulate the management of land within European sites, requiring land managers to have the consent of Natural England before carrying out management. Byelaws may also be made to prevent damaging activities and if necessary land can be compulsorily purchased to achieve satisfactory management.
- 1.6.3 The Regulations define competent authorities as public bodies or statutory undertakers. Competent authorities are required to make an appropriate assessment of any plan or project they intend to permit or carry out, if the plan or project is likely to have a significant effect upon a European site. The permission may only be given if the plan or project is ascertained to have no adverse effect upon the integrity of the European site. If the competent authority wishes to permit a plan or project despite a negative assessment, imperative reasons of over-riding public interest must be demonstrated, and there should be no alternatives to the scheme. The permissions process would involve the Secretary of State and the option of consulting the European Commission. In practice, there will be very few cases where a plan or project is permitted despite a negative assessment. This means that a plan such as the Greater Norwich Local Plan, has to be assessed and the assessment must either decide that it is likely to have no significant effect on a European site or ascertain that there is no adverse effect upon the integrity of the European site.

1.7 Habitats Regulations Assessment process

- 1.7.1 A Habitats Regulations Assessment is a step-by-step process which is undertaken in order to determine whether a project or plan will have a likely significant effect (LSE) upon a European site. Before a competent authority can authorise a proposal, they must carry out an Appropriate Assessment of a plan or project in line with procedure detailed in the Habitats Regulations. The whole procedure is called a Habitats Regulations Assessment, with the Appropriate Assessment being part of one of four stages necessary to complete an HRA. The results of the HRA are intended to influence the decision of the competent authority when considering whether or not to authorise a proposal.

Stages of Habitats Regulations Assessment

- 1.7.2 *Stage One of the HRA is 'Screening'*. Plans or projects will be investigated for their potential to have a likely significant effect upon a European site. If the plan is likely to have a significant effect, and is not connected to the management of the site, an Appropriate Assessment is required. Proposals that are found not likely to have a significant effect upon a European site will be 'screened out' at this stage and no further investigation will be required.
- 1.7.3 *Stage Two of the HRA is the 'Appropriate Assessment and the Integrity Test'*. The plan-making authority must undertake an Appropriate Assessment which seeks to provide an objective and scientific assessment of how the proposed Local Plan may affect the qualifying features and conservation strategies of European sites. The whole plan must be assessed, but a 'scoping' exercise helps decide which parts of the plan have potential to give rise to significant effects and therefore where assessment should be prioritised. Natural England is an important consultee in this process and the public may also be consulted.
- 1.7.4 The UK Government accepts the definition for the 'integrity' of a site as *'the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which the site is (or will be) designated.'* Other factors may also be used to describe the 'integrity' of a site. The plan-making authority must ascertain, using scientific evidence and a precautionary approach, that the plan will not adversely affect the integrity of a European site, prior to adopting the plan. Information provided in the Appropriate Assessment will be used when considering the Integrity test.
- 1.7.5 *Stage Three of the HRA is 'Imperative reasons of overriding public interest and compensatory measures'*. If the Competent Authority determines that there are imperative reasons of overriding public interest notwithstanding adverse impacts upon the integrity of the European site, and there are no alternatives, the plan may be given effect. In this case, the plan-making authority must notify the Secretary of State at least 21 days before authorisation; the Secretary of State may give a direction prohibiting the plan from being given effect. It is unlikely that this stage would be reached.

Consultations

- 1.7.6 Natural England is a statutory consultee, and so should be consulted at the draft and final plan stage. The public may also be consulted if it is considered appropriate, for example if the appropriate assessment is likely to result in significant changes to the plan.

Iterations and revision

- 1.7.7 The process is iterative; the conclusions of the first assessment may result in changes to the plan, and so a revision of the assessment would be required. If the revised assessment suggests further plan changes, the iteration will continue.
- 1.7.8 Iterative revisions typically continue until it can be ascertained that the plan will not have an adverse effect on the integrity of any European site.
- 1.7.9 There are further provisions for rare cases where over-riding public interest may mean that a land-use plan may be put into effect, notwithstanding a negative assessment, where there are no alternatives to development, but these provisions are not expected to be routinely used.

Guidance and good practice

- 1.7.10 This report has taken account of published guidance and good practice. A key source of information which summaries of legislative requirements, good practice guidance and case law (Tyldesley and Chapman 2013, regularly updated)¹ has been used during the writing of this report.

¹ Tyldesley, D., & Chapman, C. (2013). The Habitats Regulations Assessment Handbook. DTA Publications Ltd

1.8 Why is Appropriate Assessment required?

1.8.1 The appropriate assessment process is required under the Conservation of Habitats and Species Regulations 2017. Regulation 105 states that

(1) Where a land use plan—

(a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and

(b) is not directly connected with or necessary to the management of the site,

the plan-making authority for that plan must, before the plan is given effect, make an appropriate assessment of the implications for the site in view of that site's conservation objectives.

(2) The plan-making authority shall for the purposes of the assessment consult the appropriate nature conservation body and have regard to any representations made by that body within such reasonable time as the authority specify.

(3) They must also, if they consider it appropriate, take the opinion of the general public, and if they do so, they must take such steps for that purpose as they consider appropriate.

(4) In the light of the conclusions of the assessment, and subject to regulation 107 (considerations of overriding public interest), the plan-making authority or, in the case of a regional spatial strategy, the Secretary of State must give effect to the land use plan only after having ascertained that it will not adversely affect the integrity of the European site or the European offshore marine site (as the case may be).

(5) A plan-making authority must provide such information as the appropriate authority may reasonably require for the purposes of the discharge of the obligations of the appropriate authority under this chapter.

(6) This regulation does not apply in relation to a site which is—

(a) a European site by reason of regulation 8(1)(c); or

(b) a European offshore marine site by reason of regulation 18(c) of the Offshore Marine Conservation Regulations (site protected in accordance with Article 5(4) of the Habitats Directive.

1.8.2 The plan-making authorities, as defined under the Regulations, are Broadland District Council, Norwich City Council and South Norfolk District Council and the appropriate nature conservation body is Natural England.

1.8.3 This report is the assessment carried out on behalf of these three local authorities under Regulation 105. At Regulation 18 Draft stage, this report informs their decision to progress to Regulation 19 Submission stage or determine any changes are required at Regulation 19 Submission stage so that the GNLP may progress to being adopted in due course.

1.9 European sites

1.9.1 European sites (also known as Natura 2000/N2K sites) are sites that have been classified or designated by Defra/Welsh Ministers or Natural England/Natural Resources Wales, as Special Protection Areas (SPA) for those sites where birds are the special interest feature, and Special Areas of Conservation (SAC) where the habitats or species (other than birds) are the reason for designation.

1.9.2 Wetlands of International Importance, designated under the Ramsar Convention, are not European sites. There may often be considerable overlap between the special interest features and boundaries of Ramsar sites, with European sites. However, for the purposes of planning and development, Government policy in the National Planning Policy Framework states that Ramsar sites should be treated equally/in the same way as European sites. The same applies for sites

under consideration for designation including potential Special Protection Area (pSPA), Site of Community Importance (SCI), Candidate Special Area of Conservation (cSAC) and proposed Ramsar sites. In summary, although Appropriate Assessment only legally applies to European sites, National Planning Policy provides further obligations to ensure that all those sites previously mentioned are subject to assessment. Therefore, for the purposes of this report, the term 'European site(s)' refers to all sites under assessment.

1.9.3 As the interest features of the Ramsar sites are usually very similar to the interest features of the SPA and / or SAC designations, both geographically and ecologically, the assessment below, for clarity does not always repeat Ramsar site names. The assessment does however consider Ramsar sites fully, and if an assessment for a Ramsar site was found to differ from that for the respective SPA / SAC, this would be clearly identified.

1.9.4 European Marine Site (EMS) is a term that is often used for a SPA or SAC that includes marine components (i.e. land/habitats up to 12 nautical miles out to sea and below the Mean High Water Mark). A European Marine Site does not have a statutory designation of its own but is designated for the same reasons as the relevant SPA or SAC, and because of this they are not always listed as a site in their own right, to save duplication. For the purpose of this document, an EMS is referred to as an Inshore SPA (or SAC) with Marine Components and it will be made clear if an SPA/SAC has marine components.

1.10 Iteration and consultation

1.10.1 An interim Habitats Regulations Assessment (HRA)² was published in January 2018. It is available on Greater Norwich Development Partnership's website³. It identifies in detail how internationally designated ecological habitats and wildlife sites in the wider area, including the Broads and the Norfolk coast, would be potentially impacted by recreational pressures likely to be generated by growth in Greater Norwich. It looked at 22 strategic growth options.

1.10.2 This report was issued to stakeholders, and a meeting was held with stakeholders on 3rd April 2018. Attendees were John Hiskett (Norfolk Wildlife Trust) and Andrea Kelly (Broads Authority) with Nick Sibbett (The Landscape Partnership (TLP)) and Paul Harris (Broadland District Council) representing Greater Norwich Development Partnership.

1.10.3 A second stakeholder meeting was held on 28th March 2019. Attendees were Nick Sibbett (TLP, for Greater Norwich Development Partnership), Paul Harris (Broadland District Council, for Greater Norwich Development Partnership), Mike Jones (Norfolk Wildlife Trust), Kate Warwick (Environment Agency), Louise Oliver (Natural England), and Philip Pearson (RSPB).

1.10.4 Anglian Water representatives were unable to attend the stakeholder meetings but provided advice by email.

1.10.5 The Habitats Regulations Assessment of Greater Norwich Local Plan is subject to consultation with the public, including key stakeholders such as nature conservation bodies, and with Natural England as the statutory consultee. Comments are welcomed and revisions may be made to later versions of the Habitats Regulations Assessment as a result.

1.11 Legislative changes

1.11.1 At the time of writing there is some uncertainty on any future legislative change to the Habitats Regulations. This assessment is written on the basis of current legislation but might require updating in due course.

² Interim Habitats Regulations Assessment of Greater Norwich Local Plan Issues and Options stage, The Landscape Partnership, December 2017

³ https://gnlp.jdi-consult.net/documents/pdfs_14/reg.18_gnlp_interim_hra.pdf

2 European sites potentially affected

2.1 European sites

2.1.1 A search using Natural England's Interactive 'Magic Map'⁴ revealed that a number of European sites lie within, near or partially within the Greater Norwich area, i.e. the land within Broadland District Council, South Norfolk District Council or Norwich City Council areas. Each European site is listed below with a brief description of its qualifying features and is shown on Figure 01. Because some of the European sites cross Local Planning Authority boundaries and because some of the European Sites are made up of component Sites of Special Scientific Interest (SSSI) which are located in different Planning Authority areas, no attempt has been made to differentiate those European and Ramsar sites which lie within the plan area, which lie within the boundaries of Broadland District, South Norfolk District and Norwich City Council areas and which are within Local Authority Districts beyond these.

River Wensum SAC		
Site description summary	Qualifying features⁵	
<p>A calcareous lowland river considered one of the best areas in the UK for Ranunculion fluitantis and Callitriche-Batrachion vegetation. Also significant for the presence of Brook Lamprey, Bullhead and Desmoulin's whorl snail. One of the best areas in the UK for the native White-clawed Crayfish.</p> <p>At the upper reaches, run-off from calcareous soils rich in plant nutrients feeds beds of submerged and emerged vegetation characteristic of chalk streams. Lower, the chalk is overlain by boulder clay, resulting in aquatic plant communities more characteristic of rivers with mixed substrates.</p>	3260	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation
	7210	Calcareous fens with Cladium mariscus and species of the Caricion davallianae
	91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)
	1092	Austropotamobius pallipes (White-clawed (or Atlantic steam) Crayfish)
	1163	Cottus gobio (Bullhead)
	1096	Lampetra planeri (Brook Lamprey)
	1016	Vertigo moulinsiana (Desmoulin's whorl snail)
Component SSSI/s⁶		
River Wensum SSSI	Covers 385.96ha and contains 55 units. 11.05% of area in Favourable condition, 47.70% of area in Unfavourable-Recovering condition, 41.25% of area in Unfavourable-No change condition.	
Conservation Objectives⁷		
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;	<ul style="list-style-type: none"> • The extent and distribution of qualifying natural habitats and habitats of qualifying species • The structure and function (including typical species) of qualifying natural habitats • The structure and function of the habitats of qualifying species • The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely 	

⁴ <http://magic.defra.gov.uk/home.htm>

⁵ Taken from the Natura 2000 Standard data form for site UK0012647 River Wensum SAC dated 25-01-16.

⁶ Condition status taken from Natural England data on 3 December 2019.

⁷ Taken from Natural England's European Site Conservation Objectives for River Wensum SAC dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice.

	<ul style="list-style-type: none"> • The populations of qualifying species, and, • The distribution of qualifying species within the site.
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Norfolk Valley Fens SAC	
Site description summary	Qualifying features⁸
A series of valley-head spring-fed fens, typified by black-bog-rush - blunt-flowered rush <i>Schoenus nigricans</i> - <i>Juncus subnodulosus</i> mire. There are also transitions to reedswamp, other fen and wet grassland types, and gradations from calcareous fens into acidic flush communities. Plant species present include marsh helleborine <i>Epipactis palustris</i> , narrow-leaved marsh-orchid <i>Dactylorhiza traunsteineri</i> , and alder <i>Alnus glutinosa</i> which forms carr woodland in places by streams. Marginal fens associated with pingos-pools originating from the thawing of large blocks of ice at the end of the last Ice Age support several large populations of Desmoulin's whorl snail <i>Vertigo moulinsiana</i> .	4010 North Atlantic wet heaths with <i>Erica tetralix</i>
	4030 European dry heaths
	6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (*important orchid sites)
	6410 Molinia meadows on calcareous, peaty, or clayey-silt-laden soils (Molinion caeruleae)
	7150 Depressions on peat substrates of the Rhynchosporion
	7210 Calcareous fens with <i>Cladium mariscus</i> and species of the Caricion davallianae
	7230 Alkaline fens
	91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)
	1355 <i>Lutra Lutra</i> (Eurasian Otter)
	1166 <i>Triturus cristatus</i> (Great Crested Newt)
	1014 <i>Vertigo angustior</i> (Narrow-mouthed whorl snail)
	1016 <i>Vertigo moulinsiana</i> (Desmoulin's whorl snail)
Component SSSI/s⁹	
Badley Moor SSSI	Covers 18.33ha and contains 4 units. 100% of area in Favourable condition
Booton Common SSSI	Covers 8.19ha and contains 1 unit. 100% of area in Unfavourable-Recovering condition.
Buxton Heath SSSI	Covers 67.32ha and contains 1 unit. 100% of area in Unfavourable-Recovering condition.
Coston Fen, Runhall SSSI	Covers 7.11ha and contains 1 unit. 100% of area in Unfavourable-No change condition.
East Walton and Adcock's Common SSSI	Covers 62.41ha and contains 3 units. 100% of area in Unfavourable-Recovering condition.
Flordon Common SSSI	Covers 9.91ha and contains 2 units. 19.57% of area in Favourable condition, 80.43% of area in Unfavourable-Recovering condition.

⁸ Taken from the Natura 2000 Standard data form for site UK0012892 Norfolk Valley Fens SAC dated 25-01-16.

⁹ Condition status taken from Natural England data on 3rd December 2019.

Foulden Common SSSI	Covers 139ha and contains 7 units. 24.74% of area in Favourable condition, 61.51% of area in Unfavourable-Recovering condition, 13.75% of area in Unfavourable-Declining condition.
Great Cressingham Fen SSSI	Covers 14.33ha and contains 1 unit. 100% of area in Unfavourable-Recovering condition.
Holt Lowes SSSI	Covers 49.91ha and contains 2 units. 30.07% of area in Favourable condition, 69.93% of area in Unfavourable-Recovering condition.
Potter & Scarning Fens, East Dereham SSSI	Covers 6.20ha and contains 2 units. 100% of area in Unfavourable-Recovering condition.
Sheringham and Beeston Regis Commons SSSI	Covers 24.94ha and contains 2 units. 100% of area in Unfavourable-Recovering condition.
Southrepps Common SSSI	Covers 5.57ha and contains 1 unit. 100% of area in Unfavourable-Recovering condition.
Swangey Fen, Attleborough SSSI	Covers 48.39ha and contains 6 units. 44.44% of area in Favourable condition, 55.56% of area in Unfavourable-Recovering condition.
Thompson Water, Carr and Common SSSI	Covers 154.74ha and contains 11 units. 73.05% of area in Favourable condition, 22.72% of area in Unfavourable-Recovering condition, 4.24% of area in Unfavourable-Declining condition.
Conservation Objectives¹⁰	
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;	<ul style="list-style-type: none"> • The extent and distribution of qualifying natural habitats and habitats of qualifying species • The structure and function (including typical species) of qualifying natural habitats • The structure and function of the habitats of qualifying species • The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely • The populations of qualifying species, and, • The distribution of qualifying species within the site.

<i>The Broads SAC/ Broadland SPA, Ramsar</i>	
Site description summary	SAC qualifying features¹¹
A low-lying wetland complex connecting the Bure, Yare, Thurne, and Waveney River systems. Wetland habitats form a mosaic of open water, reedbeds, carr woodland, grazing marsh, and fen meadow, with an extensive network of medieval peat excavations. The Site boasts a rich array of flora and fauna.	3140 Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.
	3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation
	6410 Molinia meadows on calcareous, peaty, or clayey-silt-laden soils (Molinion caeruleae)

¹⁰ Taken from Natural England's European Site Conservation Objectives for Norfolk Valley Fens SAC dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice.

¹¹ Taken from the Natura 2000 Standard data form for site UK0013577 The Broads SAC dated 25-01-16.

The SPA is designated for supporting a number of rare or vulnerable (Article 4.1) Annex I bird species during the breeding season. In addition, the SPA is designated for supporting regularly occurring migratory (Article 4.2) species during the breeding season and over winter.	7140	Transition mires and quaking bogs
	7210	Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i>
	7230	Alkaline fens
	91E0	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)
	4056	<i>Anisus vorticulus</i> (Little whorlpool ram's-horn snail)
	1903	<i>Liparis loeselii</i> (Fen Orchid)
	1355	<i>Lutra Lutra</i> (Eurasian Otter)
	1166	<i>Triturus cristatus</i> (Great Crested Newt)
	1016	<i>Vertigo moulinsiana</i> (Desmoulin's whorl snail)
	SPA qualifying features¹²	
	A056	<i>Anas clypeata</i> (Shoveler) (over winter)
	A050	<i>Anas penelope</i> (Wigeon) (over winter)
	A051	<i>Anas strepera</i> (Gadwall) (over winter)
	A021	<i>Botaurus stellaris</i> (Bittern) (breeding)
	A081	<i>Circus aeruginosus</i> (Marsh Harrier) (breeding)
	A082	<i>Circus cyaneus</i> (Hen Harrier) (over winter)
	A037	<i>Cygnus columbianus bewickii</i> (Bewick's Swan) (over winter)
	A038	<i>Cygnus cygnus</i> (Whooper Swan) (over winter)
	A151	<i>Philomachus pugnax</i> (Ruff) (over winter)
	Ramsar qualifying features¹³	
H7210	Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> Calcium-rich fen dominated by great fen sedge (saw sedge).	
H7230	Alkaline fens Calcium-rich springwater-fed fens.	
H91E0	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>) Alder woodland on floodplains, and the Annex II species	
S1016	<i>Vertigo moulinsiana</i> (Desmoulin's whorl snail)	

¹² Taken from the Natura 2000 Standard data form for site UK9009253 Broadland SPA dated 25-01-16.

¹³ Taken from the Ramsar Information Sheet for Broadland dated 21-09-94.

	S1355	Lutra lutra (Eurasian Otter)
	S1903	Liparis loeselii Fen Orchid
		Cygnus columbianus bewickii, NW Europe (Tundra (Bewick's) Swan)
		Anas penelope (Eurasian Wigeon)
		Anas strepera strepera (Gadwall)
		Anas clypeata (Shoveler)
Component SSSI/s¹⁴		
Alderfen Broad SSSI	Covers 21.34ha and contains 3 units. 8.65% of area in Favourable condition, 91.35% of area in Unfavourable-Recovering condition.	
Ant Broads and Marshes SSSI	Covers 745.27ha and contains 35 units. 54.39% of area in Favourable condition, 39.18% of area in Unfavourable-Recovering condition.	
Barnby Broad & Marshes SSSI	Covers 192.69ha and contains 24 units. 59.93% of area in Favourable condition, 40.07% of area in Unfavourable-Recovering condition.	
Broad Fen, Dilham SSSI	Covers 38.43ha and contains 1 unit. 100% of area in Unfavourable-Recovering condition.	
Bure Broads and Marshes SSSI	Covers 741.15ha and contains 14 units. 43.08% in Favourable condition, 46.85% in Unfavourable-Recovering condition, 10.07% in Unfavourable-No change condition.	
Burgh Common and Muckfleet Marshes SSSI	Covers 121.54ha and contains 9 units. 27.72% of area in Favourable condition, 68.76% of area in Unfavourable-Recovering condition, 3.52% of area in Unfavourable-No change condition.	
Calthorpe Broad SSSI	Covers 43.54ha and contains 3 units. 97.68% of area in Favourable condition, 2.32% of area in Unfavourable-Recovering condition.	
Cantley Marshes SSSI	Covers 272.11ha and contains 3 units. 100% of area in Favourable condition.	
Crostwick Marsh SSSI	Covers 11.57ha and contains 1 unit. 100% of area in Unfavourable-No change condition.	
Damgate Marshes, Acle SSSI	Covers 64.68ha and contains 10 units. 74.73% of area in Favourable condition, 25.27% of area in Unfavourable-Recovering condition.	
Decoy Carr, Acle SSSI	Covers 56.01ha and contains 6 units. 70.21% of area in Favourable condition, 29.79% of area in Unfavourable-Recovering condition.	
Ducan's Marsh, Claxton SSSI	Covers 3.58ha and contains 2 units. 100% of area in Unfavourable-Recovering condition.	
Geldeston Meadows SSSI	Covers 13.98ha and contains 2 units. 97.18% of area in Unfavourable-No change condition, 2.82% of area in Unfavourable-Declining condition.	
Hall Farm Fen, Hemsby SSSI	Covers 9.15ha and contains 1 unit. 100% of area in Favourable condition.	

¹⁴ Condition status taken from Natural England data on 17th June 2019.

Halvergate Marshes SSSI	Covers 1432.72ha and contains 42 units. 72.75% of area in Favourable condition, 23.71% of area in Unfavourable-Declining condition, 3.54% of area in Unfavourable-No change condition.
Hardley Flood SSSI	Covers 49.79ha and contains 2 units. 100% of area in Favourable condition.
Limpenhoe Meadows SSSI	Covers 11.95ha and contains 1 unit. 100% of unit in Unfavourable-Recovering condition.
Ludham – Potter Heigham Marshes SSSI	Covers 101.51ha and contains 6 units. 100% of area in Favourable condition.
Poplar Farm Meadows, Langley SSSI	Covers 7.55ha and contains 1 unit. 100% of area in Favourable condition.
Priory Meadows, Hickling SSSI	Covers 23.94ha and contains 2 units. 29.79% of area in Favourable condition, 70.21% of area in Unfavourable-Recovering condition.
Shallam Dyke Marshes, Thurne SSSI	Covers 69.80ha and contains 8 units. 4.44% of area in Favourable condition, 95.56% of area in Unfavourable-No change condition.
Smallburgh Fen SSSI	Covers 7.63ha and contains 1 unit. 100% of area in Favourable condition.
Sprat's Water and Marshes, Carlton Colville SSSI	Covers 57.14ha and contains 11 units. 80.48% of area in Favourable condition, 19.19% of area in Unfavourable-Recovering condition, 0.33% of area in Unfavourable-No change condition.
Stanley and Alder Carrs, Aldeby SSSI	Covers 42.68ha and contains 3 units. 100% of area in Unfavourable-Recovering condition.
Trinity Broads SSSI	Covers 316.83ha and contains 23 units. 45.48% of area in Favourable condition, 41.98% of area in Unfavourable-Recovering condition, 12.54% of area in Unfavourable-No change condition.
Upper Thurne Broads and Marshes SSSI	Covers 1185.93ha and contains 19 units. 63.97% of area in Favourable condition, 16.65% of area in Unfavourable-Recovering condition, 4.82% of area in Unfavourable-No change condition, 14.57% of area in Unfavourable-Declining condition.
Upton Broad & Marshes SSSI	Covers 195.44ha and contains 18 units. 7.43% of area in Favourable condition, 91.84% of Unfavourable-Recovering condition, 0.72% of area in Unfavourable-No change condition.
Yare Broads and Marshes SSSI	Covers 744.46ha and contains 28 units. 39.22% of area in Favourable condition, 11.30% of area in Unfavourable-Recovering condition, 47.27% of area in Unfavourable-No change condition, 2.20% of area in Unfavourable-Declining condition.
SAC Conservation Objectives¹⁵	
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its	<ul style="list-style-type: none"> • The extent and distribution of qualifying natural habitats and habitats of qualifying species • The structure and function (including typical species) of qualifying natural habitats

¹⁵ Taken from Natural England's European Site Conservation Objectives for The Broads SAC dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice.

Qualifying Features, by maintaining or restoring;	<ul style="list-style-type: none"> • The structure and function of the habitats of qualifying species • The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely • The populations of qualifying species, and, • The distribution of qualifying species within the site.
SPA Conservation Objectives¹⁶	
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;	<ul style="list-style-type: none"> • 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 population of each of the qualifying features, and, • The distribution of the qualifying features within the site.

Breydon Water SPA/Ramsar/SPA (Marine)	
Site description summary	SPA qualifying features¹⁷
<p>An inland tidal estuary at the mouth of the River Yare and its confluence with the Rivers Bure and Waveney. Extensive areas of mud-flats form the only tidal flats on the east Norfolk coast. The Site also features much floodplain grassland, which lies adjacent to the intertidal areas. It is internationally important for wintering waterbirds, some of which feed in the Broadland Ramsar that adjoins this site at Halvergate Marshes.</p> <p>This SPA is part of the Breydon Water European Marine Site.</p>	A037 Cygnus columbianus bewickii (Bewick's (Tundra) Swan) (over winter)
	A151 Philomachus pugnax (Ruff) (concentration)
	A140 Pluvialis apricaria (Golden Plover) (over winter)
	A132 Recurvirostra avosetta (Avocet) (over winter)
	A193 Sterna hirundo (Common Tern) (breeding)
	A142 Vanellus vanellus (Northern Lapwing) (over winter)
	Waterbird assemblage
	Ramsar qualifying features¹⁸
	Internationally important waterfowl assemblage (greater than 20000 birds)
	Over winter the site regularly supports internationally important numbers of: Bewick's Swan <i>Cygnus columbianus bewickii</i> and Lapwing <i>Vanellus vanellus</i>
Component SSSI/s¹⁹	
Breydon Water SSSI	Covers 514.40ha and contains 15 units. 100% of area in Favourable condition.

¹⁶ Taken from Natural England's European Site Conservation Objectives for Broadland SPA dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice.

¹⁷ Taken from the Natura 2000 Standard data form for site UK9009181 Breydon Water SPA dated 25-01-16.

¹⁸ Taken from the Ramsar Information Sheet for Breydon Water dated Feb 2000.

¹⁹ Condition status taken from Natural England data on 17th June 2019.

Halvergate Marshes SSSI	Covers 1432.72ha and contains 42 units. 72.75% of area in Favourable condition, 23.71% of area in Unfavourable-Declining condition, 3.54% of area in Unfavourable-No change condition.
Conservation Objectives²⁰	
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;	<ul style="list-style-type: none"> • 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 population of each of the qualifying features, and, • The distribution of the qualifying features within the site.

Great Yarmouth North Denes SPA	
Site description summary	Qualifying features²¹
Low dunes stabilised by marram grass <i>Ammophila arenaria</i> with extensive areas of grey hair-grass <i>Corynephorus canescens</i> . The Site supports important numbers of little tern <i>Sterna albifrons</i> that feed in waters close to the SPA. This SPA is part of the Great Yarmouth North Denes European Marine Site (EMS).	A195 Sterna albifrons (Little Tern) (breeding)
Component SSSI/s²²	
Great Yarmouth North Denes SSSI	Covers 100.75ha and contains 2 units. 100% of area in Favourable condition.
Winterton – Horsey Dunes SSSI	Covers 426.95ha and contains 12 units. 67.92% of area in Favourable condition, 9.88% of area in Unfavourable-Recovering condition, 22.20% of area in Unfavourable-No change condition.
Conservation Objectives²³	
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;	<ul style="list-style-type: none"> • 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 population of each of the qualifying features, and, • The distribution of the qualifying features within the site.

²⁰ Taken from Natural England's European Site Conservation Objectives for Breydon Water SPA dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice, and should be used in conjunction with the Regulation 35 Conservation Advice Package for the EMS.

²¹ Taken from the Natura 2000 Standard data form for site UK9009271 Great Yarmouth North Denes SPA dated 25-01-16.

²² Condition status taken from Natural England data on 17th June 2019.

²³ Taken from Natural England's European Site Conservation Objectives for Great Yarmouth North Denes SPA dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice, and should be used in conjunction with the Regulation 35 Conservation Advice Package for the EMS.

Winterton – Horsey Dunes SAC		
Site description summary	Qualifying features²⁴	
The only significant area of dune heath on the east coast of England, which occur over an extremely base-poor dune system, and include areas of acidic dune grassland as an associated acidic habitat. These acidic soils support swamp and mire communities, in addition to common dune slack vegetation, including creeping willow <i>Salix repens</i> subsp. <i>argentea</i> and Yorkshire fog <i>Holcus lanatus</i> . The drought resistant grey hair-grass <i>Corynephorus canescens</i> is characteristic of open areas.	2110	Embryonic shifting dunes
	2120	Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes")
	2150	Atlantic decalcified fixed dunes (<i>Calluno-Ulicetea</i>)
	2160	Dunes with <i>Hippophae rhamnoides</i>
	2190	Humid dune slacks
	1166	<i>Triturus cristatus</i> (Great Crested Newt)
Component SSSI/s²⁵		
Winterton – Horsey Dunes SSSI	Covers 426.95ha and contains 12 units. 67.92% of area in Favourable condition, 9.88% of area in Unfavourable-Recovering condition, 22.20% of area in Unfavourable-No change condition.	
Conservation Objectives²⁶		
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;	<ul style="list-style-type: none"> • The extent and distribution of the qualifying natural habitats • The structure and function (including typical species) of the qualifying natural habitats, and, • The supporting processes on which the qualifying natural habitats rely. 	

Paston Great Barn SAC		
Site description summary	Qualifying features²⁷	
Nationally, this is an extremely rare example of a maternity roost of barbastelle bats <i>Barbastella barbastellus</i> in a building. A 16th century thatched barn with associated outbuildings. The maternity colony inhabits many crevices and cracks in the roof timbers.	1308	Barbastella barbastellus (Barbastelle bat) (permanent population)
Component SSSI/s²⁸		
Paston Great Barn SSSI	Covers 0.96ha and contains 1 unit. 100% of area in Favourable condition.	

²⁴ Taken from the Natura 2000 Standard data form for site UK0013043 Winterton – Horsey Dunes SAC dated 25-01-16.

²⁵ Condition status taken from Natural England data via Magic Map on 7th March 2017.

²⁶ Taken from Natural England's European Site Conservation Objectives for Winterton-Horsey Dunes SAC dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice.

²⁷ Taken from the Natura 2000 Standard data form for site UK0030235 Paston Great Barn SAC dated December 2015.

²⁸ Condition status taken from Natural England data on 17th June 2019.

Conservation Objectives²⁹	
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;	<ul style="list-style-type: none"> • The extent and distribution of the habitats of qualifying species • The structure and function of the habitats of qualifying species • The supporting processes on which the habitats of qualifying species rely • The populations of qualifying species, and, • The distribution of qualifying species within the site.

Overstrand Cliffs SAC	
Site description summary	Qualifying features³⁰
Vegetated soft cliffs composed of Pleistocene clays and sands, subject to common cliff-falls and landslips. Vegetation undergoes cycles whereby ruderal-dominated communities develop on the newly exposed sands and mud, succeeded by more stable grassland and scrub vegetation. In areas where freshwater seepages occur there are fen communities and occasional perched reedbeds. The diverse range of habitats support a large number of invertebrate species.	1230 Vegetated sea cliffs of the Atlantic and Baltic Coasts
Component SSSI/s³¹	
Overstrand Cliffs SSSI	Covers 57.75ha and contains 2 units. 100% of area in Favourable condition.
Conservation Objectives³²	
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;	<ul style="list-style-type: none"> • The extent and distribution of the qualifying natural habitats • The structure and function (including typical species) of the qualifying natural habitats, and • The supporting processes on which the qualifying natural habitats rely.

Waveney & Little Ouse Valley Fens SAC	
Site description summary	Qualifying features³³
Calcareous fen containing extensive beds of great fen-sedge <i>Cladium mariscus</i> . Purple moor-grass – meadow thistle <i>Molinia caerulea</i> – <i>Cirsium dissectum</i> fen-meadows, associated with the spring-fed valley fen systems, occur	6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>)

²⁹ Taken from Natural England's European Site Conservation Objectives for Paston Great Barn SAC dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice.

³⁰ Taken from the Natura 2000 Standard data form for site UK0030232 Overstrand Cliffs SAC dated December 2015.

³¹ Condition status taken from Natural England data on 17th June 2019.

³² Taken from Natural England's European Site Conservation Objectives for Overstrand Cliffs SAC dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice.

³³ Taken from the Natura 2000 Standard data form for site UK0012882 Waveney and Little Ouse Valley Fens SAC dated December 2015.

in conjunction with black bog-rush – blunt-flowered rush <i>Schoenus nigricans</i> – <i>Juncus subnodulosus</i> mire and calcareous fens with great fen-sedge. Grazed areas of fen-meadow are more species-rich, and frequently support southern marsh-orchid <i>Dactylorhiza praetermissa</i> .	7210	Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i>
	1016	<i>Vertigo moulinsiana</i> (Desmoulin's whorl snail)
Component SSSI/s³⁴		
Blo' Norton and Thelnetham Fen SSSI	Covers 21.32ha and contains 6 units. 35.08% of area in Favourable condition, 64.92% of area in Unfavourable-Recovering condition.	
Redgrave and Lopham Fens SSSI	Covers 127.03ha and contains 4 units. 100% of area in Unfavourable-Recovering condition.	
Weston Fen SSSI	Covers 49.73ha and contains 10 units. 49.79% of area in Favourable condition, 33.02% of area in Unfavourable-Recovering condition, 17.19% of area in Unfavourable-No change condition.	
Conservation Objectives³⁵		
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;	<ul style="list-style-type: none"> • The extent and distribution of qualifying natural habitats and habitats of qualifying species • The structure and function (including typical species) of qualifying natural habitats • The structure and function of the habitats of qualifying species • The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely • The populations of qualifying species, and, • The distribution of qualifying species within the site. 	

Redgrave and South Lopham Fens Ramsar	
Site description summary	Qualifying features³⁶
An extensive area of spring-fed valley fen at the headwaters of the River Waveney which supports a variety of fen plant community types, including <i>Molinia</i> -based grasslands, mixed sedge-fen, and reed-dominated fen. Small areas of wet heath, sallow carr, and birch woodland also occur, and the Site is known to support the fen raft spider <i>Dolomedes plantarius</i> .	The site is an extensive example of spring-fed lowland base-rich valley, remarkable for its lack of fragmentation.
	The site supports many rare and scarce invertebrates, including a population of the fen raft spider <i>Dolomedes plantarius</i> . This spider is also considered vulnerable by the IUCN Red List.

³⁴ Condition status taken from Natural England data on 17th June 2019.

³⁵ Taken from Natural England's European Site Conservation Objectives for Waveney and Little Ouse Valley Fens SAC dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice.

³⁶ Taken from the Ramsar Information Sheet for Redgrave and South Lopham Fen Ramsar dated May 2005.

	The site supports many rare and scarce invertebrates, including a population of the fen raft spider <i>Dolomedes plantarius</i> . The diversity of the site is due to the lateral and longitudinal zonation of the vegetation types characteristic of valley mires.
Component SSSI/s³⁷	
Redgrave and Lopham Fens SSSI	Covers 127.03ha and contains 4 units. 100% of area in Unfavourable-Recovering condition.
Conservation Objectives	
n/a	

Breckland SPA/SAC		
Site description summary	SPA qualifying features³⁸	
<p>A gently rolling plateau underlain by cretaceous chalk bedrock covered with thin deposits of sand and flint. The climate and free-draining soils has produced dry heath and grassland communities. Pingos with biological interest occur in some areas. The highly variable soils of Breckland, with underlying chalk being largely covered with wind-blown sands, have resulted in mosaics of heather-dominated heathland, acidic grassland and calcareous grassland that are unlike those of any other site. Breckland is the most extensive surviving area of the rare sheep's fescue – mouse-ear hawkweed – wild thyme <i>Festuca ovina – Hieracium pilosella – Thymus praecox</i> grassland type. A number of the water bodies within the site support populations of amphibians, including great crested newts <i>Triturus cristatus</i>.</p>	A133	Burhinus oedicnemus (Stone Curlew) (breeding)
	A224	Caprimulgus europaeus (Nightjar) (breeding)
	A246	Lullula arborea (Woodlark) (breeding)
	SAC qualifying features³⁹	
	2330	Inland dunes with open Corynephorus and Agrostis grasslands
	3150	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation
	4030	European dry heaths
	6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)
	91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)
	1308	Barbastella barbastellus (Barbastelle bat)
1166	Triturus cristatus (Great Crested Newt)	

³⁷ Condition status taken from Natural England data on 17th June 2019.

³⁸ Taken from the Natura 2000 Standard data form for site UK9009201 Breckland SPA dated December 2015.

³⁹ Taken from the Natura 2000 Standard data form for site UK0019865 Breckland SAC dated December 2015.

Component SSSI/s ⁴⁰ (within SPA, SAC or both)	
Barnham Heath SSSI	Covers 78.62ha and contains 2 units. 89.45% of area in Favourable condition, 10.55% of area in Unfavourable-Recovering condition.
Barnhamcross Common SSSI	Covers 69.08ha and contains 2 units. 100% of area in Unfavourable-Recovering condition.
Berner's Heath, Icklingham SSSI	Covers 235.86ha and contains 3 units. 97.09% of area in Favourable condition, 2.91% of area destroyed.
Breckland Farmland SSSI	Covers 13392.36ha and contains 70 units. 100% of area in Favourable condition.
Breckland Forest SSSI	Covers 18125.99ha and contains 7 units. 0.09% of area in Favourable condition, 99.91% of area in Unfavourable-Recovering condition.
Bridgham & Brettenham Heaths SSSI	Covers 439.91ha and contains 6 units. 12.75% of area in Favourable condition, 87.25% of area in Unfavourable-Recovering condition.
Cavenham – Icklingham Heaths SSSI	Covers 419.01ha and contains 27 units. 30.59% of area in Favourable condition, 65.03% of area in Unfavourable-Recovering condition, 1.78% of area in Unfavourable-No change condition. 2.59% destroyed.
Cranberry Rough, Hockham SSSI	Covers 81.13ha and contains 4 units. 21.62% of area in Favourable condition, 78.38% of area in Unfavourable-Recovering condition.
Cranwich Camp SSSI	Covers 13.10ha and contains 1 unit. 100% of area in Unfavourable-Recovering condition.
Deadman's Grave, Icklingham SSSI	Covers 127.33ha and contains 6 units. 14.17% of area in Favourable condition, 83.80% of area in Unfavourable-Recovering condition, 2.03% of area in Unfavourable-Declining condition.
East Wretham Heath SSSI	Covers 141.05ha and contains 6 units. 7% of area in Favourable condition, 89.08% of area in Unfavourable-Recovering condition, 3.92% of area in Unfavourable-Declining condition.
Eriswell Low Warren SSSI	Covers 7.42ha and contains 1 unit. 100% of area in Favourable condition.
Field Barn Heaths, Hilborough SSSI	Covers 17.86ha and contains 1 unit. 100% of area in Unfavourable-Recovering condition.
Foxhole Heath, Eriswell SSSI	Covers 85.17ha and contains 1 unit. 100% of area in Favourable condition.
Gooderstone Warren SSSI	Covers 21.63ha and contains 4 units. 100% of area in Unfavourable-Recovering condition.
Grime's Graves SSSI	Covers 66.12ha and contains 3 units. 26.79% of area in Favourable condition, 73.21% of area in Unfavourable-Recovering condition.
How Hill Track SSSI	Covers 3.11ha and contains 1 unit. 100% of area in Favourable condition.
Lakenheath Warren SSSI	Covers 588.33ha and contains 11 units. 1.62% of area in Favourable condition, 63.40% of area in

⁴⁰ Condition status taken from Natural England data via Magic Map on 3 December 2019.

	Unfavourable-Recovering condition, 34.99% of area in Unfavourable-No change condition.
RAF Lakenheath SSSI	Covers 111ha and contains 4 units. 100% of area in Favourable condition.
Little Heath, Barnham SSSI	Covers 46.25ha and contains 3 units. 13.52% of area in Favourable condition, 2.59% of area in Unfavourable-Recovering condition, 83.89% of area in Unfavourable-Declining condition.
Old Bodney Camp SSSI	Covers 32.76ha and contains 2 units. 100% of area in Favourable condition.
Rex Graham Reserve SSSI	Covers 2.76ha and contains 1 unit. 100% of area in Favourable condition.
Stanford Training Area SSSI	Covers 4677.96ha and contains 81 units. 42.12% of area in Favourable condition, 54.71% of area in Unfavourable-Recovering condition, 3.12% of area in Unfavourable-No change condition, 0.05% of area in Unfavourable-Declining condition.
Thetford Golf Course & Marsh SSSI	Covers 122.30ha and contains 8 units. 3.12% of area in Favourable condition, 67.83% of area in Unfavourable-Recovering condition, 29.05% of area in Unfavourable-No change condition.
Thetford Heaths SSSI	Covers 270.58ha and contains 4 units. 36.32% of area in Favourable condition, 57.06% of area in Unfavourable-Recovering condition, 6.62% of area in Unfavourable-No change condition.
Wangford Warren and Carr SSSI	Covers 67.79ha and contains 5 units. 22.65% of area in Favourable condition, 77.35% of area in Unfavourable-Recovering condition.
Weather and Horn Heaths, Eriswell SSSI	Covers 133.32ha and contains 3 units. 97.77% of area in Unfavourable-Declining condition, 2.23% of area Partially destroyed.
Weeting Heath SSSI	Covers 141.75ha and contains 6 units. 40.15% of area in Favourable condition, 38.97% of area in Unfavourable-Recovering condition, 20.88% of area in Unfavourable-No change condition.
West Stow Heath SSSI	Covers 44.30ha and contains 5 units. 14.51% of area in Favourable condition, 85.49% of area in Unfavourable-Recovering condition.
SPA Conservation Objectives⁴¹	
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;	<ul style="list-style-type: none"> • 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 population of each of the qualifying features, and,

⁴¹ Taken from Natural England's European Site Conservation Objectives for Breckland SPA dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice.

	<ul style="list-style-type: none"> The distribution of the qualifying features within the site
SAC Conservation Objectives⁴²	
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;	<ul style="list-style-type: none"> The extent and distribution of qualifying natural habitats and habitats of qualifying species The structure and function (including typical species) of qualifying natural habitats The structure and function of the habitats of qualifying species The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely The populations of qualifying species, and, The distribution of qualifying species within the site.

Benacre to Easton Bavents Lagoons SAC/Benacre to Easton Bavents SPA							
Site description summary	SAC qualifying features⁴³						
<p>Situated on the east coast of Suffolk, this site includes semi-natural broadleaved woodland, tall fen vegetation, shingle, dunes and grassland, saltmarsh and coastal lagoons. The habitats are important for breeding, wintering and passage birds.</p> <p>There are a series of percolating lagoons that have formed behind shingle barriers and are a feature of a geomorphologically dynamic system. The site supports a number of specialist lagoonal species.</p> <p>The SPA is part of the Benacre to Easton Bavents European Marine Site.</p>	<table border="1"> <tr> <td>1150</td> <td>Coastal lagoons</td> </tr> <tr> <td>91E0</td> <td>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>)</td> </tr> </table>	1150	Coastal lagoons	91E0	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)		
	1150	Coastal lagoons					
	91E0	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)					
	SPA qualifying features⁴⁴						
<table border="1"> <tr> <td>A021</td> <td><i>Botaurus stellaris</i> (Bittern) (breeding)</td> </tr> <tr> <td>A081</td> <td><i>Circus aeruginosus</i> (Marsh Harrier) (breeding)</td> </tr> <tr> <td>A195</td> <td><i>Sterna albifrons</i> (Little Tern) (breeding)</td> </tr> </table>	A021	<i>Botaurus stellaris</i> (Bittern) (breeding)	A081	<i>Circus aeruginosus</i> (Marsh Harrier) (breeding)	A195	<i>Sterna albifrons</i> (Little Tern) (breeding)	
A021	<i>Botaurus stellaris</i> (Bittern) (breeding)						
A081	<i>Circus aeruginosus</i> (Marsh Harrier) (breeding)						
A195	<i>Sterna albifrons</i> (Little Tern) (breeding)						
Component SSSI/s⁴⁵							
Pakefield to Easton Bavents SSSI	Covers 735.45ha and contains 51 units. 48.73% of area in Favourable condition, 38.98% of area in Unfavourable-Recovering condition, 8.73% of area in Unfavourable-No change condition, 3.11% Unfavourable-Declining condition, 0.45% of area Partially destroyed.						
SAC Conservation Objectives⁴⁶							
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its	<ul style="list-style-type: none"> The extent and distribution of qualifying natural habitats The structure and function (including typical species) of qualifying natural habitats, and 						

⁴² Taken from Natural England's European Site Conservation Objectives for Breckland SAC dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice.

⁴³ Taken from the Natura 2000 Standard data form for site UK0013104 Benacre to Easton Bavents Lagoons SAC dated December 2015.

⁴⁴ Taken from the Natura 2000 Standard data form for site UK9009291 Benacre to Easton Bavents SPA dated December 2015.

⁴⁵ Condition status taken from Natural England data on 17th June 2019.

⁴⁶ Taken from Natural England's European Site Conservation Objectives for Benacre to Easton Bavents Lagoons SAC dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice.

Qualifying Features, by maintaining or restoring;	<ul style="list-style-type: none"> The supporting processes on which qualifying natural habitats rely.
SPA Conservation Objectives⁴⁷	
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;	<ul style="list-style-type: none"> 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 population of each of the qualifying features, and, The distribution of the qualifying features within the site.

Dew's Ponds SAC	
Site description summary	Qualifying features⁴⁸
A series of 12 ponds located in rural East Suffolk, in formerly predominantly arable land. Great Crested Newt has been found in all ponds. Some of the arable land has been converted to grassland and there are also hedgerows and ditches.	1166 Triturus cristatus (Great Crested Newt)
Component SSSI/s⁴⁹	
Dew's Ponds SSSI	Covers 6.72ha and contains 4 units. 100% of area in Favourable condition.
Conservation Objectives⁵⁰	
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;	<ul style="list-style-type: none"> The extent and distribution of the habitats of qualifying species The structure and function of the habitats of qualifying species The supporting processes on which the habitats of qualifying species rely The populations of qualifying species, and, The distribution of qualifying species within the site.

The Wash and North Norfolk Coast SAC (inshore)	
Site description summary	Qualifying features⁵¹
The Wash is the largest embayment in the UK and is connected to the North Norfolk Coast	1110 Sandbanks which are slightly covered by sea water all the time

⁴⁷ Taken from Natural England's European Site Conservation Objectives for Benacre to Easton Bavents SPA dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice, and should be used in conjunction with the Regulation 35 Conservation Advice Package for the EMS.

⁴⁸ Taken from the Natura 2000 Standard data form for site UK0030133 Dew's Ponds SAC dated December 2015.

⁴⁹ Condition status taken from Natural England data on 17th June 2019.

⁵⁰ Taken from Natural England's European Site Conservation Objectives for Dew's Ponds SAC dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice.

⁵¹ Taken from the Natura 2000 Standard data form for site UK0017075 The Wash and North Norfolk Coast SAC dated December 2015.

<p>via sediment transfer systems. Together The Wash and North Norfolk Coast form one of the most important marine areas in the UK and European North Sea coast, and include extensive areas of varying, but predominantly sandy, sediments subject to a range of conditions. Communities in the intertidal include those characterised by large numbers of polychaetes, bivalve and crustaceans. Subtidal communities cover a diverse range from the shallow to the deeper parts of the embayments and include dense brittlestar beds and areas of an abundant reef-building worm ('ross worm') <i>Sabellaria spinulosa</i>. The embayment supports a variety of mobile species, including a range of fish, otter <i>Lutra lutra</i> and common seal <i>Phoca vitulina</i>. The extensive intertidal flats provide ideal conditions for common seal breeding and hauling-out.</p> <p>This SAC is part of The Wash and North Norfolk Coast European Marine Site.</p>	1140	Mudflats and sandflats not covered by seawater at low tide
	1150	Coastal lagoons
	1160	Large shallow inlets and bays
	1170	Reefs
	1310	Salicornia and other annuals colonizing mud and sand
	1320	Spartina swards (<i>Spartinion maritimae</i>)
	1330	Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>)
	1420	Mediterranean and thermo-Atlantic halophilous scrubs (<i>Sarcocornetea fruticosi</i>)
	1364	<i>Halichoerus grypus</i> (Grey Seal)
	1355	<i>Lutra lutra</i> (Eurasian Otter)
1365	<i>Phoca vitulina</i> (Harbour/Common Seal)	
Component SSSI/s		
The Wash SSSI	62045.64ha of which 67.98 is favourable, and 31.61% is unfavourable recovering. 0.41% of the area is unfavourable declining.	
Conservation Objectives⁵²		
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;	<ul style="list-style-type: none"> • The extent and distribution of the habitats of qualifying species • The structure and function of the habitats of qualifying species • The supporting processes on which the habitats of qualifying species rely • The populations of qualifying species, and, • The distribution of qualifying species within the site. 	

North Norfolk Coast SPA (marine)/SAC (inshore)/Ramsar		
Site description summary	SAC qualifying features⁵³	
<p>Important within Europe as one of the largest areas of undeveloped coastal habitat of its type, supporting intertidal mudflats and sandflats, coastal waters, saltmarshes, shingle, sand dunes, freshwater grazing marshes, and reedbeds. Large numbers of waterbirds use the Site throughout the year. In Summer, the Site and surrounding area are important for breeding populations of four species of tern, waders, bittern <i>Botaurus stellaris</i>, and wetland raptors including marsh harrier <i>Circus aeruginosus</i>. In Winter, the Site</p>	1150	Coastal lagoons
	1220	Perennial vegetation of stony banks
	1420	Mediterranean and thermo-Atlantic halophilous scrubs (<i>Sarcocornetea fruticosi</i>)
	2110	Embryonic shifting dunes
	2120	Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes")

⁵² Taken from Natural England's European Site Conservation Objectives for The Wash and North Norfolk SAC dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice, and should be used in conjunction with the Regulation 35 Conservation Advice Package for the EMS.

⁵³ Taken from the Natura 2000 Standard data form for site UK0019838 North Norfolk Coast SAC dated December 2015.

<p>supports large numbers of geese, sea ducks, other ducks and waders using the Site for roosting and feeding. The Site is also important for migratory species during the Spring and Autumn.</p> <p>This SAC is part of the North Norfolk Coast European Marine Site.</p> <p>The SPA is designated for supporting a number of rare or vulnerable (Article 4.1) Annex I bird species during the breeding season. In addition, the SPA is designated for supporting regularly occurring migratory (Article 4.2) species during the breeding season and over winter.</p> <p>This SPA is part of The Wash and North Norfolk Coast European Marine Site (EMS).</p>	2130	Fixed coastal dunes with herbaceous vegetation ("grey dunes")
	2160	Dunes with Hippophae rhamnoides
	2190	Humid dune slacks
	1355	Lutra Lutra (Eurasian Otter)
	1395	Petallophyllum ralfsii (Petalwort)
	1166	Triturus cristatus (Great Crested Newt)
	SPA qualifying features⁵⁴	
	A040	Anser brachyrhynchus (Pink-footed Goose) (over winter)
	A050	Anas penelope (Wigeon) (over winter)
	A021	Botaurus stellaris (Bittern) (breeding)
	A675	Branta bernicla bernicla (Dark-bellied Brent Goose) (over winter)
	A143	Callidris canutus (Red Knot) (over winter)
	A081	Circus aeruginosus (Marsh Harrier) (breeding)
A132	Recurvirostra avosetta (Avocet) (breeding and over winter)	
A195	Sterna albifrons (Little Tern) (breeding)	
A193	Sterna hirundo (Common tern) (breeding)	
A191	Sterna sandvicensis (Sandwich Tern) (breeding)	
WATR	Waterfowl assemblage	
Ramsar qualifying features⁵⁵		
<p>The site is one of the largest expanses of undeveloped coastal habitat of its type in Europe. It is a particularly good example of a marshland coast with intertidal sand and mud, saltmarshes, shingle banks and sand dunes. There are a series of brackish-water lagoons and extensive areas of freshwater grazing marsh and reed beds.</p>		
<p>Supports at least three British Red Data Book and nine nationally scarce vascular plants, one British Red Data Book lichen and 38 British Red Data Book invertebrates.</p>		
<p>98462 waterfowl peak count in winter (assemblages of international importance)</p>		
<p>Sterna sandvicensis (Sandwich Tern) (breeding)</p>		
<p>Sterna hirundo (Common Tern) (breeding)</p>		
<p>Sterna albifrons (Little Tern) (breeding)</p>		

⁵⁴ Taken from the Natura 2000 Standard data form for site UK9009031 North Norfolk Coast SPA dated December 2015.

⁵⁵ Taken from the Ramsar Information Sheet for North Norfolk Coast dated 13-06-08.

	Calidris canutus (Red Knot) (over winter)
	Anser brachyrhynchus (Pink-footed Goose) (over winter)
	Branta bernicla bernicla (Dark-bellied Brent goose) (over winter)
	Anas penelope (Wigeon) (over winter)
	Anas acuta (Pintail) (over winter)
Component SSSI/s⁵⁶	
North Norfolk Coast SSSI	Covers 7862.29ha and contains 70 units. 97.82% of area in Favourable condition, 2.18% of area in Unfavourable-Recovering condition.
SAC Conservation Objectives⁵⁷	
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;	<ul style="list-style-type: none"> • The extent and distribution of qualifying natural habitats and habitats of qualifying species • The structure and function (including typical species) of qualifying natural habitats • The structure and function of the habitats of qualifying species • The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely • The populations of qualifying species, and, • The distribution of qualifying species within the site.
SPA Conservation Objectives⁵⁸	
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;	<ul style="list-style-type: none"> • 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 population of each of the qualifying features, and, • The distribution of the qualifying features within the site.

<i>Southern North Sea cSAC (offshore and inshore)</i>	
Site description summary	Qualifying features⁵⁹
The Southern North Sea site has been recognised as ‘an area of predicted persistent high densities of harbour porpoise’. Therefore, the Southern North Sea site has been submitted to the EU and is a candidate for designation as an Inshore and	1351 Phocoena phocoena (Harbour Porpoise)

⁵⁶ Condition status taken from Natural England data on 17th June 2019.

⁵⁷ Taken from Natural England’s European Site Conservation Objectives for North Norfolk Coast SAC dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice, and should be used in conjunction with the Regulation 35 Conservation Advice Package for the EMS.

⁵⁸ Taken from Natural England’s European Site Conservation Objectives for North Norfolk Coast SPA dated 30th June 2014-version 2. Should be read in conjunction with the accompanying Supplementary Advice document which provides more detailed advice, and should be used in conjunction with the Regulation 35 Conservation Advice Package for the EMS.

⁵⁹ Taken from the Natura 2000 Standard Data Form for Site UK0030395 Southern North Sea SCI dated January 2017.

<p>Offshore SAC for the Annex II species, Harbour Porpoise.</p> <p>The Southern North Sea site extends down the North Sea from the River Tyne, south to the River Thames. The aim of the SAC is to support the maintenance of harbour porpoise populations throughout UK waters (the Southern North Sea supports higher number of porpoises compared to many other parts of their UK range). Seasonal differences in the use of the site by harbour porpoises which show the elevated densities of the species in some parts of the site compared to others during the summer and winter, have been identified. The main threats to harbour porpoise are from incidental catch, pollution and noise/physical disturbance.</p>	
<p>Component SSSI/s</p>	
<p>n/a</p>	
<p>Conservation Objectives⁶⁰</p>	
<p>The focus of the Conservation Objectives for harbour porpoise sites is on addressing pressures that affect site integrity and would include:</p>	<ul style="list-style-type: none"> • killing or injuring significant numbers of harbour porpoise (directly or indirectly); • preventing their use of significant parts of the site (disturbance / displacement); • significantly damaging relevant habitats; or • significantly reducing the prey base.
<p>The Conservation Objectives document also contains the following guidance:</p>	<p>The seasonality in porpoise distribution should be considered in the assessment of impacts and proposed management.</p>

<p><i>Outer Thames Estuary SPA (marine)/Outer Thames Estuary Extension pSAC (marine)</i></p>	
<p>Site description summary</p>	<p>Qualifying features⁶¹</p>
<p>This SPA is entirely marine and is designated because its habitats support 38% of the Great British population of over-wintering Red-throated Diver <i>Gavia stellata</i>, a qualifying species under Article 4.1 of the Birds Directive. The Outer Thames Estuary SPA covers vast areas of marine habitat off the east coast between Caister-on-Sea, Norfolk in the north, down to Margate, Kent in the south. The habitats covered by the SPA include marine areas and sea inlets where Red-throated Diver is particularly susceptible to noise and visual disturbance e.g. from wind farms and coastal recreation activities. Threats from effluent discharge, oil spillages and entanglement/drowning in fishing nets are significant.</p>	<p>A001 <i>Gavia stellata</i> (Red-throated Diver) (over winter)</p>

⁶⁰ Taken from Natural England's Harbour Porpoise (*Phocoena phocoena*) possible Special Area of Conservation: Southern North Sea Draft Conservation Objectives and Advice on Activities dated January 2016.

⁶¹ Taken from the Natura 2000 Standard Data Form for Site UK9020309 Outer Thames Estuary SPA dated December 2015.

The addition of two new protected features and associated boundary amendments was consulted on in January to July 2016. The proposed extension would afford protection for Little tern and Common tern foraging areas, enhancing protection already afforded to their feeding and nesting areas in the adjacent coastal SPAs (Foulness SPA, Breydon Water SPA and Minsmere to Walberswick SPA).	
Component SSSI/s	
n/a	
Conservation Objectives⁶²	
Subject to natural change, maintain or enhance the red-throated diver population and its supporting habitats in favourable condition.	

<i>Haisborough, Hammond and Winterton SAC</i>	
Site description summary	Qualifying features⁶³
The site lies off the north east coast of Norfolk and contains a series of sandbanks as well as Sabellaria spinulosa reefs. Small numbers of Harbour Porpoise are regularly observed within the site boundary and a large colony of breeding Grey Seal is known adjacent to the site.	1110 Sandbanks which are slightly covered by sea water all the time
	1170 Reefs
	1364 Halichoerus grypus (Grey Seal)
	1351 Phocoena phocoena (Harbour Porpoise)
Component SSSI/s	
n/a	
Conservation Objectives⁶⁴	
For Annex 1 sandbanks which are slightly covered by seawater all the time:	Subject to natural change maintain the sandbanks in favourable condition, in particular the sub-features: <ul style="list-style-type: none"> • Low diversity dynamic sand communities • Gravelly muddy sand communities
For Annex 1 Sabellaria spinulosa reefs:	Subject to natural change maintain or restore the reefs in favourable condition

2.2 Other relevant Plans or Projects potentially affecting these sites

2.2.1 In addition to the potential impact that Greater Norwich Local Plan may have upon the nearby European sites described above, other plans/documents/guidance may also impact upon these sites, in particular the plans of the neighbouring local planning authorities. The most relevant documents are likely to be those concerned with planning policy and infrastructure provision.

2.2.2 The neighbouring local authorities as well as those that contain European sites within the Zone of Influence of the Greater Norwich Growth Area are listed below. Their planning documents

⁶² Taken from Natural England's Draft advice under Regulation 35(3) of The Conservation of Habitats and Species Regulations 2010 (as amended) and Regulation 18 of The Offshore Marine Conservation (Natural Habitats, & c.) Regulations 2007 (as amended) for Outer Thames Estuary SPA Version 3.7 March 2013.

⁶³ Taken from the Natura 2000 Standard data form for site UK0030369 Haisborough, Hammond and Winterton SAC dated December 2015.

⁶⁴ Taken from JNCC and Natural England's Haisborough, Hammond and Winterton candidate Special Area of Conservation Formal advice under Regulation 35(3) of The Conservation of Natural Habitats and Species Regulations 2010 (as amended), and Regulation 18 of The Offshore Marine Conservation Regulations (Natural Habitats,&c.) Regulations 2007 (as amended). Version 6.0 (March 2013).

such as Core Strategy and Development Plan Documents, (emerging) Local Plans, Site Allocation documents and Area Action Plans, together with Neighbourhood Plans, are likely to be the most relevant when considering potential for cumulative impacts upon European sites.

- Broads Authority
- Breckland Council
- Borough Council of King's Lynn & West Norfolk
- North Norfolk District Council
- Great Yarmouth Borough Council
- East Suffolk Council
- Mid Suffolk District Council
- West Suffolk Council
- South Holland District Council
- Boston Borough Council
- East Lindsey District Council
- Norfolk County Council – Minerals site specific allocations DPD

2.2.3 Plans or projects connected with infrastructure planning and management also have potential to impact European sites, whether alone or in combination. Such plans are listed below and will need to be considered further in the report.

- Greater Norwich Water Cycle Study
- Green Infrastructure Strategy (2007) and Green Infrastructure Delivery Plan (2009)
- River Basin Management Plan for the Anglian Water Basin District (2015)
- North East Norwich Growth Triangle Green Infrastructure Delivery Plan (2016)
- East Broadland Green Infrastructure Delivery Plan (2015)
- West Broadland Green Infrastructure Project Plan (2018)
- Norwich River Wensum Green Infrastructure Strategy (not currently available)
- Green Infrastructure sections of the Wymondham Area Action Plan (2015)
- Green Infrastructure sections of the Long Stratton Area Action Plan (2016)

2.2.4 Anglia Water's 2019 Water Resource Management Plan outlines how Anglian Water will maintain a sustainable balance between water supplies and demand over the next 25 years. It describes how it proposes to maintain that balance by investing in demand management – metering and water efficiency for example – and developing new water resources. No new boreholes or increase in abstraction from existing boreholes are explicitly proposed.

2.2.5 Anglian Water's Long Term Water Recycling Plan (September 2018) sets out a long term strategy to identify the need for further investment by Anglian Water at existing water recycling centres or within foul sewerage catchments to accommodate the anticipated scale and timing of growth. Growth in Greater Norwich as well as in the remainder of the area served by Anglian Water is included in this plan.

3 Likely significant effects of Greater Norwich Local Plan on European sites

3.1 Necessary or connected with management of European sites?

3.1.1 It is considered that the Greater Norwich Local Plan is not necessary for, or connected with, the nature conservation management of any European sites.

3.2 Likely significant effects which might arise from policies and allocations within Greater Norwich Local Plan

3.2.1 There are a number of potential impacts arising from policies and allocations within the Local Plan. These include

- Increased recreational pressure: trampling of vegetation or disturbance to birds, or providing difficulties in site management for example.
- Increased pressure on water resources: The new homes would require a reliable source of drinking water which could affect wetlands from increased abstraction.
- Pollution impacts: Waste water discharge from new developments, including foul water discharges may reduce the water quality of rivers or wetlands.
- Pollution impacts: Additional traffic movements increasing emissions to air such as Nitrogen oxides NO_x and Sulphur dioxide SO₂ which have the potential to result in adverse impact upon vegetation or water quality.
- Increased urbanisation of the countryside: predation by cats, fly-tipping, increase in arson, vandalism of European site infrastructure such as fences, disturbance of livestock, etc.

3.2.2 There are no direct land-take impacts on any European site in the allocations.

3.2.3 Impacts arising from any of the above factors upon a designated European site could occur in isolation and result from development of a single large housing site, for example in the immediate vicinity of Norwich; or through a combination of dispersed developments elsewhere in the Growth Area. Some European sites would be more vulnerable to recreational pressure whilst others might be more sensitive to other types of impacts. In isolated incidences, a European designated site may be sensitive to several different types of impact, for example both recreational pressure and an impact upon water resources.

3.2.4 Detailed information on likely significant effects were provided in the January 2018 Interim Habitats Regulations Assessment. Since that date, new procedures for the Habitats Regulations process have come into force, where less attention to detail is required at 'likely significant effect' stage and more attention to detail is required at 'appropriate assessment' stage.

3.3 Conclusion of assessment of likely significant effect ('screening' stage)

3.3.1 It is concluded that the Regulation 18 Draft Local Plan, may be likely to have a significant effect upon one or more European sites. The Local Plan is not necessary for, or connected with, nature conservation management of European sites. It is concluded that an appropriate assessment of impacts is necessary.

4 Appropriate assessment of the Greater Norwich Local Plan.

4.1 Introduction

- 4.1.1 This appropriate assessment considers impacts of each policy individually, and for the whole plan. Cumulative impacts with other plans or projects are then considered.
- 4.1.2 Where there are policy gaps or incomplete mitigation in place, these are mentioned so that there is clarity on further steps to be taken.
- 4.1.3 Assessment is carried out on each policy below prior to in-combination effects being assessed.

5 Appropriate Assessment of Policy 1 'The Growth Strategy'

5.1 Policy summary

5.1.1 To meet the need for around 40,500 new homes to 2038, sites are committed for a minimum of 44,343 new homes. To aid delivery of 33,000 additional jobs and support key economic sectors, 360ha of strategic employment land is allocated and employment opportunities are promoted at the local level. Supporting infrastructure will be provided in line with policies 2 and 4.

5.1.2 Growth is distributed in line with the settlement hierarchy to provide good access to services, employment and infrastructure. It is provided through urban and rural regeneration, along with sustainable urban and village extensions. The majority of the housing, employment and infrastructure growth is focussed in the Strategic Growth Area illustrated on the Key Diagram which includes Greater Norwich's key part of the Cambridge Norwich Tech Corridor, including the Norwich urban area, Hetherset and Wymondham and key strategic jobs sites at Hethel and the Norwich Research Park. Growth is also focussed in towns and villages to support vibrant rural communities. For more detail please see the key diagram of the Local Plan.

5.1.3 Housing commitments are distributed as follows:

Area	Existing deliverable commitment (April 2018)	New allocations (including uplift)	Total deliverable housing commitment 2018 - 2038
Norwich urban area	26,165	4,395	30,560
The main towns of Wymondham, Aylsham, Diss (with Roydon), Harleston and Long Stratton	5,092	1,250	6,342
The key service centres of Acle, Blofield, Brundall, Hetherset, Hingham, Loddon / Chedgrave, Poringland / Framingham Earl, Reepham and Wroxham	2,902	515	3,417
Village clusters in Broadland District	995	Up to 480	4024
Village clusters in South Norfolk District	1,349	Minimum 1,200	
Total	36,503	7,840	44,343

5.1.4 Policies 7.1 to 7.5 provide details of this distribution and the Sites document provides individual site policies. Individual site policies for villages in South Norfolk will be in the South Norfolk Village Clusters Plan. Additional "windfall" housing growth will be considered within settlement boundaries, in service village clusters and on sites up to three dwellings in all parishes.

5.1.5 Strategic employment sites which are protected from other forms of development are Norwich city centre; the Norwich Airport area; Browick Interchange, Wymondham; Longwater; Rackheath; Broadland Business Park; Broadland Gate; Norwich Research Park; Hethel and the Food Enterprise Park at Easton/Honingham.

5.1.6 Smaller scale employment sites are also allocated in urban areas, towns and large villages to provide local job opportunities, supporting small businesses and a vibrant rural economy.

5.2 Assessment of construction impacts on any European site

5.2.1 Policy does not suggest that any allocations will be within or close to any European site such that there would be construction impacts such as land-take or disturbance from the construction activities.

5.3 Increased recreational pressure: potential impacts.

5.3.1 Recreational use of a European site has the potential to:

- Cause damage to soils and vegetation through trampling and erosion;
- Cause disturbance to sensitive species, particularly ground-nesting birds and wintering wildfowl.
- Cause eutrophication as a result of dog fouling;
- Cause littering, giving rise to potential animal mortality, nutrient enrichment and small-scale pollution
- Prevent appropriate management or exacerbate existing management difficulties, for example grazing being restricted.

5.3.2 Different types of European sites are subject to different types of recreational pressures and have different vulnerabilities. Studies across a range of species have shown that the effects from recreation can be complex. Recreational pressure is likely to be generated by an increase in residents associated with the new housing but less so for employment development.

Trampling pressure and mechanical/abrasive damage

5.3.3 Most types of terrestrial European site can be affected by trampling, which in turn causes soil compaction and erosion, depending upon soil conditions, or changes to the vegetation. Motorcycle scrambling and off-road vehicle use can cause serious erosion, as well as disturbance to sensitive species but significant impacts can also arise from walkers, cyclists and horses, resulting in reduction in vegetation cover.

5.3.4 Studies in a variety of vegetation types have shown that low-growing, mat-forming grasses appear most resistant to trampling, while tall forbs (non-woody vascular plants other than grasses, sedges, rushes and ferns) were considered least resistant. Cover of hemicryptophytes and geophytes (plants with buds below the soil surface) was heavily reduced after two weeks of trampling pressure, but had recovered well after one year and as such these were considered to have resilience in respect of trampling pressure. Chamaephytes (plants with buds above the soil surface) were least resilient to trampling.

5.3.5 In practice this can mean changes to the vegetation community compromising the viability of taller growing fragile plant species in favour of species which have a leaf rosette which lies flat to the ground and often leading to a loss of rarer, more vulnerable plant species in favour of more robust, common species.

5.3.6 Dune habitat and other coastal ecosystems, heathlands and wetlands are amongst the most sensitive to trampling and erosion, whereas woodlands and meadowlands are more robust.

Eutrophication

5.3.7 Walkers with dogs contribute to pressure on sites through nutrient enrichment via dog fouling and the total volume of dog faeces deposited on sites can be surprisingly large. For example, at Burnham Beeches National Nature Reserve over one year, Barnard⁶⁵ estimated the total amounts of urine and faeces from dogs as 30,000 litres and 60 tonnes respectively. Nutrient-poor habitats such as heathland, chalk grassland and certain types of fen vegetation are particularly sensitive to the fertilising effect of inputs of phosphates, nitrogen and potassium from dog faeces. Most impacts occur close to paths.

⁶⁵ Barnard, A. (2003) Getting the Facts - Dog Walking and Visitor Number Surveys at Burnham Beeches and their Implications for the Management Process. *Countryside Recreation*, 11, 16 - 19

Disturbance

- 5.3.8 The deleterious effect of disturbance on birds stems from the fact that the birds are expending energy unnecessarily and the time they spend responding to disturbance is time that is not spent feeding. This can adversely affect the 'condition' and ultimately survival of the birds. In addition, displacement of birds from one feeding site to others can increase the pressure on the resources available within the remaining sites, as they have to sustain a greater number of birds. Disturbance of ground-nesting birds may result in the bird leaving the nest and exposing the eggs or chicks to predators or bad weather. Disturbed areas become unavailable for nesting even though the habitat may otherwise be suitable.
- 5.3.9 Walkers with dogs have potential to cause greater disturbance to fauna as dogs are less likely to keep to marked footpaths and move more erratically and this has been shown by number of studies, with birds flushing more readily, more frequently, at greater distances and for longer periods of time when dogs are present, particularly off-lead.
- 5.3.10 Where increased recreational use is predicted to cause adverse impacts on a site, avoidance and mitigation should be considered. Avoidance of recreational impacts at European sites involves location of new development away from such sites or provision of an alternative recreational resource.

Site management

- 5.3.11 Public access can cause conflict between people and habitats in terms of compromising effective site management. Dogs, rather than people, tend to be the cause of many management difficulties, notably by worrying grazing animals or necessitating moving cattle away from footpaths.

5.4 European sites unlikely to be affected by recreational impacts

- 5.4.1 It is not likely that there would be a significant effect from recreational impacts on seven European sites. These sites are tabulated below, and the reasons why recreational impact is considered unlikely are given in the second column.

European site	Reason for no recreational impact
Paston Great Barn SAC	Small site with no public access
Overstrand Cliffs SAC	More-or-less vertical cliff which, although open to the public, in practice is rarely walked upon
Dews Pond SAC	Small site with no public access
Southern North Sea cSAC	Offshore site with no pedestrian access and low levels of dispersed recreational boating activity
Outer Thames Estuary SPA / pSAC extension	Offshore site with no pedestrian access and low levels of dispersed boating activity
Haisborough, Hammond and Winterton SAC	Offshore site with no pedestrian access and low levels of dispersed boating activity
River Wensum SAC	Aquatic interest is not affected by bankside recreation and public access to the river is in any case very limited. Boating is very limited in the SAC but encouraged downstream beyond the SAC in Norwich

5.5 European sites potentially affected by recreational impacts

5.5.1 European sites potentially affected by recreational impacts are tabulated below. Distances from development at which recreational impacts might occur are summarised from Panter and Liley's 2016 visitor study in Norfolk⁶⁶. Most visits are for dog walking or walking with no dog.

European site	Potential recreational impact
Norfolk Valley Fens SAC	<p>These are a group of small scattered fens, some with limited value for walking / dog walking except for very local users, and varied access arrangements and parking facilities. Those fens with public access but no car park are likely to be visited by those within 1km only.</p> <p>Buxton Heath, Holt Lowes and Marsham Heath all have car parks, and some other sites might have informal roadside parking even if no car park exists. The median distance travelled by car to these sites is 3 – 6km although few resident people travel further than 2km.</p>
The Broads SAC / Broadland SPA/Ramsar	<p>Many of the habitats present in the designated sites of the broads are wet or very wet and unlikely to be favoured for recreation, with public usage almost entirely restricted to well managed nature reserves which feature boat-trails, footpaths and boardwalks. Most car parks serving the Broads / Broadland are located in villages, where walking is not the prime attraction, or associated with nature reserves where visitors are well managed. Recreational impact might occur where there is a large car park providing access to habitat used by SPA birds where a nature conservation organisation is not managing the land as a nature reserve, but these locations are rare. Such localised examples might, for example include minor disturbance to bird species on Halvergate by people walking out from public car parks in Yarmouth (anecdotal evidence), but such usage is restricted for the most part to long-distance walkers along the footpath and there is no access to habitats at marsh level. Although few people may walk along the riverside adjacent to Halvergate Marshes, each walker could create significant disturbance (Andrea Kelly, meeting on 3rd April 2018). Other recreational impact would occur where development is within walking distance of a Broadland site, such as in adjacent or close-by villages, with, again, access being restricted to floodbank footpaths.</p> <p>Where people drive from home to a car park on the Broads, the median distance travelled is up to 28km although few resident people travel further than 5km.</p> <p>The number of boats on the Broads is controlled by Broads Authority, a Competent Authority under the Habitats Regulations. Boat numbers are out of the control of the Greater Norwich Development Partnership. Currently the Broads Authority does not limit the number of boat licences it issues, and the number of licences is declining.</p>

⁶⁶ Panter, C., & Liley, D. (2016). Visitor Surveys at European Protected Sites across Norfolk during 2015 and 2016. Footprint Ecology

European site	Potential recreational impact
Breydon Water SPA / Ramsar	Although a 'coastal' site, this is not an attractive site for family recreational purposes as access requires either a boat trip or a walk from Great Yarmouth Railway Station or from public parking within the town in order to gain access it. There are very limited circular walk opportunities, the only option including crossing and then walking alongside the busy A47 for a short distance. There are few visitors, who almost all come by car, and the median distance travelled is 12km although few resident people travel further than 5km.
Great Yarmouth North Denes SPA	This site has an attractive beach in association with other coastal amenities. Car parks, including free beach-front parking, are readily available but appear to be used by holiday-makers because the median distance travelled by those who come from home is just 1km.
Winterton – Horsey Dunes SAC	The site has an attractive beach and circular walk options including a long-distance trail taking in the fragile dune system, with other major attractions including the seal colony. Car parks are readily available. Visitors do not keep to paths and can walk anywhere on or behind the dunes. The median distance to various parts of this site is up to 44km at Horsey Gap although visitor rates are very low after 5km distance.
Waveney and Little Ouse Valley Fens SAC	<p>The Redgrave and South Lopham Fen component of the SAC is attractive to many visitors, and visitors are actively encouraged by the landowner and site manager, Suffolk Wildlife Trust. A modest increase in visitors would be acceptable as paths through the site are routed so as to avoid vulnerable habitats. Sensitive vegetation away from the path network is in any case avoided by visitors as usually wet or uncomfortable to walk on.</p> <p>Other component fens are small, and scattered fens, with limited value for walking / dog walking except for very local users, and varied access arrangements and parking facilities. Where parking exists, there is usually a managed access scheme in place. Those fens with public access are likely to be regularly visited by those within 2km only, similar to the Norfolk Valley Fens. There is no visitor data.</p>
Redgrave and South Lopham Fen Ramsar	The Redgrave and South Lopham Fen component of the SAC is attractive to many visitors, and visitors are actively encouraged by the landowner and site manager, Suffolk Wildlife Trust. A modest increase in visitors would be acceptable as paths through the site are routed so as to avoid vulnerable habitats. Sensitive vegetation away from the path network is in any case avoided by visitors as usually wet and uncomfortable to walk on. As above, the fen with public access is likely to be regularly visited by those within 2km only, similar to the Norfolk Valley Fens. There is no visitor data.
Breckland SPA / SAC	Research has shown that even at honeypot sites, nesting of woodlark and nightjar continues. Modest increases in recreation are unlikely to affect these species. Nesting sites

European site	Potential recreational impact
	<p>for stone-curlew are either closed for public access (heathland sites) in the nesting season, or are on farmland with no public access so disturbance would not occur. No likely recreational effect except in circumstances where a large increase in visitors to a little-disturbed part of the SPA would occur such as a large allocation adjacent to Breckland.</p> <p>Trampling of SAC vegetation is generally low, with visitors from distance often visiting a few honeypot visitor centres outside the SAC e.g. High Lodge visitor centre, West Stow Heath Country Park.</p> <p>Median distances travelled by people coming from home vary from 23 – 47km but visitor rates are low after 10km distant.</p>
Benacre to Easton Bavents SAC / SPA	<p>Despite being remote from towns and villages, and with limited parking, this site is (in the experience of the report authors) already very popular with, and vulnerable to disturbance effects from visitors travelling from Norwich and Broadland towns and villages. The visitors then use several local circular walking routes, including a long-distance trail, which take in sections of coastal reedbed, heathland and dune systems. Some increase in recreational effect could occur as a consequence of major development in the southern Broads area or from site allocations in close proximity.</p> <p>There is no data on distance travelled but it could be reasonably similar to other eastern coastal sites with a 10km threshold distance.</p>
The Wash and North Norfolk Coast SAC	<p>The site is an attractive and accessible coast designated for marine and intertidal habitats / species. Car parks are readily available. The median distance travelled from home varies from 2km to 30km for most parts of this site, with Morston (S) having a median distance of 41km but visitor rates are lower for residents living over 14km distant.</p>
North Norfolk Coast SPA / SAC / Ramsar	<p>The site is a very attractive and accessible coast with a range of habitats and landscapes, and including a variety of circular walk options and a long-distance path. Car parks are readily available. Car parks are readily available. The median distance travelled from home varies from 2km to 29km for most parts of this site, with Morston (S) having a median distance of 41km but visitor rates are very low for residents beyond 14km.</p>

5.5.2 Using the Local Plan documents available at the time, Panter and Liley (2016) estimated the increase in visitor numbers from the housing allocated at that time. The Local Plan documents used were

- Broadland District Council Site Allocations DPD (Adopted 2016)
- Broadland District Council Growth Triangle Area Action Plan (Adoption Imminent at that time)
- Norwich City Site Allocations Plan (Adopted 2014)

- South Norfolk Council Site Allocations and Policies Document (Adopted 2015)
- South Norfolk Council Wymondham Area Action Plan (Adopted 2015)
- Breckland Site Specific policies and Proposals (Adopted 2012)
- North Norfolk Site Allocations (Adopted 2011)
- Great Yarmouth Borough Council, Awaiting Development Policies and Site Allocations DPD, Previous allocations used (2001)
- Borough Council of King's Lynn and West Norfolk Preferred Options for Detailed Policies and Sites 2013, not yet adopted at that time

5.5.3 Key findings relating to housing change, links to allocated new housing at that time and implications included:

- A 14% increase in access by Norfolk residents to the sites surveyed (in the absence of any mitigation), as a result of new housing during the current plan period.
- The increase will be most marked in the Brecks, where an increase of around 30% was predicted. For the Broads the figure is 14%; 11% for the East Coast; 9% for North Norfolk; 15% for Roydon & Dersingham; 28% for the Valley Fens and 6% for the Wash (note these figures relate to the surveyed access points only and to visits by Norfolk residents).

5.5.4 With a median dog walk length of around 3km, it is considered that a housing allocation within 1km of a European site access point (i.e freely available for public entry / use) is likely to result in an increased visitor use of that European site, especially for regular dog walking, by people walking to the European site. Housing allocations greater than 1km distant are less likely to generate increased visitor use from people walking to that site, and above 1.5km distance there is likely to be little or no increased visitor use by people walking to the entry point.

5.5.5 For parts of the North Coast, the Broads, and parts of the East Coast, the links between an increase in local housing and recreation impacts are less clear as these sites attract a high number of visitors coming from a wide geographical area, both inside and outside Norfolk. There are therefore likely to be pressures from overall population growth both from within the county and further afield.

5.5.6 Visitor access to European sites by the Greater Norwich Local Plan allocations compared to the 2016 study would be an increase in visitors because of the additional allocations in the GNLPA and also bearing in mind completed housing development since the study. The distribution of the allocations in Greater Norwich are such that the European sites likely to have the larger increases in visitor numbers would be The Broads / Broadland, Winterton – Horsey Dunes, Norfolk Valley Fens (Marsham Heath), and North Norfolk Coast SPA / SACs / Ramsar.

5.6 Increased pressure on water resources

5.6.1 The new homes would require a reliable source of drinking water. Proposed employment facilities would need a source of water for the domestic needs of the employees, and might also need water for manufacturing or other industrial processes such as washing.

5.6.2 The east and southeast of England have been identified by Environment Agency in 2013 as a region which is currently experiencing considerable pressure on water resources with the situation within both the Essex and Suffolk and the Anglia Water areas being considered to be serious at the present time due to limited water resources and high levels of demand. This situation is unchanged across 4 different future growth and climatic scenarios⁶⁷ and the study concluded that the Anglia Water area and Essex and Suffolk Water areas are experiencing 'Serious Stress', this being the highest level.

⁶⁷ Environment Agency and Natural Resources Wales. 2013. Water Stressed Areas Final Classification https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/244333/water-stressedclassification-2013.pdf

- 5.6.3 The Environment Agency has advised the Secretary of State that the areas classified as under 'Serious Stress' should be designated as 'Areas of serious water stress' for the purposes of Regulation 4 of the Water Industry (Prescribed Condition) Regulation 1999 (as amended).
- 5.6.4 Anglian Water (AW), in its 2019 Water Resources Management Plan have identified the relevant Resource Zones (RZ) to this Greater Norwich Local Plan area as being Norwich and the Broads, Norfolk Rural, and the North Norfolk Coast. The AW assessment takes into account planned and predicted growth and climate change. All Resource Zones are forecast to be in deficit (i.e. not enough water being available) to 2045 prior to measures in the plan intended to prevent the deficit.
- 5.6.5 Pressure on water resources resulting in reduction in water levels or flow in streams, rivers and waterbodies would be a likely consequence of increased water demand requiring greater water abstraction from ground water or surface water. Surface water abstraction could have a direct impact upon water levels and stream flow; ground water abstraction would potentially lead to reduced flows in any watercourses which derive a significant proportion of their water from spring flow and also reduced surface and sub-surface flow through fen and mire habitats. Wetland European sites which are dependent upon a groundwater source may become too dry to support special interest features.
- 5.6.6 Water resources in the region are already under considerable pressure. For example, Environment Agency's Review of Consents work in 2009 resulted in the closure of a Public Water supply borehole in the vicinity of Sheringham and Beeston Regis Commons SSSI (part of the Norfolk Valley Fens SAC). Work is ongoing towards a closure of Public Water Supply borehole/s in the vicinity of Catfield Fen (part of the Broads SAC) to prevent negative impact upon the flora and fauna of this groundwater-fed site (Environment Agency, *pers comm* November 2019).
- 5.6.7 Abstraction at a future major water supply borehole, could potentially give rise to an impact upon designated groundwater dependant wetland sites up to 10km away, depending upon the depth of the borehole and the nature of the strata from which abstraction is taking place. It is assumed that any future borehole might be as much as 10km from any proposed development location.
- 5.6.8 Depleted riverine flows may also result in an increased number, and severity of, saline incursion events. Ground water abstraction from near-surface aquifers can also lead to saline incursion into the aquifer resulting in damage to coastal wetland sites, which receive a proportion of their irrigating water from groundwater.
- 5.6.9 A new body, Water Resources East (WRE) has been set up to address water demand deficit. Initial results for WRE from the extensive programme of technical work were originally to have been published in Spring 2017 and an emerging strategy was published in January 2018⁶⁸. The strategy will create a more integrated approach to long-term water resource management and planning in due course.
- 5.6.10 The Houses of Parliament Reform of Freshwater Abstraction Post Note 546, released in January 2017 reports that the existing water abstraction system is too inflexible to meet future supply needs whilst protecting the environment and further, that proposed reforms to the abstraction system will need to include measures to better link abstraction and water availability.
- 5.6.11 At the time of reporting there is considerable uncertainty as to whether water supply deficits can be addressed whilst ensuring a secure future for water-dependant SACs, which is compounded because wetland sites often only exhibit signs of hydrological stress when significant damage has occurred.
- 5.6.12 Anglia Water's 2019 Water Resource Management Plan outlines how Anglian Water will maintain a sustainable balance between water supplies and demand over the next 25 years. It describes how it proposes to maintain that balance by investing in demand management – metering and water efficiency for example – and developing new water resources. Anglian Water's draft 2019 Water Resources Management Plan indicates that it will manage water resources by 'managing

⁶⁸ http://www.waterresourceeast.com/wp-content/uploads/2018/08/HR-S_1288-WRE-Strategy-document-JAN18.pdf

demand' from existing and proposed customers (ie supplying less water per customer) and by transferring water from other areas, with no increase in abstraction and no new abstractions. No new boreholes or increase in abstraction from existing boreholes are explicitly proposed.

5.6.13 A water cycle study for the Greater Norwich Local Plan is in progress to help clarify these issues.

5.7 Pollution impacts: Waste water discharge.

5.7.1 Reduction of water quality, from increased discharges of sewage and surface water drainage, or from pollution incidents, either during, or after, construction has potential to impact upon riparian and wetland European sites downstream of a settlement. The types of habitat which might be sensitive to that change would depend very much upon the nature and scale of the impact.

5.7.2 It is assumed that waste water discharge from developments, including foul water discharges, would be treated, however may give rise to elevated levels of nitrates, and, depending upon whether phosphate stripping equipment is in place, phosphate, downstream of the discharge point. There is also potential for chemical spillages, or STW failure, to lead to discharge of untreated effluent.

5.7.3 Anglian Water is currently in the process of finalising a Long Term Water Recycling Plan which will set out a long term strategy to identify the need for further investment by Anglian Water at existing water recycling centres or within foul sewerage catchments to accommodate the anticipated scale and timing of growth. Anglian Water has a statutory duty to prevent pollution from sewage, so whilst there is a theoretical risk from water recycling centres there is also a mechanism in place to prevent the risk. Permits issued by Environment Agency are set for each water recycling centre and are specific to ensure sufficient water quality at the discharge point.

5.7.4 The impacts of water pollution would depend entirely on the nature of the effluent or chemicals being released and whether the release is slow or sudden, but may potentially result in consequences such as fish kill, extinction of invertebrate taxa, which are more sensitive to pollution or changes in Biological Oxygen Demand (BOD), loss of taxa of water plants which require low nutrient levels or eutrophication of floodplain fen habitats. These impacts could potentially affect Annex II European designated species such as white clawed crayfish, Desmoulins whorl snail, brook lamprey or bullhead, directly or indirectly and may also result in the loss of Annex I habitats such as Ranunculion fluitantis and Callitriche-Batrachion vegetation.

5.7.5 A water cycle study for the Greater Norwich Local Plan is in progress to help clarify these issues.

5.8 Pollution impacts: Additional traffic movements increasing emissions to air.

5.8.1 The main airborne pollutants of concern in the context of their potential to give rise to adverse impacts upon European sites are oxides of nitrogen (NO_x), ammonia (NH₃) and sulphur dioxide (SO₂).

5.8.2 The primary pollutants SO₂, NO and NO₂ are oxidised in the atmosphere to form SO₄²⁻ and NO₃⁻ respectively, while NH₃ reacts with these oxidised components to form NH₄⁺ (ammonium). These pollutants known as aerosols can travel long distances, and together with primary pollutants can be deposited in the form of wet or dry deposition⁶⁹.

5.8.3 The Air Pollution Information System (APIS) provides a useful summary of the main pollutants, the effects they have on vegetation and other features for which European sites might be designated. Concentrations and deposition of air pollutants are assessed against a range of criteria to protect both human health and the environment. Environmental criteria include critical loads⁷⁰ for nitrogen deposition (kg Nitrogen ha⁻¹ year⁻¹) and acid deposition and critical levels for ammonia (µg m⁻³), sulphur dioxide (µg m⁻³), nitrogen dioxide (µg m⁻³), and ozone (ppb hours). There are some critical loads for heavy metals but these are not currently used to assess impacts. There are no critical levels or loads for other pollutants but in some cases there are other

⁶⁹ <http://www.apis.ac.uk/starters-guide-air-pollution-and-pollution-sources>

⁷⁰ http://www.apis.ac.uk/overview/issues/overview_Cloudslevels.htm

assessment criteria such as environmental quality standards (EQS) and environmental assessment levels (EAL) which are not relevant to the present study.

5.8.4 NOx can have a directly toxic effect upon vegetation, but in addition to this, higher concentrations of NOx or ammonia within the atmosphere will lead to greater rates of nitrogen deposition to soils, leading to an increase in soil fertility, which can have a serious deleterious effect on the quality of semi-natural, nitrogen-limited terrestrial habitats. Most SAC sites are designated for the vegetation they support, and this is generally vegetation which would respond adversely to nutrient input, including increased input of Total Nitrogen. Both SO2 and NOx can lead to acid deposition and acidification of vegetation.

5.8.5 Housing development would be likely to give rise to increased levels of NOx arising from increased vehicle movements. Ammonia release is generally associated with increased numbers of agricultural livestock and certain industrial processes, including the production of energy from waste, and is unlikely to arise as a direct consequence of the Great Norwich Growth Plan.

5.8.6 The table below summarises the main airborne pollutants and discusses the mechanisms by which these might potentially impact upon European sites.

Pollutant	Source	Potential effects on European sites	Significance
Sulphur Dioxide SO ₂	SO ₂ emissions are overwhelmingly influenced by the output of power stations and industrial processes that require the combustion of coal and oil, and to a lesser extent, motor vehicles.	Both wet and dry deposition of SO ₂ acidifies soils and freshwater, and consequently alters the species composition of vegetation and hence associated animal communities. Some habitats will be more at risk than others depending on soil type and buffering capacity. The significance of impacts depends on levels of deposition and the sensitivity of the habitat.	It is not anticipated that the development of the Growth Area would necessitate construction of new power-producing facilities and the demographic of local industry is unlikely to shift towards the types of processes which would result in high levels of combustion. Total SO ₂ emissions have decreased substantially in the UK since the 1980s and SO ₂ deposition is not considered to have potential to give rise to significant effects on vegetation and is not considered to be a significant factor in the context of this study
Ammonia (NH ₃)	Ammonia is released following decomposition of animal wastes. Levels will increase with expansion in numbers of livestock and certain specific industrial processes, including the production of energy from waste	Ammonia can give rise to an adverse effect on vegetation through deposition and the consequent eutrophication of vegetation, leading to changes in the species composition of vegetation and hence associated animal communities. Some habitats will be more at risk than others depending on the ability of the vegetation type to 'absorb' nutrients without adverse change taking place.	The nature of the industries associated with employment allocations in the Greater Norwich Growth Area are as yet uncertain, do not provide a clear source of ammonia emissions. Significant release of NH ₃ is unlikely to arise as a direct consequence of the Great Norwich Growth Plan and is not considered to be a significant factor in the context of this study.
Nitrogen oxides (NOx)	Nitrogen oxides (nitrates (NO ₃), nitrogen dioxide (NO ₂) and nitric acid	Deposition of nitrogen oxides can lead to both soil and freshwater acidification. Some	It is not anticipated that the development of the Growth Area would necessitate

Pollutant	Source	Potential effects on European sites	Significance
	<p>(HNO₃) are produced through combustion processes. About one quarter of the UK's emissions are from power stations, one-half from motor vehicles, and the rest from other industrial and domestic combustion processes.</p>	<p>habitats will be more at risk than others depending on soil type and buffering capacity. Mosses, liverworts and lichens, which received their nutrients directly from the atmosphere are particularly vulnerable to elevated NOx levels and grey dune and heathland ecosystems are perhaps the most sensitive.</p> <p>In addition, NOx can cause eutrophication of soils and water. This alters the species composition of plant communities and hence associated animal communities. Some habitats will be more at risk than others depending on ability of the vegetation type to 'absorb' nutrients without adverse change taking place.</p>	<p>construction of new power-producing facilities, but domestic and commercial heating and vehicle emissions could potentially be substantial given the number of proposed homes. The significance of impacts will depend on the background level, levels of deposition and the sensitivity of the habitat. NOx contributes to total N deposition – see below.</p> <p>Traffic-generated air pollution operates close to roads but falls off to almost nothing at a distance of 200m from the road⁷¹.</p>
<p>Total Nitrogen (N)</p>	<p>The pollutants that contribute to nitrogen deposition derive mainly from NOx and NH3 emissions.</p>	<p>Species-rich plant communities with relatively high proportions of slow-growing perennial species, bryophytes and lichens are most at risk from N eutrophication, due to its promotion of competitive and invasive species which can respond readily to elevated levels of N at the expenses of slow-growing species. The eventual impacts include changes in species composition, reduction of plant diversity, loss of sensitive species and an increased rate of succession in wetland ecosystems.</p>	<p>The significance of impacts will depend on levels of deposition and the sensitivity of the habitat, however background levels of Total N deposition across east Norfolk and north Suffolk is typically already within the critical load range for many of the sensitive habitats in the area⁷² and in some instances exceed the upper end of the range⁷³. Total N is considered to be a potential significant factor in the context of this study for developments in close proximity to European sites with nutrient sensitive vegetation.</p> <p>Across the UK there has been a continued decline in Nitrogen Oxides since 1974, with emissions in 2017 being around half those in 2000⁷⁴.</p>

⁷¹ <http://www.standardsforhighways.co.uk/ha/standards/dmrb/vol11/section3/ha20707.pdf>

⁷² <http://www.pollutantdeposition.ceh.ac.uk/content/nitrogen-compounds>

⁷³ <http://www.apis.ac.uk/search-location>

⁷⁴

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/778483/Emissions_of_air_pollutants_1990_2017.pdf

Pollutant	Source	Potential effects on European sites	Significance
Ozone (O ₃)	A secondary pollutant generated by photochemical reactions from NO _x and volatile organic compounds (VOCs). These are mainly released by the combustion of fossil fuels. Reducing ozone pollution is believed to require action at international level to reduce levels of the precursors that form ozone.	Concentrations of O ₃ above 40 ppb can be toxic to wildlife. Increased ozone concentrations may lead to a reduction in growth and altered species composition in seminatural plant communities.	Background levels in the region are typically below 30ppb ⁷⁵ . Significant combustion of oil and coal is unlikely to arise as a direct consequence of the Great Norwich Growth Plan and O ₃ is not considered to be a significant factor in the context of this study.

- 5.8.7 The distance over which additional traffic movements might give rise to emissions to air such as Nitrogen oxides NO_x which have the potential to result in adverse impact upon vegetation or water quality is closest to the road network and that, for NO_x, levels have fallen to the background level within 200m of the road.
- 5.8.8 A Natural England literature search study⁷⁶ into the effects of specific road transport pollutants, found that, combining evidence from two fumigation experiments and a transect study suggests that NO_x is the key phytotoxic component of exhaust emissions. While no new papers relating to roadside buffer zones were identified from recent literature, one group of researchers noted that based on their data and the literature, new road building and road expansion should avoid a buffer zone of up to 100–200m from sensitive sites, particularly those where bryophytes are an important component of habitats.
- 5.8.9 It is therefore surmised that the area affected by traffic emissions to air can be assumed to closely follow existing road corridors within the Growth Area and it is also assumed that any future road construction would be largely within the Growth Area.
- 5.8.10 The vegetation communities occurring within the study area and potentially at risk from atmospheric nitrogen deposition are as follows. It can be seen that dune systems are particularly vulnerable.

Habitat type (EUNIS code)	Critical load (CL) range (kgN/ha/yr)
Marine habitats	
Mid-upper saltmarshes (A2.53)	20-30
Pioneer & low-mid saltmarshes (A2.54 and A2.55)	20-30
Coastal habitats	
Shifting coastal dunes (B1.3)	10-20
Coastal stable dune grasslands (grey dunes) (B1.4)	8-15
Coastal dune heaths (B1.5)	10-20

⁷⁵ [https://uk-air.defra.gov.uk/assets/documents/reports/aeqeg/aeqeg-ozone-report.pdf](https://uk-air.defra.gov.uk/assets/documents/reports/aqeg/aeqeg-ozone-report.pdf)

⁷⁶ <https://publications.naturalengland.org.uk/file/5064684469223424>

Habitat type (EUNIS code)	Critical load (CL) range (kgN/ha/yr)
Moist to wet dune slacks (B1.8)	10-20
Inland surface waters	
Dune slack pools (permanent oligotrophic waters) (C1.16)	10-20
Permanent dystrophic lakes, ponds and pools (C1.4)	3-10
Mire, bog and fen habitats	
Valley mires, poor fens and transition mires (D2)	10-15
Rich fens (D4.1)	15-30
Grasslands and tall forb habitats	
Non-Mediterranean dry acid and neutral closed grassland (E1.7)	10-15
Low and medium altitude hay meadows (E2.2) (includes floodplain grazing marsh)	20-30
<i>Molinia caerulea</i> meadows (E3.51)	15-25
Heathland, scrub & tundra	
<i>Erica tetralix</i> dominated wet heath (lowland)	10-20
Dry heaths (F4.2)	10-20
Forest habitats (general):	
Broadleaved woodland (G1)	10-20

5.8.11 Nitrogen oxide pollution could affect European sites within 200m of new roads, existing roads where daily traffic flows will change by 1,000 AADT or more; or Heavy Duty Vehicle (HDV) flows will change by 200 AADT or more; or daily average speed will change by 10 km/hr or more; or peak hour speed will change by 20 km/hr or more.

5.9 Increased urbanisation of the countryside

5.9.1 This class of impacts is closely related to recreational pressure in the sense that both types of impact arise from having an increased human population close to protected wildlife sites. The list of such impacts is extensive, but some of the more significant ones include the following:

Predation impacts from domestic pets

5.9.2 Predation by domestic cats can potentially affect small mammals, birds, amphibians and reptiles and results in injury, mortality and elevated levels of disturbance.

- A survey undertaken in 1997 found that nine million British cats brought home 92 million prey items over a five-month period⁷⁷.
- A large proportion of domestic cats are found in urban situations, and thus increasing urbanisation is likely to lead to increased cat predation. Domestic cats will potentially range

⁷⁷ Woods, M. et al. 2003. Predation of wildlife by domestic cats *Felis catus* in Great Britain. *Mammal Review* 33, 2 174- 188

up to 5km from home, although 60% of forays are over a distance of less than 400m⁷⁸ and the typical average distance for hunting excursions is around 375m⁷⁹.

Fly-tipping

5.9.3 Fly-tipping tends to take place only a short distance from development and affects land alongside or close to highways⁸⁰; often the terminus of a minor dead-end road, or adjacent to laybys on busier routes. The distance travelled will vary, but is likely to be usually less than 10km from source. Material dumped in this way is typically either household waste, including 'white goods' and green waste, tyres, or small-scale commercial waste. Depending upon the locality and nature of tipping, there may be harm to watercourses through pollution, damage to sensitive vegetation and in the case of green waste tipping in a woodland or wetland near to home, the release of alien invasive plant species into the wild; the species being dumped often being the more vigorous and hence potentially more invasive garden plants.

5.9.4 A 2016 report by Yorkshire Wildlife Trust⁸¹ found that the greatest amount of fly-tipping and anti-social behaviour on its nature reserves, and theft from their nature reserves, were greatest when there were settlements within 100m. Where there were nature reserves 1km+ distant from the nearest settlement, these activities were still recorded but much less often.

Lighting

5.9.5 Light pollution can affect the foraging and commuting activities of bat species, although there may be minor impacts upon bird behaviour.

- The slower flying broad winged species, which include Barbastelle (a European site designated feature of Paston Great Barn SAC) generally avoid street lights⁸² and well-lit areas.
- It is thought that insects are attracted to lit areas from further afield and this may result in adjacent habitats supporting reduced numbers of insects. This is a further impact on the ability of the light avoiding bats to be able to feed.
- Artificial lighting is thought to increase the chances of bats being preyed upon⁸³. Many avian predators will hunt bats which may be one reason why bats avoid flying in the day. Observations have been made of kestrels (diurnal raptors) hunting at night under the artificial light along motorways. Lighting can be particularly harmful if used along commuting corridors such as river corridors, tree lines and hedgerows used by bats.

5.9.6 These urbanisation impacts are most likely to occur when a European site is within 1km of a settlement and therefore an allocation within 1km of a European site might increase urbanisation effects.

5.10 Mitigation for potential impacts of Policy 1 'The Growth Strategy'

Locational mitigation

5.10.1 Proposed housing and employment allocations will generally be over 1km from any European site (but see section 11.4 for The Key Service Villages, section 11.5 Village Clusters and section 11.6 Windfall sites). This mitigates for any potential land-take impacts during construction, cat predation, air pollution (no polluting factories are allocated but in any case if they arise would be subject to project-level HRA), urbanisation of the countryside, and recreational impacts of people walking to a European site to start a greenspace walk.

⁷⁸ Barratt, D.G. (1997). Home range size, habitat utilisation and movement patterns of suburban and farm cats *Felis catus*. *Ecography* 20 271-280

⁷⁹ Turner, D.C. & Meister, O. (1988). Hunting behaviour of the domestic cat. In: *The Domestic Cat: The Biology of Its Behaviour*. Ed. Turner, D.C. and Bateson, P. Cambridge University Press.

⁸⁰ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/595773/Flytipping_201516_statistical_release.pdf

⁸¹ Rylatt, Garside and Robin (2017) Human Impacts on Nature Reserves – The Influence of Nearby Settlements. Yorkshire Wildlife Trust.

⁸² http://www.bats.org.uk/data/files/bats_and_lighting_in_the_uk__final_version_version_3_may_09.pdf

⁸³ http://www.bats.org.uk/data/files/bats_and_lighting_in_the_uk__final_version_version_3_may_09.pdf

5.10.2 With a median dog walk length of around 3km, it is considered that a housing allocation within 1km of a European site access point (i.e freely available for public entry / use) is likely to result in an increased visitor use of that European site, especially for regular dog walking, by people walking to the European site. Housing allocations greater than 1km distant are less likely to generate increased visitor use from people walking to that site, and above 1.5km distance there is likely to be little or no increased visitor use by people walking to the entry point. The size of an allocation is also related to potential impact, with an allocation of, say, 100 dwellings likely to generate more visitor use of a European site than an allocation of 10 dwellings at the same distance.

Recreational impacts especially for residents driving to park at a European site

5.10.3 The number of dogs in the UK has risen since 2010-11 from 7.6 million to 8.5 million in 2016-17. For mitigation to be effective, the provision of dog walking facilities would need to build-in capacity to absorb an increasing number of dog walkers, perhaps through increasing density on sites. There are few studies which have looked at visitor change in European site, but one study for Thames Basin Heaths found no significant change in visitor numbers from 2005 to 2012/13.

5.10.4 There are three strands to providing satisfactory mitigation

- a tariff based payment taken from residential, and other relevant accommodation e.g. tourist accommodation, that will be used to fund a mixture of mitigation measures, most likely consisting of: soft and hard mitigation measures at the designated natural sites themselves to increase their resilience to greater visitor numbers.
- the provision of suitable alternative natural green space (SANGs), which would be large enough to meet a range of needs and sufficiently well publicised for effective mitigation. The current Broadland District Council Development Management DPD policy EN3 may be considered as a precedent for housing growth in the emerging Greater Norwich Local Plan, although consideration will need to be given to new evidence emerging as part of plan production.
- Implementation of a wider programme of Green Infrastructure Improvements⁸⁴ in accordance with current and emerging project plans so that residents of existing and proposed housing have an alternative to European sites for regular routine activities such as dog walking.

5.10.5 The Norfolk Authorities are progressing a Norfolk-wide study, the Green infrastructure and Recreational Impact Avoidance and Mitigation Strategy (GIRAMS). This strategy is expected to set out a proposed approach to a tariff contributions from new development, in accordance with the first strand of the mitigation identified above. This study may also provide useful evidence/guidance for a future SANGs strategy.

5.10.6 It is considered that the mitigation measures described above would be sufficient that the assessment is able to ascertain no adverse effect upon the integrity of any European site. This conclusion will need to be revisited if the approach to mitigation proposed within the final plan differs significantly from that described above.

Air pollution

5.10.7 No new roads are proposed within 200m of any European site, and the siting of proposed allocations further than 1km from any European site indicates that road traffic associated with the developments would be sufficiently far that there would be no pollution impacts.

Water resource use and waste water discharge

5.10.8 A water cycle study has been commissioned by Greater Norwich Development Partnership which looks at these issues. The results of this study will inform this assessment in due course.

⁸⁴ <http://www.greaternorwichgrowth.org.uk/delivery/greater-norwich-infrastructure-plan/>

5.11 Assessment of policy 1 'The Growth Strategy'

- 5.11.1 Subject to satisfactory completion of the Green Infrastructure and Recreational Avoidance and Mitigation Strategy, and of the Water Cycle Study, it is ascertained that this policy will have no adverse effect upon the integrity of any European site.

6 Appropriate Assessment of Policy 2 'Sustainable Communities'

6.1 Policy summary

- 6.1.1 All new development must be high quality, contributing to delivering inclusive growth in mixed and sustainable communities and to mitigating and adapting to climate change, assisting in meeting national greenhouse gas emissions targets. Flood risk, water quality protection and energy demand must be minimised. To achieve this, development proposals are required as appropriate to meet a number of sustainability requirements such as reducing domestic energy use, green infrastructure requirements, and resource efficiency.
- 6.1.2 All major developments will need to submit a Sustainability Statement showing how development will support the sustainability requirements, with housing development optionally making use of tools such as Building for Life 12 (or any successor). All other developments will meet the policy requirements as appropriate dependent on site characteristics and proposed uses. Flood risk assessments will be provided separately.
- 6.1.3 Policy 2 sets higher standards than those required nationally through Building Regulations for water and energy efficiency and promotes renewable energy generation. Proposals for free standing renewable and/or low carbon energy generation, with the exception of wind energy schemes, will be supported, subject to the acceptability of wider impacts.

6.2 Assessment of Policy 2 'Sustainable Communities'

- 6.2.1 There are no pathways which could have an adverse effect upon any European site. The requirement for sustainability to be included within development means that the wider environmental impact of development is less than it might otherwise have been, with an indirect link to avoidance of those wider impacts on European sites.
- 6.2.2 No suitable sites for onshore wind energy development have been submitted to the GNLP for potential allocations. The only ways to display local support, as required by the NPPF, for onshore wind energy are through a Neighbourhood Plan which requires a local referendum or through any other future local plan documents which may consider suitable sites. Wind energy schemes will be supported where the proposal is in a suitable area as identified in a Neighbourhood Plan or other Local Plan documents.
- 6.2.3 There are no allocations for solar farms or other energy generation schemes, and the safeguard in policy 3 would prevent impact on any European site; applications may need an individual HRA.
- 6.2.4 It is ascertained that this policy will have no adverse effect upon the integrity of any European site.

7 Appropriate Assessment of Policy 3 'Environmental Protection and Enhancement'

7.1 Policy summary

7.1.1 Development proposals will be required to conserve and enhance the built and historic environment, and the natural environment including protected habitats, species and geodiversity, and to deliver biodiversity net gain, including further development of a multi-functional strategic green infrastructure network.

7.1.2 In addition to the general green infrastructure requirement development would be expected to provide adequate mitigations for HRA issues. This may include the requirement for a tariff and/or the provision of Suitable Alternative Natural Green Space (SANGS)

7.2 Assessment of Policy 3 'Environmental Protection and Enhancement'

7.2.1 There are no pathways which could have an adverse effect upon any European site. The requirement to conserve and enhance the natural environment would not be achieved if any development was proposed which would have an adverse effect upon any European site, thus protecting all European sites from harmful development.

7.2.2 Enhancement of the green infrastructure network will provide alternatives for recreational visitors to greenspaces.

7.2.3 Whilst the specific mitigation proposed in connection with the plan remains in development, a requirement for tariff payments for mitigation measures to protect European sites through management of recreational pressure is likely to be required in order to secure the necessary mitigation for Policy 1 'The Growth Strategy'. Any tariff payment for mitigation can reasonably be considered to be connected with or necessary for the management of European sites.

7.2.4 It is ascertained that this policy will have no adverse effect upon the integrity of any European site.

8 Appropriate Assessment of Policy 4 'Strategic Infrastructure'

8.1 Policy summary

8.1.1 Strategic infrastructure improvements will be undertaken to support timely delivery of the Greater Norwich Local Plan and the wider growth needs of the area. Key elements will be

- Transport, including improvements to buses, cycling and walking facilities, park and ride, rail services and Norwich airport. Road improvements promoted include the A140 Long Stratton bypass, and other enhancements of the major road network, delivery of the Norwich Western Link Road, and Highways England schemes on the A47.
- Energy supply network
- Waste water network to protect the integrity of designated habitats
- Healthcare infrastructure
- School capacity
- Green infrastructure network
- Services and facilities on development sites or developer contributions for off-site provision

8.2 Assessment of Policy 4 'Strategic Infrastructure'

8.2.1 Many of the transport improvements reduce the wider environmental impact compared to car use, and so might cause minor reductions in matters such as air pollution, although at a distance from European sites. The A140 Long Stratton bypass is around 3.5km from the nearest European site, and is at sufficient distance that there would be no impacts.

8.2.2 Norwich Western Link Road, which would join the A1270 to the A47, includes a viaduct crossing over the River Wensum SAC⁸⁵. There is potential for the river crossing to cause harm to the SAC but it could also provide a Neutral impact depending on siting, design, and construction standards. The road is a Norfolk County Council project but GNLP will need to reflect progress of the scheme. It is recommended that, for certainty, it is recommended that the policy is amended to reflect the importance of avoiding adverse effect upon the River Wensum SAC. The recommended text for the policy text relating to the road is, with the recommended additional text underlined

- 'Delivery of the Norwich Western Link Road provided that it can be achieved without causing an adverse affect on the integrity of the River Wensum SAC.'

8.2.3 The Major Road Network is defined for Greater Norwich as the A140 north and south of Norwich, the A1270, and A146 from Norwich to Lowestoft. Enhancement of existing roads, where the traffic flow increases by more than 1000 annual daily flow⁸⁶ may also provide additional nitrogen oxide and other pollutant deposition within 200m. There are no European sites within 200m of the A140 or A1270, but the A146 from Norwich to Lowestoft does pass within around 50m from The Broads / Broadland European sites at Barnby, Suffolk. Road enhancements in the Greater Norwich area might possibly cause an increase in traffic flow at Barnby on the A146, which should be assessed as part of any detailed proposals for enhancements.

8.2.4 It is recommended that, for certainty, it is recommended that the policy is amended to reflect the importance of avoiding adverse effect upon the The Broads / Broadland European sites at Barnby, Suffolk. The recommended text for the policy text relating to the road is, with the recommended additional text underlined

⁸⁵ <https://www.norfolk.gov.uk/roads-and-transport/major-projects-and-improvement-plans/norwich/norwich-western-link/about-the-norwich-western-link> accessed on 5th November 2019

⁸⁶ <http://www.standardsforhighways.co.uk/ha/standards/dmrb/vol11/section3/ha20707.pdf>

- 'Enhancement of the Major Road Network including improvements to the A146 provided that it can be achieved without causing through increased traffic flows an adverse effect on the integrity of The Broads / Broadland European sites.'

- 8.2.5 Improvements to waste water infrastructure, in particular at Whitlingham water recycling centre and the Yare Valley sewer, are intended to protect the integrity of designated habitats. The water cycle study will confirm or provide amendments to the needs. These improvements contribute to securing the mitigation for Policy 1 'The Growth Strategy' and therefore can be considered to be connected with or necessary for the management of European sites.
- 8.2.6 There are no pathways which might have an affect on European sites, for energy infrastructure improvements (electricity substations), school capacity or healthcare infrastructure, as no sites are allocated for these facilities on or near any European site. There would similarly be no impact pathways for on-site or off-site local services.
- 8.2.7 It is ascertained that this policy will have no adverse affect upon the integrity of any European site subject to the completion of the water cycle study.

9 Appropriate Assessment of Policy 5 'Homes'

9.1 Policy summary

9.1.1 Policy 5 provides the detail required to implement the general requirements for housing set in policy 1 and in NPPF, particularly in relation to providing a varied residential offer in terms of tenure and cost. It also includes updates to existing local plan policies where circumstances have changed since adoption, such as for minimum space standards and adaptable homes. It includes detailed policy on

- The proportion of affordable housing and design of affordable housing
- Space standards
- Older people's housing
- Gypsies and Travellers, Travelling Show People and Residential Caravans
- Purpose-built student accommodation
- Custom-build plots

9.2 Assessment of Policy 5 'Homes'

9.2.1 The policy generally adds detail to the type and character of housing growth to be provided under Policy 1, but adds no additional housing growth and does not alter the impact pathways to any European site compared to the growth strategy in policy 1. There are no allocations for sites for the three development types mentioned (Gypsies, Travellers, Travelling Show People or Residential Caravans, student accommodation, custom-build plots). Development of these types of home is subject to the protection provided by Policy 3 as with all other developments, demonstrating that these developments could not harm any European site. Policy 3 ensures that housing development will pay a tariff to fund mitigation measures to protect Habitats Regulation Assessment designated sites from additional recreational impact.

9.2.2 There are no pathways which could have an adverse affect upon any European site. It is ascertained that this policy will have no adverse affect upon the integrity of any European site subject to the completion of the studies listed in the assessment of Policy 1.

10 Appropriate Assessment of Policy 6 'The Economy'

10.1 Policy summary

- 10.1.1 Policy 6 aims to deliver inclusive economic growth. It supports and delivers the ambitions of the New Anglia LEP's Norfolk and Suffolk Economic Strategy, the Cambridge Norwich Tech Corridor initiative and the enhanced growth outlined in the Greater Norwich City Deal.
- 10.1.2 Sufficient employment land is allocated in accessible locations to meet identified need and provide for choice. The needs of small, medium and start-up businesses are addressed through the allocation of smaller scale employment sites, the retention of a range of existing small and medium scale employment sites, and encouraging the provision of small-scale business opportunities in all significant residential developments.
- 10.1.3 Larger scale needs are addressed through the allocation of sufficient land to provide a choice and range of sites, including strategic sites targeted at specific sectors. Tourism, leisure, environmental and cultural industries will be promoted. There will be provision for vocational, further and higher education provision.
- 10.1.4 The development of new retailing, services, offices and other town centre uses will be encouraged at a scale appropriate to the hierarchy of defined centres ranging from Norwich city centre to towns, large villages and local centres of major growth locations.
- 10.1.5 Strategic employment areas are
- The City centre
 - The airport area, and in particular a new site on the northern edge of the airport accessed directly from the Broadland Northway and a site at the A140/Broadland Northway junction and focussed on uses benefiting from an airport location
 - Browick Interchange, Wymondham
 - Longwater
 - Rackheath
 - The business parks at Thorpe St Andrew
 - Norwich Research Park including the Norfolk and Norwich University Hospital and the University of East Anglia
 - Hethel
 - The Food Enterprise Park at Honingham/Easton

10.2 Assessment of Policy 6 'The economy'

Employment facilities, town and village centres, and education provision

- 10.2.1 The nearest strategic employment areas to European sites are Longwater (1km from River Wensum SAC and separated from it by River Tud), Rackheath (around 2.8km from Broads / Broadland European sites) and Hethel (around 3km from Norfolk Valley Fens SAC). The road access for these three sites are to nearby A roads over 200m from European sites, which provide access to Norwich and the wider road network with no new road required in the vicinity of any European site.
- 10.2.2 There is no specific allocation for a proposed employment facility that might have environmental impacts over such a large area that might affect a European site at distance, for example emitting large amounts of air pollution or requiring a new water abstraction. If such a development is subsequently proposed, Policy 3 would provide a safeguard and that development would be required to undergo its own Habitats Regulations Assessment.
- 10.2.3 There are no new allocations for education provision in this policy, although it is expected that new facilities might be extensions of existing facilities or provided in areas of housing growth away from any European sites.

Tourism development

- 10.2.4 There are no new allocations for tourism development in this policy. However, even small-scale windfall tourism developments might result in impacts upon European sites. A hypothetical examples might be accommodation close to a European site where the main recreational opportunity might be to that European site, causing harm by vegetation trampling or disturbance to birds. Larger-scale tourism accommodation further from a European site but within easy driving distance to a European site might also provide an increase in visitor pressure. Tourists might have a larger impact than permanent residents, as each new group tourists might explore the European sites whereas some permanent residents might explore once and rarely return. It is recommended that planning applications for small-scale tourism accommodation such as up to 10 accommodation units (eg holiday homes, camp site pitches, mobile home or touring caravan pitches) within 1km should be subject to HRA, as should larger scale tourism accommodation at up to perhaps 10km from a European site. It is also possible that a tourism development without accommodation might result in impact to a European site, for example an equestrian business setting up to provide horse-riding on a European site where a significant increase in trampling or disturbance may occur. It is also recommended that tourism accommodation development within these threshold distances are considered for tariff payments in the Green Infrastructure and Recreations avoidance and Mitigation Strategy under preparation.
- 10.2.5 Although there are safeguards in Policy 3, developers of small-scale tourism schemes in particular might not be aware of the implications. To provide clarity, it is recommended that extra clarification is added to Policy 6, section 5 perhaps as a final bullet point '*Habitats Regulations Assessments will be required for small scale tourism accommodation within 1km, and for larger scale tourism accommodation within 10km, of a European site. Habitats Regulations Assessment will also be required for tourism, leisure, cultural and environmental activities which would utilise European sites.*

Conclusions of the assessment

- 10.2.6 There are no pathways which could have an adverse effect upon any European site, for employment facilities such as employment facilities, town and village centres, and education provision. However, recommendations are made above in respect of tourism development which are necessary to demonstrate that tourism development will not have an adverse affect upon the integrity of any European site.

11 Appropriate Assessment of Policy 7 'Strategy for the areas of growth'

11.1 Policy summary

11.1.1 Policies 7.1 to 7.5 provide details of the distribution of growth set out in policy 1, along with location-specific strategic policies for the different areas of growth within Greater Norwich. The policies for these areas broadly follow the settlement hierarchy:

- 7.1 The Norwich urban area including the fringe parishes;
- 7.2 The Main towns;
- 7.3 The Key service centres;
- 7.4 Village clusters;
- 7.5 Small-scale windfall development of up to three dwellings per parish.

11.1.2 The Site Proposals document provides individual allocations to implement the strategy.

11.2 Assessment of Policy 7.1 'The Norwich urban area including the fringe parishes'

11.2.1 All sites in Policy 7.1 are at sufficient distance from any European site that there would be no direct impacts such as construction impacts or residents walking directly to European sites. The assessment of Policy 1 'The Growth Strategy' remains valid for Policy 7.1 with no amendments needed.

11.2.2 The scale of housing growth means that emphasis will need to remain on providing sufficient green infrastructure by developers directly or via the emerging Green Infrastructure and Recreational Impact Mitigation Strategy to provide sufficient recreational facilities to minimise any increase of visitor pressure on European sites.

11.3 Assessment of Policy 7.2 'The Main Towns'

11.3.1 All sites in Policy 7.2 are at sufficient distance from any European site that there would be no direct impacts such as construction impacts or residents walking directly to European sites. The assessment of Policy 1 'The Growth Strategy' remains valid for Policy 7.2 with no amendments needed.

11.3.2 The scale of housing growth means that emphasis will need to remain on providing sufficient green infrastructure by developers directly or via the emerging Green Infrastructure and Recreational Impact Mitigation Strategy to provide sufficient recreational facilities to minimise any increase of visitor pressure on European sites.

11.4 Assessment of Policy 7.3 'The Key service centres'

11.4.1 Growth in some key service centres includes growth in locations in the vicinity of European sites, which could potentially have an impact on The Broads / Broadland European sites dependent upon the exact location of the allocation, the sensitivities of and access to the European site in that vicinity and the availability of alternative recreation facilities. These are further assessed below. Other Key Service Centres are also included in the table below, and are discussed in relation to European sites even if there are no new allocations.

Key Service Centre	Existing deliverable commitment (including uplift + delivery 2018/19)	New allocations	Total deliverable housing commitment 2018 - 2038	Assessment
Acle	191	200	391	<p>The existing commitment is formed of development sites which have not yet been built, or the remaining unbuilt elements of sites already under construction. The 191 homes which form the existing commitment in Acle has been deemed to have no likely significant effect either through the plan making process, planning application process or both.</p> <p>The Broads/Broadland European site is approximately 1km from the allocation 'Acle 0378' on a straight line distance. The nearest footpath access from the allocation to the European site is in the east of the village along Damgate Lane to where the Weavers Way runs southwards across Damgate Marshes SSSI, a component of the European sites. This is a walk of 1.5km to reach the European site, indicating that few regular dog walkers would access the European site on foot. The Weavers Way route is promoted by Norfolk County Council⁸⁷, suggesting that the County Council's HRA concluded no adverse affect on integrity from its promotion of the path. The Weaver's Way forms a linear route without the circular route preferred by many dog walkers. The special interest of this part of this European site is the</p>

⁸⁷ <https://www.norfolk.gov.uk/out-and-about-in-norfolk/norfolk-trails/short-and-circular-walks/weavers-way>

Key Service Centre	Existing deliverable commitment (including uplift + delivery 2018/19)	New allocations	Total deliverable housing commitment 2018 - 2038	Assessment
				<p>aquatic flora and fauna of the dykes⁸⁸ which is not vulnerable to footpath use. There is unlikely to be any harm caused by the allocation/s.</p> <p>Wider recreational impacts from people driving to a European site are allowed for in the mitigation described for Policy 1.</p>
Blofield	338	15	353	<p>The existing commitment is formed of development sites which have not yet been built, or the remaining unbuilt elements of sites already under construction. The 338 homes which form the existing commitment in Blofield has been deemed to have no likely significant effect either through the plan making process, planning application process or both. The Broads/Broadland European site is over 2km distant from the allocated site, with poor public access to the European site by foot, except at existing hotspots at Brundall Marina. The poor public access indicates that there would be no direct recreational impact from walkers; wider recreational impacts from people driving to a European site are allowed for in the mitigation described for Policy 1.</p>
Brundall	175	0	175	<p>The existing commitment is formed of development sites which have not yet been built, or the remaining unbuilt elements of sites already under</p>

⁸⁸ <https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1006348.pdf>

Key Service Centre	Existing deliverable commitment (including uplift + delivery 2018/19)	New allocations	Total deliverable housing commitment 2018 - 2038	Assessment
				<p>construction. The 175 homes which form the existing commitment in Brundall has been deemed to have no likely significant effect either through the plan making process, planning application process or both. There is poor public access to the European site by foot, except at existing hotspots at Brundall Marina. The poor public access indicates that there would be no direct recreational impact from walkers;</p>
Hethersett	1369	0	1369	<p>The existing commitment is formed of development sites which have not yet been built, or the remaining unbuilt elements of sites already under construction. The 1369 homes which form the existing commitment in Hethersett has been deemed to have no likely significant effect either through the plan making process, planning application process or both, with no new allocations. Hethersett is sufficiently far from any European site that there would be no direct recreational impact. Wider recreational impacts from people driving to a European site are allowed for in the mitigation described for Policy 1.</p>
Hingham	16	100	116	<p>The existing commitment is formed of development sites which have not yet been built, or the remaining unbuilt elements of sites already under construction. The 16 homes which form the existing</p>

Key Service Centre	Existing deliverable commitment (including uplift + delivery 2018/19)	New allocations	Total deliverable housing commitment 2018 - 2038	Assessment
				<p>commitment in Hingham has been deemed to have no likely significant effect either through the plan making process, planning application process or both, with no new allocations. Hingham is sufficiently far from any European site that there would be no direct recreational impact. Wider recreational impacts from people driving to a European site are allowed for in the mitigation described for Policy 1.</p>
Loddon / Chedgrave	200	200	400	<p>The existing commitment is formed of development sites which have not yet been built, or the remaining unbuilt elements of sites already under construction. The 200 homes which form the existing commitment in Loddon / Chedgrave has been deemed to have no likely significant effect either through the plan making process, planning application process or both.</p> <p>Allocation GNLPO312 (180 dwellings) is 950m in a straight line distance but is a 2.8km walk to the nearest part of the Broads / Broadland European site.</p> <p>Allocation GNLPO463 (20 dwellings) is around 1.2km from the European site in a straight line distance and 1.5km walking distance. Access to the European site is in the east of the village where the Wherryman's Way runs eastwards across Hardley Flood SSSI, a component of the</p>

Key Service Centre	Existing deliverable commitment (including uplift + delivery 2018/19)	New allocations	Total deliverable housing commitment 2018 - 2038	Assessment
				<p>European sites. A path along the north side of River Chet also leads to this SSSI. The special interest of this part of this European site is bird use all year round, which are vulnerable to footpath use⁸⁹. Wherryman's Way is promoted by Norfolk County Council⁹⁰, suggesting that the County Council's HRA concluded no adverse affect on integrity from its promotion of the path. The Wherryman's Way forms a linear route without the circular route preferred by many dog walkers. There is unlikely to be any harm caused by the allocations from people walking to the European site. Wider recreational impacts from people driving to a European site are allowed for in the mitigation described for Policy 1.</p>
Poringland / Framlingham Earl	467	0	467	<p>The existing commitment is formed of development sites which have not yet been built, or the remaining unbuilt elements of sites already under construction. The 467 homes which form the existing commitment in Poringland / Framlingham Earl has been deemed to have no likely significant effect either through the plan making process, planning application process or both, with no new allocations. Poringland is sufficiently far from any European site that there</p>

⁸⁹ <https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1000432.pdf>

⁹⁰ <https://www.norfolk.gov.uk/out-and-about-in-norfolk/norfolk-trails/long-distance-trails/wherrymans-way>

Key Service Centre	Existing deliverable commitment (including uplift + delivery 2018/19)	New allocations	Total deliverable housing commitment 2018 - 2038	Assessment
				would be no direct recreational impact. Wider recreational impacts from people driving to a European site are allowed for in the mitigation described for Policy 1.
Reepham	142	0	142	<p>The existing commitment is formed of development sites which have not yet been built, or the remaining unbuilt elements of sites already under construction. The 142 homes which form the existing commitment in Reepham has been deemed to have no likely significant effect either through the plan making process, planning application process or both, with no new allocations.</p> <p>The northern of the two existing allocations (Rep 1 in the existing site allocations local plan) is 0.9km from Booton Common (part of Norfolk Valley Fens SAC) but further in walking distance, including a length of narrow country road with no pavement thus deterring walkers. The Marriot Way is adjacent to the northern allocation thus providing a walking opportunity for residents.</p> <p>The southern of the two existing allocations (Rep 2 in the existing site allocations local plan) is just over 1km in a straight line distance, and around 1.5km in actual walking distance from Booton Common, again requiring the use of a narrow country road with no pavement.</p>

Key Service Centre	Existing deliverable commitment (including uplift + delivery 2018/19)	New allocations	Total deliverable housing commitment 2018 - 2038	Assessment
				There is unlikely to be any harm caused by the allocations from people walking to the European site. Wider recreational impacts from people driving to a European site are allowed for in the mitigation described for Policy 1.
Wroxham	4	0	4	The existing commitment is formed of development sites which have not yet been built, or the remaining unbuilt elements of sites already under construction. The 4 homes which form the existing commitment in Wroxham has been deemed to have no likely significant effect either through the plan making process, planning application process or both. The small number of new homes in a busy village is <i>de minimis</i> in terms of direct impact. Wider recreational impacts are allowed for in the mitigation described for Policy 1.

11.4.2 Windfall sites will be limited to locations within settlement boundaries. It is possible that planning applications might come forward within 1km of a European site. In this case, the safeguard of Policy 3 would prevent harm.

11.4.3 No new employment allocations are made.

11.4.4 It is concluded that these allocations would not adversely affect the integrity of any European site through direct effects of recreational disturbance from people leaving the sites on foot or other immediate proximity effects. Wider recreational impacts of people driving to European sites are included in the assessment of Policy 1.

11.5 Assessment of Policy 7.4 'Village Clusters'

11.5.1 Growth in Village Clusters includes growth in locations in the vicinity of European sites or further afield, through allocations or policy for minimum of 15 dwellings in various villages or clusters of villages sharing a primary school catchment. This growth could potentially have an impact on The Broads / Broadland European sites or Norfolk Valley Fens dependent upon the exact location of the allocation, the sensitivities of and access to the European site in that vicinity and the availability of alternative recreation facilities.

11.5.2 Village Clusters in South Norfolk District will be allocated through a separate South Norfolk Village Clusters Local Plan document, and so are not included in this assessment. The sites in Broadland are made up of existing sites with planning permission and allocated sites set out in the GNLP site document and Neighbourhood Plans

Village	New allocations	Assessment
Blofield Heath	20	The allocation GNLP 1048 is over 2km in a straight line distance and there is unlikely to be any harm caused by the allocations from people walking to the Broads / Broadland European site. Wider recreational impacts from people driving to a European site are allowed for in the mitigation described for Policy 1.
Buxton	40	The allocation GNLP0297 is over 4.5km in a straight line distance from Norfolk Valley Fens SAC (Buxton Heath SSSI) and there is unlikely to be any harm caused by the allocations from people walking to the European site. Wider recreational impacts from people driving to a European site are allowed for in the mitigation described for Policy 1.
Cawston	40	The allocation GNLP0293 is over 3.5km in a straight line distance from Norfolk Valley Fens SAC (Buxton Heath SSSI) and there is unlikely to be any harm caused by the allocations from people walking to the European site. Wider recreational impacts from people driving to a European site are allowed for in the mitigation described for Policy 1.
Coltishall	25	The allocation GNLP 2019 is over 3.5km in a straight line distance from Broads / Broadland European site (Crostwick Marsh SSSI) and there is unlikely to be any harm caused by the allocations from people walking to the European site. Wider recreational impacts from people driving to a European site are allowed for in the mitigation described for Policy 1.
Foulsham	15	The allocation is around 2.5km in a straight line distance from River Wensum SAC and there is unlikely to be any harm caused by the allocations from people walking to the European site. Wider recreational impacts from people driving to a European site are allowed for in the mitigation described for Policy 1.
Freethorpe	40	The allocation is over 1.2km in a straight line distance and around 2.4km walking distance from Broads / Broadland European site (Halvergate Marshes SSSI) and there is unlikely to be any harm caused by the allocations from people walking to the European site.

		Wider recreational impacts from people driving to a European site are allowed for in the mitigation described for Policy 1.
Great Witchingham	20	The allocation is around 130m in a straight line distance from River Wensum SAC with no footpath access to the river there or in the vicinity and there is unlikely to be any harm caused by the allocations from people walking to the European site. Wider recreational impacts from people driving to a European site are allowed for in the mitigation described for Policy 1.
Honingham	12	Honingham is a great distance from any European sites with no straightforward PRow access. Wider recreational impacts from people driving to a European site are allowed for in the mitigation described for Policy 1
Horsford	40	Horsford is a significant distance from any European sites with no straightforward PRow access. Wider recreational impacts from people driving to a European site are allowed for in the mitigation described for Policy 1.
Horsham and Newton St Faith	30	Horsham is a significant distance from any European sites with no straightforward PRow access. Wider recreational impacts from people driving to a European site are allowed for in the mitigation described for Policy 1.
Lingwood and Burlingham	60	Allocation GNLP0379 is over 2.5km in a straight line distance and significantly further as walking distance from Broads / Broadland European site (Yare Broads and Marshes SSSI) and there is unlikely to be any harm caused by the allocations from people walking to the European site. Wider recreational impacts from people driving to a European site are allowed for in the mitigation described for Policy 1.
Marsham	35	The allocation is over 2km in a straight line distance from Norfolk Valley Fens SAC (Buxton Heath SSSI) and there is unlikely to be any harm caused by the allocations from people walking to the European site. Wider recreational impacts from people driving to a European site are allowed for in the mitigation described for Policy 1.1.
Reedham	60	Allocation GNLP1001 is around 1.8km in a straight line distance and GNLP 3003 is further distant still from Broads / Broadland European site (Limpenhoe Marsh SSSI). Allocation GNLP3003 is 900m from the Broads / Broadland European site in a straight line but over 2km walking distance along the River Yare, with allocation GNLP1001 being more distant in this

		direction. There is unlikely to be any harm caused by the allocations from people walking to the European site. Wider recreational impacts from people driving to a European site are allowed for in the mitigation described for Policy 1.
Salhouse	15	The allocation is around 2km in a straight line distance and considerably further walking distance from Broads / Broadland European site (Bure Broads and Marshes SSSI) and there is unlikely to be any harm caused by the allocations from people walking to the European site. Wider recreational impacts from people driving to a European site are allowed for in the mitigation described for Policy 1.
South Walsham	25	The allocation is around 2.3km in a straight line distance and considerably further walking distance from Broads / Broadland European site (Bure Broads and Marshes SSSI) and there is unlikely to be any harm caused by the allocations from people walking to the European site. Wider recreational impacts from people driving to a European site are allowed for in the mitigation described for Policy 1.

11.5.3 Windfall sites will be limited to locations within or well related to settlement boundaries for a minimum of 15 dwellings or, for affordable housing schemes, up to a maximum of 15 dwellings. This part of the policy could potentially impact on European sites. For example, some villages are close to the Broads / Broadland European site and it is possible that planning applications might come forward within 1km of a European site. In this case, the safeguard of Policy 3 would prevent harm.

11.5.4 No new employment allocations are made.

11.6 Assessment of Policy 7.5 'Small Scale Windfall Housing Development'

11.6.1 Policy 7.5 promotes small scale housing development, including self/custom build in all parishes. Its purpose is to allow for up to three additional dwellings on only one site in each parish beyond those allocated or allowed for as larger scale windfall sites through policies 1 and 7.2 to 7.4. The policy limits the number of homes to prevent over development in rural areas.

11.6.2 The policy also states that proposals would have no detrimental impact on natural environment, so that the safeguard of European sites by Policy 3 remains in place. For example, proposals within 1km of European sites would need to be assessed and would be refused if there was to be harm to any European site.

11.6.3 It is concluded that these allocations would not adversely affect the integrity of any European site through direct effects of recreational disturbance from people leaving the sites on foot or other immediate proximity effects. Wider recreational impacts of people driving to European sites are included in the assessment of Policy 1.

12 Conclusions

12.1 The Greater Norwich Local Plan acting alone

12.1.1 The Norfolk Authorities are progressing a Norfolk-wide study, the Green Infrastructure and Recreational Impact Avoidance and Mitigation Strategy (GIRAMS). This strategy is expected to set out a proposed approach to a tariff contributions from new development, in accordance with the first strand of the mitigation identified above. This study may also provide useful evidence/guidance for a future SANGs strategy

12.1.2 It is ascertained that the Greater Norwich Local Plan Strategy v8.1 would have no adverse affect upon the integrity of any European site acting alone, subject to the following outstanding matters

- Satisfactory completion of the Green Infrastructure and Recreational Avoidance Mitigation Strategy (Section 5) to achieve
 - a tariff-based payment taken from residential, and other relevant accommodation e.g. tourist accommodation, that will be used to fund a mixture of mitigation measures, most likely consisting of: soft and hard mitigation measures at the designated natural sites themselves to increase their resilience to greater visitor numbers.
 - the provision of suitable alternative natural green space (SANGs), which would be large enough to meet a range of needs and sufficiently well publicised for effective mitigation. The current Broadland District Council Development Management DPD policy EN3 may be considered as a precedent for housing growth in the emerging Greater Norwich Local Plan, although consideration will need to be given to new evidence emerging as part of plan production.
 - Implementation of a wider programme of Green Infrastructure Improvements in accordance with current and emerging project plans so that residents of existing and proposed housing have an alternative to European sites for regular routine activities such as dog walking
- Satisfactory completion of the Water Cycle Study (Section 5)
- Clarification of Policy 6, section 5 perhaps as a final bullet point '*Habitats Regulations Assessments will be required for small scale tourism accommodation within 1km, and for larger scale tourism accommodation within 10km, of a European site. Habitats Regulations Assessment will also be required for tourism, leisure, cultural and environmental activities which would utilise European sites*'. (Section 10.2)

12.2 The Greater Norwich Local Plan in combination with other plans or projects

12.2.1 Other Local Planning Authorities have, or are progressing, a tariff-based scheme similar to the GIRAMS scheme to mitigate for impacts on European site. For example, The Borough of Kings Lynn and West Norfolk already has a tariff scheme⁹¹ to pay for impact mitigation. North Norfolk District Council is also including a similar scheme in its emerging Local Plan 2016 – 2036. These schemes will act to ensure that in-combination effects of residential development would not have an adverse impact on the integrity of any European site.

12.2.2 It is recommended that road schemes, not allocated or promoted by the Greater Norwich Local Plan but mentioned in the plan, receive stronger recognition from the plan with respect to protection of European sites. Amendments to policy 4 Strategic Infrastructure with respect to roads are, with additional policy text underlined

⁹¹ https://www.west-norfolk.gov.uk/info/20077/planning_applications/548/planning_application_validation_checklists , local validation checklist download

- 'Delivery of the Norwich Western Link Road provided that it can be achieved without causing an adverse affect on the integrity of the River Wensum SAC.'
- 'Enhancement of the Major Road Network including improvements to the A146 provided that it can be achieved without causing through increased traffic flows an adverse effect on the integrity of The Broads / Broadland European sites.'

12.3 Overall conclusion

- 12.3.1 It is concluded that subject to satisfactory resolution of the outstanding matters listed above there would be no adverse affect upon the integrity of any European site.

Figures

Appendix 1

Meeting record

Project:	Greater Norwich Local Plan - HRA
Project No.:	E16845
Author:	Nick Sibbett
Date:	3 rd April 2018
Location:	TLP Norwich office
Attendees:	Nick Sibbett (TLP, for Greater Norwich Development Partnership), Paul Harris (Broadland Council, for Greater Norwich development Partnership), John Hiskett (Norfolk Wildlife Trust), Andrea Kelly (Broads Authority)
Apologies:	Stewart Patience (Anglian Water), David White (NCC), Kate Warwick (Environment Agency), Louise Oliver (Natural England), Philip Pearson (RSPB), Mark Nowers (RSPB)



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Item	Action
Introductions and Apologies	
Apologies from Nick for a late notification of the meeting day. All attendees except one had indicated that they could make the date but Nick waited too long for confirmation from the one remaining invitee; so invitees had booked other things in the meantime.	
Stewart Patience had previously provided a written submission in response to the Council's formal consultation. In summary, he agreed that a water cycle study was needed, and Anglian Water does a lot of work on Water Resources / Water Quality so willing to work closely with the water cycle consultants. Although the HRA mentions a risk of water pollution from sewage, AW has a statutory duty to prevent this and so the theoretical risk is not necessarily going to occur. A 'new borehole' for water abstraction mentioned in the HRA is an assumption and reference should be made to the recently published WRMP for several water issues.	Stewart to email report and his email submission to Nick
Louise Oliver had previously provided a written submission in response to the Council's formal consultation. This included welcoming an recognition of need for a Water Cycle study, advice in a list of bullet points about mitigation, and an increase in the recreational impact zone from 8km to 13km based on work in Suffolk Coastal.	
Likely significant effect	
Andrea queried the likely significant effect of Generation Park, a proposed power station. This was already in the Local Plan and had been screened out at that stage.	Nick to review, in case subsequent information or knowledge indicates a need

	for screening back in
Zone of influence; most journeys are within 8km and most for dog walking. John described a Kings Lynn example where most visits to Buxton Heath and Dersingham Bog were locals for dog walking, from within 8km.	Nick to review Louise's evidence for a 13km recreational impact zone when it is published, to assess its relevance to GNLN and compare to the Norfolk visitor study.
Natural England has held dog-walking workshops in north Norfolk.	Nick to ask Louise for information relevant to GNLN HRA.
Water quality. It was assumed (Paul) that all options, including dispersed options which included groups of 20 houses in villages, that all houses would be connected to the public sewer. Where groups of houses cannot be connected to a public sewer, they should be well away from a European site to avoid nutrient enrichment from individual sewage plants, or an additional treatment should be provided (e.g. reedbed).	Nick to provide suitable wording in revised HRA
Yorkshire Wildlife Trust has provided data on flytipping on its nature reserve which may help with evidence of urban impacts on European sites.	John to provide details to Nick; for including in HRA as appropriate.
para 3.4.10 – can we provide local information in addition to generic information?	Nick to look at local information for inclusion
Abstraction issues in north-east Norfolk may affect the water cycle study; with timescale not necessarily being in line with the water cycle study (Andrea). There are limited alternatives to abstraction in those areas and it would be difficult to change infrastructure.	all to be aware
Does Essex and Suffolk Water operate in the GNLN area (Andrea)?	Nick to check. Post-meeting note – no it doesn't.
Sue Hogarth (Environment Agency) and Josh Moore (NE) are modelling diffuse water pollution.	Nick to enquire to see if it would affect GNLN HRA
Recreational impacts	
The table of sites in 3.6 needs more local info. For example Buxton Heath, Holt Lowes, Marsham Heath all have car parks and some sites might have informal roadside parking even if no car park exists (John). Little Ouse Headwaters Project manages its sites well.	Nick to review and update
3.6.1 – can the info for disturbance at Halvergate be referenced. Few people walk there but each walker can provide significant disturbance (Andrea)	Nick to review and update
Broads Authority does not limit the number of boat licences it issues, and the number of boats is declining (Andrea)	Nick to review and update

Winterton; visitors do not stick to paths and can walk anywhere on or behind dunes (John)	Nick to review and update
Louise's advice regarding an increase in the recreational impact zone was noted, based on unpublished research in Suffolk. It was considered that the Local Plan needed to be based on published and considered evidence, so when the report was published it can be considered and its relevance to Norfolk assessed, prior to deciding to amend recreational impact zones.	Nick to review and update after the report is published.
Potential mitigation	
At Burlingham, a development resulted in significant PRoW improvements as part of mitigation to provide alternative walks. NCC cash for this came from a S106 agreement.	Nick to review and update
At a strategic level, how many green spaces do we need and how many are there now (Andrea)? NE's ANGST standards may be relevant. In the North east growth area, SANG is provided at 4ha per 1000 of population additional to existing greenspace and PRoW (Paul). The 7200 new homes in the GNLP could perhaps require SANG at this rate too.	Nick to review and update
What are the trends in dog walking, are they up or down? Is society becoming braver with visits to wilderness rather than formally provided sites increasing or decreasing? Mitigation would need to be future-proofed eg if there were to be an increasing proportion of the population who are dog walkers leading to future higher demand (Andrea).	Nick to review and update
Monitoring results from other sites eg Thames Basin Heaths, Dorset might help answer these queries.	Nick to review and update
A new GI report (maps from NBIS) is available from David.	Nick to request from David.
Timescale	
July 2018 – the Local Development Scheme timetable will be reviewed. Consultation feedback may affect the timescale.	
The submission draft plan will be published in mid 2019 subject to timetabling realignment.	
Concluding actions	
Interim HRA to be updated following stakeholders comments. Comments from people other than attendees / invitees might be received within the public consultation and any that are of significance will also be used to update the interim HRA.	Nick to review and update by end April approx.

[Insert rows as required]

Appendix 2

Meeting record

Project:	Greater Norwich Local Plan - HRA
Project No.:	E16845
Author:	Nick Sibbett
Date:	28 th March 2019
Location:	TLP Norwich office
Attendees:	Nick Sibbett (TLP, for Greater Norwich Development Partnership), Paul Harris (Broadland Council, for Greater Norwich Development Partnership), Mike Jones (Norfolk Wildlife Trust), Kate Warwick (Environment Agency), Louise Oliver (Natural England), Philip Pearson (RSPB).
Apologies:	Andrea Kelly (Broads Authority), Stewart Patience (Anglian Water), David White (NCC), Mark Nowers (RSPB)



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Item	Action
Update to strategy	
Paul described the changes to the GNLP since the previous interim HRA, based on papers circulated prior to the meeting. Paul explained that 32,500 dwellings were already allocated in the Local Plan and around 7,200 new allocations were needed. Only a small proportion of these were allocated in the north-east Norwich growth triangle.	
Mike Jones expressed concern about a new settlement at Honingham being saved as a contingency. Paul said that if it did ever come forward it would take many years, and might be considered in the Local Plan review following the current review.	
Attendees said that they would need more time to consider the papers previously circulated, and with all responses on HRA matters due by mid May at the latest.	All invitees
Paul observed that the circulated Topic Paper contained a typo; it said that SANGs and RAMS are exclusive, whereas in reality they are separate but may both be provided. SANGs are intended to provide for local recreation, including dog walking, whereas RAMS is likely to have a strong focus on monitoring and management of European sites.	
The Suffolk Coast RAMS due 'soon' is likely to be a good template for each district in Norfolk. Cross-boundary spend is important as impacts may occur outside the District in which the money is collected. It is hoped that ultimately, a single Norfolk-wide RAMS will be in place, with Districts combining rather than each District forming its own independent scheme. Currently KNLW and GYBC have independent schemes but NNDC is considering a scheme with a broader cross-boundary remit.	
Greater Norwich would be able to ensure that its independent GI-RAMS is running before a Norfolk-wide scheme is available but costs and tariffs should be in place prior to Submission stage. SANGS, net gain for biodiversity, flood management, health and wellbeing benefits, could all be supplied by one piece	

of land. The Trust for Oxfordshire Environment at https://www.trustforoxfordshire.org.uk/ was given as an example of an organisation which spent money on biodiversity projects.	
For the GNLG GIRAMS, Louise advised that the Place Services workshops with stakeholders needed very good facilitation if they were to be effective.	Louise to advise on workshop planning
The draft HRA of the next stage of consultation is due in June 2019, with member sign-off prior to August and consultation in September.	
Attendees thought that regular updates would be helpful, perhaps every three months or as milestones are reached.	Paul / Nick to arrange

