Norwich Over the Wensum Neighbourhood Plan

Habitats Regulations Assessment

Norwich Over the Wensum Neighbourhood Forum

March 2025

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Quality information

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1. Introduction

Background to the Project

1.1 AECOM was appointed by Norwich Over the Wensum Neighbourhood Forum to undertake a Report to Inform the Habitats Regulations Assessment (HRA) for the Norwich Over the Wensum Neighbourhood Plan Refresh 2024-35 (NOWNP). This is to inform the Norwich City Council (as competent authority) of the potential effects of the NP development on Habitat sites (Special Areas of Conservation (SACs), Special Protection Areas (SPAs), and Ramsar sites (designated under the Ramsar convention)), formerly referred to as European sites, and how they are being or should be addressed in the Neighbourhood Plan (NP).

1.2 The NOWNP contains policies on regeneration, residential development, heritage, urban design, green and blue infrastructure, and travel. The NOWNP and any subsequent development would have to adhere to the Greater Norwich Local Plan (GNLP), adopted on March 28th, 2024. The Greater Norwich Local Plan HRA[1] sets out impacts to Habitat sites and the mitigation required for the Greater Norwich Local Plan area. The NOWNP does not make any allocations for residential or employment development. These are made within the GNLP.

1.3 The objective of this report is to identify if any policies proposed in the NOWNP have the potential to cause Likely Significant Effects (LSEs) and, where identified, adverse effects on the integrity of Habitat sites, either in isolation or in combination with other plans and projects, and to determine whether policy mitigation measures are required.

Local Context

1.4 The Neighbourhood Area (of Norwich Over the Wensum) is co-incident with the “northern city centre” as described by the Norwich City Council Northen City Centre Area Action Plan (NCCAAP) (2010-2017). There are 125 listed buildings, and the entire area is a designated Conservation Area. The Area has a population of approximately 3,000 people which has not significantly changed since 2011.

Legislative Framework

1.5 The UK left the EU on 31 January 2019 under the terms set out in the European Union (Withdrawal Agreement) Act 2020 (“the Withdrawal Act”). This established a transition period, which ended on 31 December 2020. The Withdrawal Act retains the body of existing EU-derived law within our domestic law. During the transition period EU law applies to and in the UK. The most recent amendments to the Habitats Regulations – the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019[2] – make it clear that the need for HRA has continued after the end of the Transition Period.

1.6 Under the Regulations, an appropriate assessment is required, where a plan or project is likely to have a significant effect upon an international site, either

[1] The Landscape Partnership (2023) Habitats Regulations Assessment of published Proposed Submission Greater Norwich Local Plan Available at: https://www.gnlp.org.uk/sites/gnlp/files/2023-03/E16845%20GNLP%20Reg%2019%20HRA%202023-03-17.pdf [Accessed 28 Feb 2025]
[2] These don’t replace the 2017 Regulations but are just another set of amendments

individually or in combination with other projects. The Directive is implemented in the UK by the Conservation of Habitats and Species Regulations 2017 (as amended) (the "Habitats Regulations").

The legislative basis for Appropriate Assessment

Conservation of Habitats and Species Regulations 2017 (as amended)

With specific reference to Neighbourhood Plans, Regulation 106(1) states that:
'A qualifying body which submits a proposal for a neighbourhood development plan must provide such information as the competent authority [the Local Planning Authority] *may reasonably require for the purposes of the assessment under regulation 105* [which sets out the formal process for determination of 'likely significant effects' and the 'appropriate assessment']…'.

1.7 It is therefore important to note that this report has two purposes:

a. To assist the Qualifying Body (Norwich Over the Wensum) in preparing their plan by recommending (where necessary) any adjustments required to protect international sites, thus making it more likely their plan will be deemed compliant with the Conservation of Habitats and Species Regulations 2017 (as amended); and

b. On behalf of the Qualifying Body, to assist the Local Planning Authority (Norwich City Council) to discharge their duty under Regulation 105 (in their role as 'plan-making authority' within the meaning of that regulation) and Regulation 106 (in their role as 'competent authority').

1.8 As 'competent authority', the legal responsibility for ensuring that a decision of 'likely significant effects' is made, for ensuring an 'appropriate assessment' (where required) is undertaken, and for ensuring Natural England are consulted, falls on the local planning authority and the Neighbourhood Plan examiner. However, they are entitled to request from the Qualifying Body the necessary information on which to base their judgment and that is a key purpose of this report.

1.9 Over the years the phrase 'Habitats Regulations Assessment' has come into wide currency to describe the overall process set out in the Conservation of Habitats and Species Regulations from screening through to Imperative Reasons of Overriding Public Interest (IROPI). This has arisen in order to distinguish the process from the individual stage described in the law as an 'Appropriate Assessment'. Throughout this report we use the term Habitats Regulations Assessment for the overall process.

1.10 In spring 2018 the 'Sweetman' European Court of Justice ruling[3], clarified that 'mitigation' (i.e., measures that are specifically introduced to avoid or reduce a harmful effect on a Habitat site that would otherwise arise) should **not** be taken into account when forming a view on likely significant effects. Mitigation should instead only be considered at the Appropriate Assessment stage. This HRA has been cognisant of that ruling.

[3] People Over Wind and Sweetman v Coillte Teoranta (C-323/17)

The Layout of this Report

1.11 This report

- Explains the methodology used;
- Identifies Habitats sites of potential relevance to the NOWNP;
- Undertake the screening assessment of LSEs in relation to the Habitats sites including impact pathways and Appropriate Assessment where applicable; and
- Summarises conclusions and recommendations.

Quality Assurance

1.12 This report was undertaken in line with AECOM's Integrated Management System (IMS). Our IMS places great emphasis on professionalism, technical excellence, quality, environmental and Health and Safety management. All staff members are committed to establishing and maintaining our certification to the international standards BS EN ISO 9001:2015 and 14001:2015, ISO 44001:2017 and ISO 45001:2018. In addition, our IMS requires careful selection and monitoring of the performance of all sub-consultants and contractors.

1.13 All AECOM Ecologists working on this project are members (at the appropriate level) of the Chartered Institute of Ecology and Environmental Management (CIEEM) and follow their code of professional conduct (CIEEM, 2017).

2. Methodology

Introduction

2.1 The HRA has been carried out with reference to the general EC guidance on HRA (European Commission, 2001)[4] and general guidance on HRA published by the UK government in 2021 (Department for Environment, Food & Rural Affairs, 2021)[5].

2.2 Plate 1 below outlines the stages of HRA according to current Department for Levelling Up, Housing & Communities guidance[6]. The stages are essentially iterative, being revisited as necessary in response to more detailed information, recommendations, and any relevant changes to the Plan until no significant adverse effects remain.

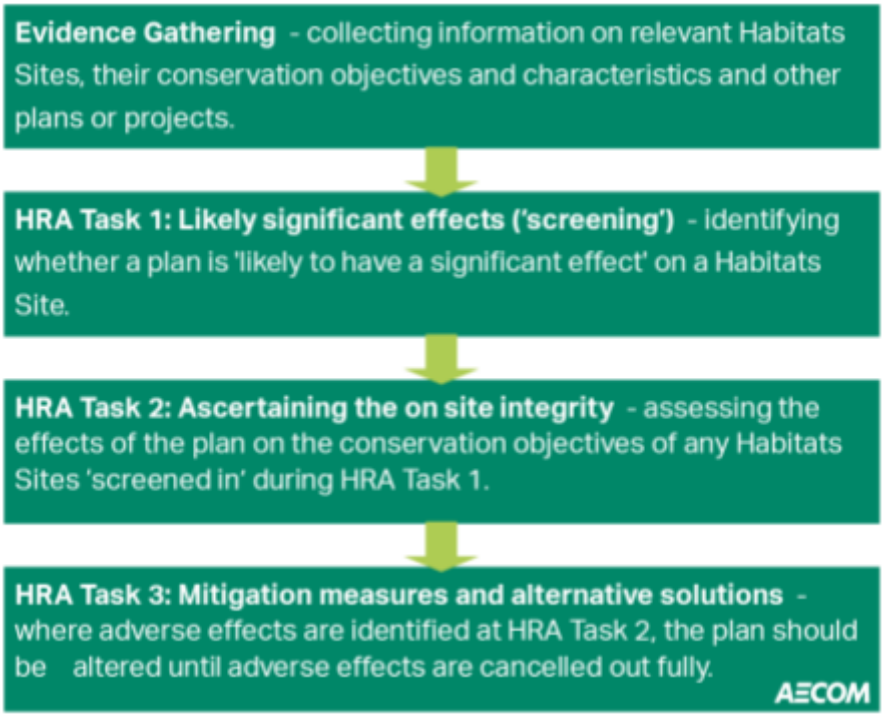

Plate 1. Four Stage Approach to Habitats Regulations Assessment

HRA Task 1 – Likely Significant Effects (LSE)

2.3 Following evidence gathering, the first stage of any Habitats Regulations Assessment is a Test of Likely Significant Effect (ToLSE) test - essentially a risk

[4] European Commission (2001): Assessment of plans and projects significantly affecting Natura 2000 Sites: Methodological Guidance on the Provisions of Article 6(3) and 6(4) of the Habitats Directive
[5] Available at: https://www.gov.uk/guidance/appropriate-assessment
[6] Available at: https://www.gov.uk/guidance/appropriate-assessment

assessment to decide whether the full subsequent stage known as Appropriate Assessment is required. The essential question is:

"*Is the project, either alone or in combination with other relevant projects and plans, likely to result in a significant effect upon European sites?*"

2.4 The objective is to 'screen out' those plans and projects that can, without any detailed appraisal, be said to be unlikely to result in significant adverse effects upon Habitat sites, usually because there is no mechanism for an adverse interaction with Habitat sites.

2.5 In the Waddenzee case[7] the European Court of Justice ruled on the interpretation of Article 6(3) of the Habitats Directive, including that:

- An effect should be considered 'likely', "*if it cannot be excluded, on the basis of objective information, that it will have a significant effect on the site*" (para 44);
- An effect should be considered 'significant', "*if it undermines the conservation objectives*" (para 48); and
- Where a plan or project has an effect on a site "*but is not likely to undermine its conservation objectives, it cannot be considered likely to have a significant effect on the site concerned*" (para 47).

2.6 The ToLSE consists of two parts: Firstly, determining whether there are any policies that could result in negative impact pathways and secondly establishing whether there are any Habitat sites that might be affected. It identifies Habitat sites that could be affected by the Plan and also those impact pathways that are most likely to require consideration.

2.7 It is important to note that the ToLSE must generally follow the precautionary principle as its main purpose is to determine whether the subsequent stage of 'Appropriate Assessment' (i.e., a more detailed investigation) is required.

HRA Task 2: Appropriate Assessment (AA)

2.8 Where it is determined that a conclusion of 'no likely significant effect' cannot be drawn, the analysis has proceeded to the next stage of HRA known as Appropriate Assessment. Case law has clarified that 'Appropriate Assessment' is not a technical term. In other words, there are no particular technical analyses, or level of technical analysis, that are classified by law as belonging to Appropriate Assessment rather than determination of likely significant effects. It literally means '*whatever level of further assessment is appropriate to form a conclusion regarding effects on the integrity of relevant European sites'.*

2.9 In 2018 the Holohan ruling[8] handed down by the European Court of Justice included among other provisions paragraph 39 of the ruling stating that '*As regards other habitat types or species, which are present on the site, but for which that site has not been listed, and with respect to habitat types and species located outside that site, … typical habitats or species must be included in the*

[7] Case C-127/02
[8] Case C-461/17

appropriate assessment, if they are necessary to the conservation of the habitat types and species listed for the protected area' [emphasis added].

2.10 During July 2019 the Department for Levelling Up, Housing and Communities (DLHC) published guidance for Appropriate Assessment (Department for Levelling Up, Housing and Communities, 2019)[9].

2.11 Paragraph: 001 Reference ID: 65-001-20190722 explains: '*Where the potential for likely significant effects cannot be excluded, a competent authority must make an appropriate assessment of the implications of the plan or project for that site, in view of the site's conservation objectives. The competent authority may agree to the plan or project only after having ruled out adverse effects on the integrity of the habitats site. Where an adverse effect on the site's integrity cannot be ruled out, and where there are no alternative solutions, the plan or project can only proceed if there are imperative reasons of over-riding public interest and if the necessary compensatory measures can be secured*'.

2.12 One of the key considerations during Appropriate Assessment is whether there is available mitigation that would address the potential effect. In evaluating significance, AECOM will rely on professional judgement as well as the results of bespoke studies, supported by appropriate evidence/data within this assessment.

HRA Task 3 – Avoidance and Mitigation

2.13 Where necessary, measures are recommended for incorporation into the Plan in order to avoid or mitigate adverse effects on Habitat sites. There is considerable precedent concerning the level of detail that a Neighbourhood Plan document needs to contain regarding mitigation for recreational impacts on Habitat sites. The implication of this precedent is that it is not necessary for all measures that will be deployed to be fully developed prior to adoption of the Plan, but the Plan must provide an adequate policy framework within which these measures can be delivered.

2.14 In evaluating significance, AECOM has relied on professional judgement and the Local Plan HRA regarding development impacts on the Habitat sites considered within this assessment.

2.15 When discussing 'mitigation' for a Neighbourhood Plan document, one is concerned primarily with the policy framework to enable the delivery of such mitigation rather than the detail of the mitigation measures themselves since the Local Development Plan document is a high-level policy document. A Neighbourhood Plan is a lower level constituent of a Local Development Plan.

Confirming Other Plans and Projects That May Act 'In Combination'

2.16 It is a requirement of the Regulations that the impacts of any land use plan being assessed are not considered in isolation but in combination with other plans and projects that may also be affecting the Habitat site(s) in question.

[9] Available at: https://www.gov.uk/guidance/appropriate-assessment

2.17 In considering the potential for combined regional housing development to impact on Habitat sites the primary consideration is the impact of visitor numbers – i.e., recreational pressure and urbanisation.

2.18 When undertaking this part of the assessment it is essential to bear in mind the principal intention behind the legislation i.e., to ensure that those projects or plans (which in themselves may have minor impacts) are not simply dismissed on that basis but are evaluated for any cumulative contribution they may make to an overall significant effect. In practice, in combination assessment is therefore of greatest relevance when the plan or policy would otherwise be screened out because its individual contribution is inconsequential. The overall approach is to exclude the risk of there being unassessed likely significant effects in accordance with the precautionary principle. This was first established in the seminal Waddenzee[10] case.

2.19 For the purposes of this assessment, we have determined that, due to the nature of the identified impacts, the key other plans and projects with potential for in combination likely significant effects are those schemes that have the following impact pathways: Loss of functionally linked land, recreational pressure, air quality impacts, water quality impacts and water quantity level and flow. The following plans have been assessed for their in-combination impact to interact with the NOWNP:

- The Greater Norwich Local Plan adopted March 2024 [11]
- Kings Lynn and West Norfolk Local Plan adopted Sep 2016[12]
- Breckland Local Plan adopted Sep 2023[13]
- North Norfolk Local Plan (Draft) Core Strategy Policies[14]

2.20 It should be noted that, while the broad potential impacts of these other projects and plans have been considered, this assessment does not undertake full HRA on each of these plans. Instead, existing HRAs that have been carried out for surrounding authorities and plans were drawn upon.

2.21 Within this document, each policy within the NP is subjected to HRA screening (summarised in **Table 3**). LSEs are then scrutinised in more detail in the main body of the report and where necessary an AA is undertaken.

[10] Waddenzee case (Case C-127/02, [2004] ECR-I 7405)
[11] Available at https://www.gnlp.org.uk/
[12] Available at https://www.west-norfolk.gov.uk/info/20220/site_allocations_and_development_management_policies_plan/514/adopted_plan
[13] Available at https://www.breckland.gov.uk/media/16659/Adopted-Breckland-Local-Plan/pdf/Appendix_4_-_Breckland_District_Council_Local_Plan.pdf?m=1704795365193
[14] Available at https://www.north-norfolk.gov.uk/info/planning-policy/current-local-plan/core-strategy-policies/

3. Physical Scope of the HRA

Introduction

3.1 There is no guidance that dictates the general physical scope of an HRA of a Plan document. Therefore, in considering the physical scope of the assessment, we were guided primarily by the identified impact pathways (called the source-pathway-receptor model).

3.2 Briefly defined, impact pathways are routes by which the implementation of a project can lead to an effect upon a Habitat site. An example of this would be visual and noise disturbance arising from the construction/decommissioning work or operational phase associated with a project. If there are sensitive ecological receptors within a nearby Habitat site (e.g. non-breeding overwintering birds), this could alter their foraging and roosting behaviour and potentially affect the site's integrity. For some impact pathways (notably air pollution) there is guidance that sets out distance-based zones required for assessment. For others, a professional judgment must be made based on the best available evidence.

Habitat Sites Relevant to the NOWNP

3.3 In the case of the NOWNP, it has been determined that the Habitat sites identified in Table 1 require consideration. The background to these Habitat sites is discussed in Appendix A. A general search area of 10km has been used; however, further sites have been included where the Zone of Influence of the sites for recreational disturbance includes the NOWNP area.

Table 1. Habitat site descriptions and distance from NOWNP area

Site Name/ Designation	Environmental Vulnerabilities	Distance from Neighbourhood Plan Area Boundary
Broadland SPA Broadland Ramsar	• water pollution; • climate change; • invasive species; • siltation; • inappropriate water levels; • hydrological change; • water abstraction • change in land management; • inappropriate ditch management; • inappropriate scrub control; • change in species distributions; • public access/disturbance; • under grazing; • drainage; • direct impact from third parties;	7.3 km east

Site Name/ Designation	Environmental Vulnerabilities	Distance from Neighbourhood Plan Area Boundary
	• inappropriate coastal management; and, • air pollution.	
The Broads SAC	• water pollution; • climate change; • invasive species; • siltation; • inappropriate water levels; • hydrological change; • water abstraction • change in land management; • inappropriate ditch management; • inappropriate scrub control; • change in species distributions; • public access/disturbance; • under grazing; • drainage; • direct impact from third parties; • inappropriate coastal management; and, • air pollution.	7.3 km east
River Wensum SAC	• Physical modification • Inappropriate weirs, dams, and other structures • Siltation • Invasive species • Water pollution • Water abstraction	2.7 km west
Breckland SPA /SAC	• Included for recreational disturbance only	30 km west
The Wash and North Norfolk Coast SAC	• Included for recreational disturbance only	35 km north
North Norfolk Coast SPA / SAC / Ramsar	• Included for recreational disturbance only	35 km north

Relevant Impact Pathways

3.4 The Habitats sites that are described in Table 1 and Appendix A are located within 10 km radius of the NOWNP area.

3.5 Based upon Natural England Site Improvement Plans and Supplementary Advice on Conservation Objectives, there are several pathways that require consideration regarding increased development within the NOWNP area and said Habitats sites. These are:

- Recreational Pressure;
- Air Pollution;
- Nutrient Neutrality (Water Pollution); and,
- Water Resources (Abstraction).

4. Background to Impact Pathways

Recreational Pressure

4.1 There is concern over the cumulative impacts of recreation on key nature conservation sites in the UK, as most sites must fulfil conservation objectives while also providing recreational opportunity. Various research reports have provided compelling links between changes in housing and access levels[15], and impacts on Habitats sites[16] [17]. This applies to any habitat, but recreational pressure from housing growth is of particular significance for Habitats sites. Different Habitats 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. HRAs of planning documents tend to focus on recreational sources of disturbance due to new residents[18].

Trampling Damage, Nutrient Enrichment and Wildfires

4.2 Most terrestrial habitats (especially heathland, woodland and dune systems) can be affected by trampling and other mechanical damage. This dislodges individual plants, leads to soil compaction and erosion. The following studies have assessed the impact of trampling associated with different recreational activities in different habitats:

- Wilson & Seney)[19] examined the degree of track erosion caused by hikers, motorcyclists, horse riders and cyclists in 108 plots along tracks in the Gallatin National Forest, Montana. Although the results proved difficult to interpret, it was concluded that horses and hikers disturbed more sediment on wet tracks, and therefore caused more erosion, than motorcycles and bicycles.
- Cole et al[20] conducted experimental off-track trampling in 18 closed forest, dwarf scrub and meadow & grassland communities (each trampled between 0 – 500 times) over five mountain regions in the US. Vegetation cover was assessed two weeks and one year after trampling, and an inverse relationship with trampling intensity was discovered, although this relationship was weaker after one year than two weeks indicating some recovery of the vegetation. Differences in plant morphology (structure) was found to explain more variation in response than soil and topographic factors. Low-growing, mat-forming grasses regained their cover best after two weeks and were considered most resistant to trampling, while tall forbs (non-woody

[15] Weitowitz D.C., Panter C., Hoskin R. & Liley D. (2019). The effect of urban development on visitor numbers to nearby protected nature conservation sites. *Journal of Urban Ecology* **5**. https://doi.org/10.1093/jue/juz019
[16] Liley D, Clarke R.T., Mallord J.W., Bullock J.M. (2006a). The effect of urban development and human disturbance on the distribution and abundance of nightjars on the Thames Basin and Dorset Heaths. Natural England / Footprint Ecology.
[17] Liley D., Clarke R.T., Underhill-Day J., Tyldesley D.T. (2006b). Evidence to support the appropriate Assessment of development plans and projects in south-east Dorset. Footprint Ecology / Dorset County Council.
[18] The RTPI report 'Planning for an Ageing Population' (2004) which states that 'From being a marginalised group in society, the elderly are now a force to be reckoned with and increasingly seen as a market to be wooed by the leisure and tourist industries. There are more of them and generally they have more time and more money.' It also states that 'Participation in most physical activities shows a significant decline after the age of 50. The exceptions to this are walking, golf, bowls and sailing, where participation rates hold up well into the 70s'.
[19] Wilson, J.P. & J.P. Seney. (1994). Erosional impact of hikers, horses, motorcycles and off-road bicycles on mountain trails in Montana. *Mountain Research and Development* **14**:77-88
[20] Cole, D.N. (1995a). Experimental trampling of vegetation. I. Relationship between trampling intensity and vegetation response. *Journal of Applied Ecology* **32**: 203-214
Cole, D.N. (1995b). Experimental trampling of vegetation. II. Predictors of resistance and resilience. *Journal of Applied Ecology* **32**: 215-224

vascular plants other than grasses, sedges, rushes and ferns) were considered least resistant. The cover of hemicryptophytes (plants with buds at or near the soil surface) and geophytes (plants with buds below the soil surface) was heavily reduced after two weeks but had recovered well after one year. These were therefore considered most resilient to trampling. Chamaephytes (plants with buds above the soil surface) were least resilient to trampling. It was concluded that these would be the least tolerant of a regular cycle of disturbance.

- Cole[21] conducted a follow-up study (across four vegetation types) in which shoe type (trainers or walking boots) and trampling weight were varied. Although immediate damage was greater with walking boots, there was no significant difference after one year. Heavier tramplers caused a greater reduction in vegetation height than lighter tramplers, but there was no differential impact on vegetation cover.
- Cole & Spildie[22] experimentally compared the effects of off-track trampling by hikers and horse riders (at two intensities – 25 and 150 passes) in two woodland vegetation types (one with an erect forb understorey and one with a low shrub understorey). Horse trampling was found to cause the largest reduction in vegetation cover. The forb-dominated vegetation suffered greatest disturbance but recovered rapidly. Generally, it was shown that higher trampling intensities caused more disturbance.

4.3 A major concern for nutrient-poor terrestrial habitats (e.g. heathlands, sand dunes, bogs and fens) is nutrient enrichment associated with dog fouling (addressed in various reviews[23]). It is estimated that dogs will defecate within 10 minutes of starting a walk and therefore most nutrient enrichment arising from dog faeces will occur within 400m of a site entrance. In contrast, dogs will urinate at frequent intervals during a walk, resulting in a more spread out distribution of urine. For example, in Burnham Beeches National Nature Reserve it is estimated that 30,000 litres of urine and 60 tonnes of dog faeces are deposited annually[24]. While there is limited information on the chemical constituents of dog faeces, nitrogen is one of the main components[25]. Nutrient availability is the major determinant of plant community composition and the effect of dog defecation in sensitive habitats is comparable to a high-level application of fertiliser, potentially resulting in a shift towards plant communities that are more typical of improved grasslands.

Bird Disturbance

4.4 Concern regarding the effects of disturbance on birds stems from the fact that they are expending energy unnecessarily by fear reactions or taking flight and the time they spend responding to disturbance is time that is not spent feeding (this will apply all year round)[26]. Disturbance therefore risks increasing energetic

[21] Cole, D.N. (1995c). Recreational trampling experiments: effects of trampler weight and shoe type. Research Note INT-RN-425. U.S. Forest Service, Intermountain Research Station, Utah.
[22] Cole, D.N., Spildie, D.R. (1998). Hiker, horse and llama trampling effects on native vegetation in Montana, USA. *Journal of Environmental Management* **53**: 61-71
[23] Taylor K., Anderson P., Taylor R.P., Longden K. & Fisher P. (2005). Dogs, access and nature conservation. English Nature Research Report, Peterborough.
[24] 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.
[25] Taylor K., Anderson P., Liley D. & Underhill-Day J.C. (2006). Promoting positive access management to sites of nature conservation value: A guide to good practice. English Nature / Countryside Agency, Peterborough and Cheltenham.
[26] Riddington, R. *et al*. 1996. The impact of disturbance on the behaviour and energy budgets of Brent geese. *Bird Study* 43:269-279

output while reducing energetic input, which 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[27]. Moreover, the more time a breeding bird spends disturbed from its nest, the more its eggs are likely to cool and the more vulnerable they, or any nestlings, are to predators.

4.5 The potential for disturbance may be less in winter than in summer, in that there are often a smaller number of recreational users. In addition, the consequences of disturbance at a population level may be reduced because birds are not breeding. However, activity outside of the summer months can still cause important disturbance, especially as birds are particularly vulnerable at this time of year due to food shortages. Disturbance which results in abandonment of suitable feeding areas can have severe consequences for those birds involved and their ability to find alternative feeding areas. Several empirical studies have, through correlative analysis, demonstrated that out-of-season (October-March) recreational activity can result in quantifiable disturbance:

- Tuite et al[28] found that during periods of high recreational activity, bird numbers at Llangorse Lake decreased by 30% as the morning progressed, matching the increase in recreational activity towards midday. During periods of low recreational activity, however, no change in numbers was observed as the morning progressed. In addition, all species were found to spend less time in their 'preferred zones' (the areas of the lake used most in the absence of recreational activity) as recreational intensity increased;

- Underhill et al[29] counted waterfowl and all disturbance events on 54 water bodies within the South West London Water Bodies Special Protection Area and clearly correlated disturbance with a decrease in bird numbers at weekends in smaller sites and with the movement of birds within larger sites from disturbed to less disturbed areas;

- Evans & Warrington[30] found that on Sundays, total water bird numbers (including shoveler and gadwall) were 19% higher on Stocker's Lake LNR in Hertfordshire and attributed this to observed greater recreational activity on surrounding water bodies at weekends relative to weekdays displacing birds into the LNR. However, in this study, recreational activity was not quantified in detail, nor were individual recreational activities evaluated separately; and

- Tuite et al[31] used a large (379 site), long-term (10-year) dataset (September – March species counts) to correlate seasonal changes in wildfowl abundance with the presence of various recreational activities.

[27] Gill, J.A., Sutherland, W.J. & Norris, K. 1998. The consequences of human disturbance for estuarine birds. *RSPB Conservation Review* 12: 67-72

[28] Tuite, C. H., Owen, M. & Paynter, D. 1983. Interaction between wildfowl and recreation at Llangorse Lake and Talybont Reservoir, South Wales. *Wildfowl* 34: 48-63

[29] Underhill, M.C. et al. 1993. Use of Waterbodies in South West London by Waterfowl. An Investigation of the Factors Affecting Distribution, Abundance and Community Structure. Report to Thames Water Utilities Ltd. and English Nature. Wetlands Advisory Service, Slimbridge

[30] Evans, D.M. & Warrington, S. 1997. The effects of recreational disturbance on wintering waterbirds on a mature gravel pitlake near London. International Journal of Environmental Studies 53: 167-182

[31] Tuite, C.H., Hanson, P.R. & Owen, M. 1984. Some ecological factors affecting winter wildfowl distribution on inland waters in England and Wales and the influence of water-based recreation. *Journal of Applied Ecology* 21: 41-62

They found that shoveler was one of the most sensitive species to disturbance. The greatest impact on wildfowl numbers during these months was associated with sailing/windsurfing and rowing.

4.6 More recent research has established that human activity including recreational activity can be linked to disturbance of wintering waterfowl populations[32] [33].

4.7 Human activity can affect birds either directly (e.g. by causing them to flee) or indirectly (e.g. by damaging their habitat). The most obvious direct effect is that of immediate mortality such as death by shooting, but human activity can also lead to behavioural changes (e.g. alterations in feeding behaviour, avoidance of certain areas *etc.*) and physiological changes (e.g. an increase in heart rate) that, although less noticeable, may ultimately result in major population-level effects by altering the balance between immigration/birth and emigration/death[34].

4.8 The degree of impact that varying levels of noise will have on different species of bird is poorly understood except that a number of studies have found that an increase in traffic levels on roads does lead to a reduction in the bird abundance within adjacent hedgerows - Reijnen et al (1995) examined the distribution of 43 passerine species (i.e. 'songbirds'), of which 60% had a lower density closer to the roadside than further away. By controlling vehicle usage, they also found that the density generally was lower along busier roads than quieter roads[35].

4.9 A study on recreational disturbance on the Humber[36] assesses different types of noise disturbance on waterfowl referring to studies relating to aircraft (see Drewitt 1999[37]), traffic (Reijnen, Foppen, & Veenbaas 1997)[38], dogs (Lord, Waas, & Innes 1997[39]; Banks & Bryant 2007[40]) and machinery (Delaney et al. 1999; Tempel & Gutierrez 2003). These studies identified that there is still relatively little work on the effects of different types of water based craft and the impacts from jet skis, kite surfers, windsurfers etc. (see Kirby et al. 2004[41] for a review). Some types of disturbance are clearly likely to invoke different responses. In very general terms, both distance from the source of disturbance and the scale of the disturbance (noise level, group size) will both influence the response (Delaney et al. 1999[42]; Beale & Monaghan 2005[43]). On UK estuaries and coastal sites, a review of WeBS data showed that, among the volunteer WeBS surveyors, driving

[32] Footprint Ecology. 2010. Recreational Disturbance to Birds on the Humber Estuary
[33] Footprint Ecology, Jonathan Cox Associates & Bournemouth University. 2010. Solent disturbance and mitigation project – various reports.
[34] Riley, J. 2003. Review of Recreational Disturbance Research on Selected Wildlife in Scotland. Scottish Natural Heritage.
[35] Reijnen, R. et al. 1995. The effects of car traffic on breeding bird populations in woodland. III. Reduction of density in relation to the proximity of main roads. Journal of Applied Ecology 32: 187-202
[36] Helen Fearnley Durwyn Liley and Katie Cruickshanks (2012) Results of Recreational Visitor Survey across the Humber Estuary produced by Footprint Ecology
[37] Drewitt, A. (1999) Disturbance effects of aircraft on birds. English Nature, Peterborough.
[38] Reijnen, R., Foppen, R. & Veenbaas, G. (1997) Disturbance by traffic of breeding birds: evaluation of the effect and considerations in planning and managing road corridors. Biodiversity and Conservation, 6, 567-581.
[39] Lord, A., Waas, J.R. & Innes, J. (1997) Effects of human activity on the behaviour of northern New Zealand dotterel Charadrius obscurus aquilonius chicks. Biological Conservation, 82,15-20.
[40] Banks, P.B. & Bryant, J.V. (2007) Four-legged friend of foe? Dog-walking displaces native birds from natural areas. Biology Letters, 3, 611-613.
[41] Kirby, J.S., Clee, C. & Seager, V. (1993) Impact and extent of recreational disturbance to wader roosts on the Dee estuary: some preliminary results. Wader Study Group Bulletin, 68, 53-58.
[42] Delaney, D.K., Grubb, T.G., Beier, P., Pater, L.L.M. & Reiser, H. (1999) Effects of Helicopter Noise on Mexican Spotted Owls. The Journal of Wildlife Management, 63, 60-76.
[43] Beale, C.M. & Monaghan, P. (2005) Modeling the Effects of Limiting the Number of Visitors on Failure Rates of Seabird Nests. Conservation Biology, 19, 2015-2019.

of motor vehicles and shooting were the two activities most perceived to cause disturbance (Robinson & Pollitt 2002)[44].

4.10 Other disturbing activities are on a continuum. The most disturbing activities are likely to be those that involve irregular, infrequent, unpredictable loud noise events, movement or vibration of long duration. Birds are least likely to be disturbed by activities that involve regular, frequent, predictable, quiet patterns of sound or movement or minimal vibration. The further any activity is from the birds, the less likely it is to result in disturbance.

4.11 Recreational catchments vary by Habitats site but for catchments for inland sites are often in the range of 2-7km. Various research reports have provided compelling links between changes in housing and access levels. The results of studies compiling visitor survey data for a range of European sites[45] demonstrate that more housing consistently means more visitors to protected sites, across most habitats. This is particularly the case for on-foot visitors that originate from housing within 1.5 km, highlighting that additional housing development in close proximity to protected sites is likely to significantly increase recreation pressure. For those sites with car parks, levels of housing within 15 km of protected sites were also a significant predictor of visitor pressure but depended on habitat type.

Habitats sites potentially impacted

4.12 Overall, the following Habitats sites within 10km of the NOWNP area are potentially sensitive to recreational disturbance:

- Broadland SPA and Ramsar
- The Broads SAC

4.13 Overall, the following Habitats sites outside of the 10km inclusion area but with a Zone of Influence (ZoI) which includes the NOWNP area are potentially sensitive to recreational disturbance:

- Breckland SAC and SPA
- North Norfolk Coase SPA, SAC and Ramsar
- The Wash and Noth Norfolk Coast SAC

Water Quality – Nutrient Neutrality

4.14 The quality of the water that feeds Habitats sites is an important determinant of the nature of their habitats and the species they support. Poor water quality can have a range of environmental impacts:

- At high levels, toxic chemicals and metals can result in immediate death of aquatic life, and can have detrimental effects even at lower levels, including increased vulnerability to disease and changes in wildlife behaviour.

[44] Robinson, J.A. & Pollitt, M.S. (2002) Sources and extent of human disturbance to waterbirds in the UK: an analysis of Wetland Bird Survey data, 1995/96 to 1998/99: Less than 32% of counters record disturbance at their site, with differences in causes between coastal and inland sites. Bird Study, 49, 205.
[45] Weitowitz D.C., Panter C., Hoskin R. & Liley D. 2019. The effect of urban development on visitor numbers to nearby protected nature conservation sites. Journal of Urban Ecology 5. https://doi.org/10.1093/jue/juz019

- Eutrophication, the enrichment of water with nutrients, increases plant growth and consequently results in oxygen depletion. Algal blooms, which commonly result from eutrophication, increase turbidity and decrease light penetration. The decomposition of organic wastes that often accompanies eutrophication deoxygenates water further, augmenting the oxygen depleting effects of eutrophication. In freshwater ecosystems, plant growth is primarily determined by phosphorus concentrations, which are determined by a wide range of sources, including treated sewage effluent from Wastewater Treatment Works and urban surfaces such as roads.
- Some pesticides, industrial chemicals, and components of sewage effluent are suspected to interfere with the functioning of the endocrine system, possibly having negative effects on the reproduction and development of aquatic life.

Habitats sites potentially impacted

- Broadland SPA and Ramsar
- The Broads SAC
- River Wensum SAC

Water Resources – Abstraction

4.15 An increase in population growth will also create an increased demand for water resources within the Combined Authority area, this increase in demand for water may affect sensitive Habitats Sites.

4.16 The HRA of the GNLP references the Anglian Water Services Water Resource Management Plan (WRMP) and a water cycle study undertaken by AECOM in 2021. These confirm that Anglian Water's measures to improve the efficiency of existing homes and businesses, reduce leakage by mending leaky water mains, and design new homes to be water-efficient will mean that no new abstractions are required, and therefore, there would be no impact on Habitat sites.

4.17 Given that Anglian Water provides the whole of Norfolk with drinking water and has confirmed it can provide enough water for the county, the Neighbourhood Plan is unlikely to impact Habitat sites.

Atmospheric Pollution

4.18 The main pollutants of concern for Habitats sites are oxides of nitrogen (NOx), ammonia (NH_3) and sulphur dioxide (SO_2). NOx can have a directly toxic effect upon vegetation. In addition, greater NOx or NH_3 concentrations within the atmosphere will lead to greater rates of nitrogen (N) deposition to soils. An increase in atmospheric N deposition to soils is generally regarded to lead to an increase in soil fertility, which can have a deleterious effect on the quality of semi-natural, nitrogen-limited terrestrial habitats.

Table 2 Main sources and effects of air pollutants on habitats and species

Pollutant	Source	Effects on habitats and species
Acid deposition	SO_2, NO_x and ammonia all contribute to acid deposition. Although future trends in S	Can affect habitats and species through both wet (acid rain) and dry deposition.

	emissions and subsequent deposition to terrestrial and aquatic ecosystems will continue to decline, it is likely that increased nitrogen emissions may cancel out any gains produced by reduced sulphur levels.	Some sites will be more at risk than others depending on soil type, bed rock geology, weathering rate and buffering capacity.
Ammonia (NH_3)	Ammonia is released following decomposition and volatilisation of animal wastes. It is a naturally occurring trace gas, but levels have increased considerably with expansion in numbers of agricultural livestock. Ammonia reacts with acid pollutants such as the products of SO_2 and NO_X emissions to produce fine ammonium (NH_4^+) containing aerosol which may be transferred much longer distances (can therefore be a significant trans-boundary issue.)	Adverse effects are as a result of nitrogen deposition leading to eutrophication. As emissions mostly occur at ground level in the rural environment and NH_3 is rapidly deposited, some of the most acute problems of NH_3 deposition are for small relict nature reserves located in intensive agricultural landscapes.
Nitrogen oxides NO_x	Nitrogen oxides are mostly produced in combustion processes. About one quarter of the UK's emissions are from power stations.	Deposition of nitrogen compounds (nitrates (NO_3), nitrogen dioxide (NO_2) and nitric acid (HNO_3) can lead to both soil and freshwater acidification. In addition, NO_x can cause eutrophication of soils and water. This alters the species composition of plant communities and can eliminate sensitive species.
Nitrogen (N) deposition	The pollutants that contribute to nitrogen deposition derive mainly from NO_X and NH_3 emissions. These pollutants cause acidification (see also acid deposition) as well as eutrophication.	Species-rich plant communities with relatively high proportions of slow-growing perennial species and bryophytes 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. N deposition can also increase the risk of damage from abiotic factors, e.g. drought and frost.
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. The increase in combustion of fossil fuels in the UK has led to a large increase in background ozone concentration, leading to an increased number of days when levels across the region are above 40ppb. 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 humans and wildlife and can affect buildings. Increased ozone concentrations may lead to a reduction in growth of agricultural crops, decreased forest production and altered species composition in semi-natural plant communities.
Sulphur Dioxide SO_2	Main sources of SO_2 emissions are electricity generation, industry and domestic fuel combustion. May also arise from shipping and increased atmospheric concentrations in busy ports. Total SO_2 emissions have decreased substantially in the UK since the 1980s.	Wet and dry deposition of SO_2 acidifies soils and freshwater and alters the species composition of plant and associated animal communities. The significance of impacts depends on levels of deposition and the buffering capacity of soils.

4.19 SO_2 emissions are overwhelmingly influenced by the output of power stations and industrial processes that require the combustion of coal and oil. NH_3 emissions are dominated by agriculture, with some chemical processes also

making notable contributions. As such, it is unlikely that material increases in SO_2 or NH_3 emissions will be associated with Local Plans. NOx emissions, however, are dominated by the output of vehicle exhausts. Within a 'typical' housing development, by far the largest contribution to NOx (92%) will be made by the associated road traffic. Other sources, although relevant, are of minor importance (8%) in comparison. Emissions of NOx could therefore be reasonably expected to increase due to greater vehicle use as a result of the NOWNP.

4.20 According to the World Health Organisation, the NOx Critical Level for the protection of vegetation is 30 μgm^{-3} and the threshold for SO_2 is 20 μgm^{-3}. In addition, ecological studies have determined Critical Loads (CLs) of atmospheric N deposition (that is, NOx combined with ammonia NH_3) for key habitats within Habitats sites.

4.21 According to the Department of Transport's Transport Analysis Guidance, '*Beyond 200m, the contribution of vehicle emissions from the roadside to local pollution levels is not significant'* (see Plate 1). This is therefore the distance that has been used throughout this HRA in order to determine whether Habitats sites are likely to be significantly affected by development under the NOWNP.

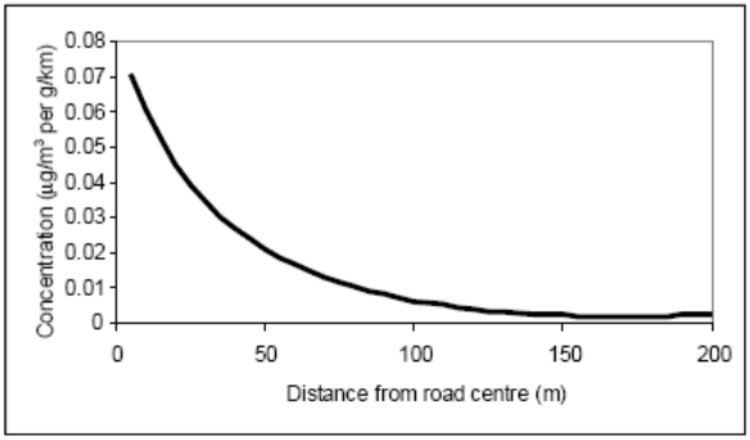

Plate 2 Traffic contribution to concentrations of pollutants at different distances from a road (Source: DfT)

Habitats sites potentially impacted

- Broadland SPA and Ramsar
- The Broads SAC
- River Wensum SAC

Invasive Species

4.22 The technical report "The impacts of invasive alien species in Europe"[46] describes Invasive Alien Species (IAS) as "*one of the most important direct drivers of biodiversity loss and ecosystem service changes and constitute the greatest threat to fragile ecosystems*".

4.23 IAS may have environmental impacts through a number of routes including:

[46] EEA Technical report No 16/2012

- Competition with or predation of local species.
- Transmission of disease to local species
- Hybridisation with local species
- Engineering, modifying or changing habitats
- Damaging landscapes

Habitats sites potentially impacted

- Broadland SPA and Ramsar
- The Broads SAC
- River Wensum SAC

5. Test of Likely Significant Effects (ToLSE) - Screening

Introduction

5.1 When seeking to identify relevant Habitat sites, consideration has been given primarily to identified impact pathways and the source-pathway-receptor approach, rather than adopting purely a 'zones'-based approach. The source-pathway-receptor approach is a standard tool in environmental assessment. In order for an effect to occur, all three elements of this mechanism must be in place, whereas the absence of one or more of the elements means there is no possibility for an effect. Furthermore, even where an impact is predicted to occur, it may not result in significant effects (i.e., those which undermine the Conservation Objectives of a Habitats site).

5.2 The likely zone of impact (also referred to as the likely Zone of Influence, ZoI) of a plan or project is the geographic extent over which significant ecological effects are likely to occur. The ZoI of a plan or project will vary depending on the specifics of a particular proposal and must be determined on a case-by-case basis with reference to a variety of criteria, including:

- the nature, size / scale and location of the plan;
- the connectivity between the plan and Habitat sites, for example through hydrological connections or because of the natural movement of qualifying species;
- the sensitivity of ecological features under consideration; and,
- the potential for in-combination effects.

Approach to NOWNP Plan Policy Screening

5.3 There are 6 policies within the NOWNP. Policies were screened out of having LSEs on a Habitat site where any of the following reasons applied:

- they are environmentally positive;
- they will not themselves lead to any development or other change;
- they make provision for change but could have no conceivable effect on a Habitat site. This can be because there is no pathway between the policy and the qualifying features or a Habitat site, or because any effect would be positive;
- they make provision for change but could have no significant effect on a Habitat site (i.e., the effect would not undermine the conservation objectives of a Habitat site); or,
- the effects of a policy on any particular Habitat site cannot be ascertained because the policy is too general. For example, a policy may be screened out if, based on absence of detail in the policy, it is not possible to identify where, when, or how the policy may be implemented, where effects may occur, or which sites, if any, may be affected.

5.4 Any 'criteria-based' policy (i.e., those that simply list criteria with which development needs to comply) or other general policy statements that have no spatial element were also screened out. Likewise, policies that simply 'safeguard' an existing resource (e.g., existing green infrastructure or mineral resources) by preventing other incompatible development, were also screened out.

Recreational Pressure

5.5 Policy NOW1 has been screened in for the potential to increase recreational pressure on the identified habitats sites.

5.6 Visitor surveys conducted by Footprint Ecology[47] concluded that:

- The River Wensum SAC was unlikely to be affected by recreational impacts as "*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*"
- Where people travel from home to a car park on the Broads, the median distance travelled is 28 km, hence the NOWNP area is in the zone of influence of both The Broads SAC and the Broadland SPA / Ramsar.
- The median distance travelled to the Breckland Habitats sites very from 23 – 47km which means that the NOWNP area is within the ZoI. However, visitor rates are low after 10km distance.
- The median distance travelled to The Wash and North Norfolk Coast SAC is 41km, but visitor rates are lower for residents living over 14km distant.
- The median distance travelled to the North Norfolk Coast SPA / SAC / Ramsar is 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.

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

5.7 **It is therefore not possible to conclude that there are no likely significant effects as a result of recreational disturbance on the identified Habitats sites and this impact pathway is taken forward for appropriate assessment.**

Water Quality – Nutrient Neutrality

5.8 Policies NOW1 and NOW4 have been screened in for the potential to chage water quality in the identified habitats sites.

5.9 Since 2022, it has been known that the River Wensum SAC and The Broads SAC are negatively impacted by excess nitrate and phosphate in the water. This is from agricultural (e.g., fertilisers) and urban sources (e.g., increased effluent from greater development). The GNLP HRA states that new residential development would need to demonstrate that it would not exacerbate the existing problem by adding further nitrate and phosphate from its sewage and run-off.

5.10 Two calculators can be used to assess the level of increase in nitrate and phosphate production for the development: the Natural England calculator and a calculator developed by Royal Haskoning. Natural England has advised that the Royal Haskoning calculator is less precautionary than the Natural England calculator, but they will not oppose its use[48]. Therefore, the developer must decide on the calculator to be utilised.

5.11 A draft version of a strategic mitigation strategy was published as part of the Greater Norwich Local Plan Examination process in January 2023 (Royal Haskoning DHV, 2023). This sets out the draft mitigation solutions for nutrient neutrality impacts across Norfolk. It is likely that a combination of measures will be required to offset the impact of any planned development, and therefore, the developer should consult the document and any updated documents throughout the design process of the site allocated in the Neighbourhood Plan.

5.12 It is possible that water run-off during construction will carry pollutants changing the water quality in Habitats sites, particularly in The Broads sites as these are downstream of the NOWNP area.

5.13 Possible solutions to be used for developments include Sustainable drainage systems which although generally designed to improve or maintain water quality still need to be assessed for possible significant effects.

5.14 It is therefore not possible to conclude that there are no likely significant effects as a result of changes to water quality related to policy NOW1 ad NOW4 on the identified Habitats sites and this impact pathway is taken forward for appropriate assessment.

Atmospheric Pollution (nitrogen deposition)

5.15 Policy NOW1 could result in additional residential dwellings, although no site is currently allocated, which in turn could give rise to additional traffic.

[48] Natural England Water Quality and Nutrient Neutrality Advice (16 March 2022) (NE785) Available at: file:///C:/Users/GoslingS/Downloads/NE785%20Revised%20Edition%203%20Natural%20England%20Water%20Quality%20and%20Nutrient%20Neutrality%20Advice%20(16%20March%202022)%20updated_PL%20(2).pdf [Accessed 25/03/25]

5.16 Norwich is the main centre of employment in the area and additional commuting traffic resulting from the developments outlined in this policy are likely to result in significant volumes of commuter traffic leaving the city as a result.

5.17 The closest point to the NOWNP area at which a major road is within 200m of the River Wensum SAC is approximately 12km distant, which is a greater than the average UK commuting distance of 10.1km of a UK resident.

5.18 The closest point to the NOWNP area at which a major road is within 200m of The Broads designated sites is approximately 17km distant, which is a greater than the average UK commuting distance of 10.1km of a UK resident.

5.19 The GNLP's HRA has reviewed air pollution in relation to growth across the GNLP area and states that there will be no impact. Therefore, the Neighbourhood Plan will also not impact Habitat sites regarding air pollution.

5.20 It is therefore possible to conclude that there are no likely significant effects as a result of atmospheric pollution (nitrogen deposition) related to policy NOW1 on the identified Habitats sites and this impact pathway is not taken forward for appropriate assessment.

Invasive species

5.21 Policy NOW4 has been screened in for the potential to result in the introduction or transference of invasive species to or between habitats sites.

5.22 The Site Improvement Plan[49] for the River Wensum includes specific actions to:

- Establish and implement an action plan for control of non-native species particularly for Himalayan balsam and Japanese knotweed.
- Monitoring of white-clawed and signal crayfish populations

5.23 The Site Improvement Plan[50] for the Broadland (Covering both The Broads SAC and the Broadland SPA) includes specific actions to:

- Draw up and invasive control plan for the broads
- Monitor invasives and determine effective control mechanisms throughout the broads
- Increase public awareness of invasive species with a view to reducing not-native introductions and improving biosecurity.
- Control and eradicate Himalayan balsam, *Crassula helmsii*, floating pennywort, red elder and mink.

5.24 It is possible that policy NOW5 could create corridors or stepping stones between designated sites which could potentially help to spread non-native invasive species between the River Wensum and the Broadlands designated sites.

5.25 It is therefore not possible to conclude that there are no likely significant effects as a result of invasive species related to policy NOW5 on the

[49] Available at file:///C:/Users/GoslingS/Downloads/SIP141008FINALv1.0%20River%20Wensum.pdf [Accessed 25/03/2025]
[50] Available at file:///C:/Users/GoslingS/Downloads/SIP030FINALv2.0Broadland%20(1).pdf [Accessed 25/03/2025]

identified Habitats sites and this impact pathway is taken forward for appropriate assessment.

Results of Policy Screening

5.26 The results of the LSEs screening of policies included in the NOWNP are presented in **Table 3**, Appendix B. Where a policy is shaded green, there are no linking impact pathways to Habitat sites and LSEs can be excluded. Where the screening outcome is shaded orange, LSEs cannot be excluded, and the policy is screened in for AA.

5.27 Of the 6 NOWNP policies, three have been identified as having a potential impact on habitats sites and are therefore screened in from having an LSE and an appropriate assessment is required. These are:

- NOW1: Regeneration
- NOW4: Sustainable Urban Design
- NOW5: Green and Blue Infrastructure

5.28 Site allocations for Norwich City Centre are identified in the GNLP and have been assessed in the HRA of this local plan. They are not therefore assessed here, only potential allocations which are new are considered within this HRA.

6. Appropriate Assessment

Recreational Pressure

6.1 Policy NOW1 proposes brownfield opportunity sites where development would be supported in principle and is screened in on that basis. However, the policy does not commit to specific locations or a particular amount or type of development. The policy instead describes 'Development of the space under the St Crispin's Road Flyover' and that 'Anglia Square is the main redevelopment opportunity within the Neighbourhood Area'.

6.2 The policy doesn't commit to a specific location and all details of redevelopment including quantum of housing growth, and types of other growth, will be determined by planning applications which will be subject to their own HRAs. Since the plan is not specific as to the details of any redevelopment it is not possible to undertake any further assessment.

6.3 However, any redevelopment of these brownfield sites will need to comply with GNLP Policy 3 (Environmental protection and enhancement) that protects Habitats sites from adverse effects of recreational disturbance as follows:

- *Residential development will address the potential visitor pressure on sites protected by the Habitats Regulations through:*
  - *The payment of a contribution towards the cost of mitigation measures at the protected sites; and*
  - *The provision or enhancement of adequate green infrastructure, either on the development site or nearby, to provide for the informal recreational needs of the residents as an alternative to visiting the protected sites. This will equate to a minimum of 2 hectares per 1,000*

population and will reflect Natural England's Accessible Natural Greenspace Standard.

- *Any development that would be likely to have a significant effect on a Habitats site, either alone or in combination with other plans or projects, will be subject to assessment under the Habitat Regulations at application stage. If it cannot be ascertained that there would be no adverse effects on site integrity the application will be refused unless it passes the tests set out in Regulation 62, and any necessary compensatory measures will need to be secured.*
    - *Within the catchments of the River Wensum SAC, The Broads SAC and the Broadland Ramsar:*
    - *Residential development that results in an increase in the level of overnight stays; and*
    - *Non-residential development that by virtue of its scale and type may draw people from outside the catchments of the SACs,*
    - *and/or may generate unusual quantities of surface water,*
    - *and/or, by virtue of the processes undertaken, may contain unusual pollutants within surface water run-off,*
- *must provide evidence to enable the local planning authority to conclude through a Habitats Regulations Assessment that the proposal will not adversely affect the integrity of sites in an unfavourable condition.*

6.4 **It can therefore be concluded that the NOWNP will not lead to adverse effects regarding the impact pathway recreational disturbance either alone or in combination**.

Water Quality

6.5 Policy NOW1 proposes brownfield opportunity sites where development would be supported in principle and is screened in on that basis. However, the policy does not commit to specific locations or a particular amount or type of development. The policy instead describes 'Development of the space under the St Crispin's Road Flyover' and that 'Anglia Square is the main redevelopment opportunity within the Neighbourhood Area'. A Construction Environmental Management Plan or similar would be required for any development brought forward which we need to comply with legislative requirements to prevent pollution of water.

6.6 Policy NOW4 doesn't specifically commit to a location or quantum for SUDS. The main purposes of any SUDS is to maintain or improve water quality. Moreover, any SUDS when designed will need to comply with water quality protection legislation and the detailed requirements of any planning consent.

6.7 The Environmental Damage (Prevention and Remediation) (England) Regulations 2015 and the Environmental Permitting (England and Wales) Regulations 2016 render it illegal to pollute watercourses irrespective of whether Habitats Sites are present in the vicinity or not.

6.8 Any redevelopment of these brownfield sites will also need to comply with GNLP Policy 3 (Environmental protection and enhancement) that protects Habitats sites from changes to water quality as follows:

- *Any development that would be likely to have a significant effect on a Habitats site, either alone or in combination with other plans or projects, will be subject to assessment under the Habitat Regulations at application stage. If it cannot be ascertained that there would be no adverse effects on site integrity the application will be refused unless it passes the tests set out in Regulation 62, and any necessary compensatory measures will need to be secured.*
    - *Within the catchments of the River Wensum SAC, The Broads SAC and the Broadland Ramsar:*
    - *Residential development that results in an increase in the level of overnight stays; and*
    - *Non-residential development that by virtue of its scale and type may draw people from outside the catchments of the SACs,*
    - *and/or may generate unusual quantities of surface water,*
    - *and/or, by virtue of the processes undertaken, may contain unusual pollutants within surface water run-off,*
- *must provide evidence to enable the local planning authority to conclude through a Habitats Regulations Assessment that the proposal will not adversely affect the integrity of sites in an unfavourable condition.*

6.9 It can therefore be concluded that the NOWNP will not lead to adverse effects regarding the impact pathway changes to water quality either alone or in combination.

Invasive species

6.10 Policy NOW5 has been screened in for Appropriate Assessment in relation to the potential to create stepping stones or corridors through which invasive species may be transferred introduced.

6.11 However, in practice it would be a criminal offence to introduce invasive non-native species or cause invasive non-native species to be transferred due to new areas. The Wildlife & Countryside Act 1981 (as amended) and The Invasive Alien Species (Enforcement and Permitting) Order 2019 provide the relevant legislation.

6.12 As this risk should never arise due to legislation other than the Habitat Regulations, it can be assessed as having no negative impacts on the identified Habitats sites.

6.13 It can therefore be concluded that the NOWNP will not lead to adverse effects regarding the impact pathway introduction on non-native invasive species either alone or in combination.

7. Conclusions

7.1 The Norwich Over the Wensum Neighbourhood Plan has a total of 6 policies. Of these policies three were assessed as having the potential to cause a likely significant effect and were reviewed with regards to their impacts upon Habitat sites.

7.2 Following Appropriate Assessment, it was concluded that none of the three policies would result in impacts on the identified Habitats sites.

7.3 As there are no identified impacts from any of the polices in the NOWNP, there are no in combination effects.

7.4 As a result, it can be concluded that the Norwich Over the Wensum Neighbourhood Plan would not adversely impact Habitat sites either alone or in-combination with other plans and projects.

Appendix A Habitats Sites

A.1 Breckland SAC

Conservation Objectives

7.5 With regard to the SAC[51] and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change;

7.6 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;

- 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.

Qualifying Features

- H2330. Inland dunes with open *Corynephorus* and *Agrostis* grasslands; Open grassland with grey-hair grass and common bent grass of inland dunes
- H3150. Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition*-type vegetation; Naturally nutrient-rich lakes or lochs which are often dominated by pondweed
- H4030. European dry heaths
- H6210. Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*FestucoBrometalia*); Dry grasslands and scrublands on chalk or limestone
- H91E0. Alluvial forests with *Alnus glutinosa* and Fraxinus excelsior (*Alno-Padion, Alnion incanae*, *Salicion albae*); Alder woodland on floodplains
- S1166. *Triturus cristatus*; Great crested newt

[51] Natural England, 2018. Breckland SAC Conservation Objectives. Accessed 25/03/2025 via: https://publications.naturalengland.org.uk/publication/6145904885104640

Environmental Vulnerabilities

7.7 With regards to this SAC's SIP[52] the following are threats and pressure listed for the site:

- Lack of ground disturbance
- Undergrazing
- Forestry and Woodland Management
- Water pollution
- Changes in species distributions
- Stone curlew monitoring and intervention
- Planning permission: general
- Monitoring
- Air pollution: Impact of atmospheric nitrogen deposition
- Public Access/Disturbance
- Climate change
- Changes in species distribution
- Inappropriate scrub control
- Inappropriate management practices
- Habitat fragmentation
- Inappropriate weed control
- Inappropriate pest control
- Inappropriate cutting/mowing

A.2 Breckland SPA

Conservation Objectives

7.8 With regard to the SPA[53] and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;

7.9 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;

- The extent and distribution of the habitats of the qualifying features

[52] Natural England, 2015. Beckland Site Improvement Plan. Accessed 25/03/2025 via: https://publications.naturalengland.org.uk/publication/6145904885104640
[53] Natural England, 2019. Beckland SPA Conservation Objectives. Accessed 25/03/2025 via: https://publications.naturalengland.org.uk/publication/6145904885104640

- 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.

Qualifying Features

- A133 *Burhinus oedicnemus*; Stone-curlew (Breeding)
- A224 *Caprimulgus europaeus*; European nightjar (Breeding)
- A246 *Lullula arborea*; Woodlark (Breeding)

Environmental Vulnerabilities

7.10 With regards to this SAC's SIP[54] the following are threats and pressure listed for the site:

- Lack of ground disturbance
- Undergrazing
- Forestry and Woodland Management
- Water pollution
- Changes in species distributions
- Stone curlew monitoring and intervention
- Planning permission: general
- Monitoring
- Air pollution: Impact of atmospheric nitrogen deposition
- Public Access/Disturbance
- Climate change
- Changes in species distribution
- Inappropriate scrub control
- Inappropriate management practices
- Habitat fragmentation
- Inappropriate weed control
- Inappropriate pest control

[54] Natural England, 2015. Beckland Site Improvement Plan. Accessed 25/03/2025 via: https://publications.naturalengland.org.uk/file/5307651355312128

- Inappropriate cutting/mowing

A.3 The Broads SAC

Conservation Objectives

7.11 With regard to the SAC[55] and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change;

7.12 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;

- 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.

Qualifying Features

- Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.; Calcium-rich nutrient-poor lakes, lochs and pools
- Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition*-type vegetation; Naturally nutrient-rich lakes or lochs which are often dominated by pondweed
- *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*); Purple moor-grass meadows
- Transition mires and quaking bogs; Very wet mires often identified by an unstable `quaking` surface
- Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*; Calcium-rich fen dominated by great fen sedge (saw sedge)
- Alkaline fens; Calcium-rich springwater-fed fens
- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*); Alder woodland on floodplains
- Desmoulin`s whorl snail *Vertigo moulinsiana*

[55] Natural England, 2018. The Broads SAC Conservation Objectives. Accessed 17/01/2025 via: The Broads SAC Conservation Objectives (publications.naturalengland.org.uk)

- Otter *Lutra lutra*
- Fen orchid *Liparis loeselii*
- Little whorlpool ram's-horn snail *Anisus vorticulus*

Environmental Vulnerabilities

7.13 With regards to this SAC and others included within the Broadland 2018 SIP[56] the following are threats and pressure listed for those sites:

- Water pollution
- Climate change
- Invasive species
- Siltation
- Inappropriate water levels
- Hydrological changes
- Water abstraction
- Change in land management
- Inappropriate ditch management
- Inappropriate scrub control
- Changes in species distributions
- Public access/disturbance
- Under grazing
- Drainage
- Direct impact from third party
- Inappropriate coastal management
- Air pollution: impact of atmospheric nitrogen deposition

7.14 The 2019 Supplementary Advice to the Conservation Objectives[57] (SACO) goes into more detail on these vulnerabilities.

[56] Natural England, 2018. Broadlands Site Improvement Plan. Accessed 17/01/2025 via: Broadland SIP (publications.naturalengland.org.uk)
[57] Natural England, 2019. The Broads SAC Supplementary Advice on Conservation Objectives. Accessed 17/01/2025 via: The Broads SAC SACO (publications.naturalengland.org.uk)

A.4 Broadland SPA and Ramsar

Conservation Objectives

7.15 With regard to the SPA[58] and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;

7.16 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;

- 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.

Qualifying Features

7.17 With regards to the SPA the following are reasons for designation:

- Botaurus stellaris; Great bittern (Breeding)
- Bewick's swan *Cygnus columbianus bewickii*; (Non-breeding)
- Whooper swan *Cygnus cygnus*; (Non-breeding)
- Eurasian wigeon *Anas penelope;* (Non-breeding)
- Gadwall *Anas strepera*; (Non-breeding)
- Northern shoveler *Anas clypeata*; (Non-breeding)
- Eurasian marsh harrier *Circus aeruginosus;* (Breeding)
- Hen harrier *Circus cyaneus;* (Non-breeding)
- Ruff *Philomachus pugnax*; (Non-breeding)

7.18 With regards to the Broadland Ramsar[59] the following are reasons for designation:

Ramsar Criterion 2

7.19 The site supports a number of rare species and habitats within the biogeographical zone context, including the following Habitats Directive Annex I features:

[58] Natural England, 2019. Broadland SPA Conservation Objectives. Accessed 17/01/2025 via: Broadland SPA Conservation Objectives (publications.naturalengland.org.uk)
[59] Joint Nature Conservation Committee, 2008. Broadland Ramsar Information Sheet. Accessed 17/01/2025 via: Broadland Ramsar Information Sheet (jncc.gov.uk)

- Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae* Calcium-rich fen dominated by great fen sedge (saw sedge).
- Alkaline fens Calcium-rich springwater-fed fens.
- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) Alder woodland on floodplains, and the Annex II species
- Desmoulin`s whorl snail *Vertigo moulinsiana*
- Otter *Lutra lutra*
- Fen orchid *Liparis loeselii*

Ramsar Criterion 6 – species/populations occurring at levels of international importance.

7.20 Qualifying Species/populations (as identified at designation):

7.21 Species with peak counts in winter:

- Tundra swan, *Cygnus columbianus*, NW Europe – 196 individuals, representing an average of 2.4% of the GB population
- Eurasian wigeon, *Anas penelope*, NW Europe – 6769 individuals, representing an average of 1.6% of the GB population
- Gadwall, *Anas strepera*, NW Europe – 545 individuals, representing an average of 3.1% of the GB population
- Northern shoveler, *Anas clypeata*, NW & C Europe – 247 individuals, representing an average of 1.6% of the GB population

7.22 Species/populations identified subsequent to designation for possible future consideration under criterion 6:

7.23 Species with peak counts in winter:

- Pink-footed goose, *Anser brachyrhynchus*, Greenland, Iceland/UK – 4263 individuals, representing an average of 1.7% of the population
- Greylag goose, *Anser anser*, Iceland/UK, Ireland – 1007 individuals, representing an average of 1.1% of the population

Environmental Vulnerabilities

7.24 With regards to this SPA and others included within the Broadland 2018 SIP[60] the following are threats and pressure listed for those sites:

- Water pollution
- Climate change
- Invasive species

[60] Natural England, 2014. Broadland Site Improvement Plan. Accessed 17/01/2025 via: Broadland SIP (publications.naturalengland.org.uk)

- Siltation
- Inappropriate water levels
- Hydrological changes
- Water abstraction
- Change in land management
- Inappropriate ditch management
- Inappropriate scrub control
- Changes in species distributions
- Public access/disturbance
- Under grazing
- Drainage
- Direct impact from third party
- Inappropriate coastal management
- Air pollution: impact of atmospheric nitrogen deposition

7.25 The 2019 Supplementary Advice to the Conservation Objectives[61] (SACO) goes into more detail on these vulnerabilities.

A.5 North Norfolk Coast SAC

Conservation Objectives

7.26 With regard to the SAC[62] and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change;

7.27 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;

- 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

[61] Natural England, 2019. Broadland SPA Supplementary Advice on Conservation Objectives. Accessed17/01/2025 via: Broadland SPA SACO (publications.naturalengland.org.uk)
[62] Natural England, 2018. North Norfolk Coast SAC Conservation Objectives. Accessed 25/03/2025 via: https://publications.naturalengland.org.uk/file/5187288007180288

- The populations of qualifying species, and,
- The distribution of qualifying species within the site.

Qualifying Features

- H1150. Coastal lagoons
- H1220. Perennial vegetation of stony banks; Coastal shingle vegetation outside the reach of waves
- H1420. Mediterranean and thermo-Atlantic *halophilous* scrubs (*Sarcocornetea fruticosi*); Mediterranean saltmarsh scrub
- H2110. Embryonic shifting dunes
- H2120. Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes"); Shifting dunes with marram
- H2130. Fixed dunes with herbaceous vegetation ("grey dunes"); Dune grassland
- H2190. Humid dune slacks
- S1355. *Lutra lutra*; Otter
- S1395. *Petalophyllum ralfsii*; Petalwort

Environmental Vulnerabilities

7.28 With regards to this SAC's SIP[63] the following are threats and pressure listed for the site:

- Inappropriate water levels
- Public Access/Disturbance
- Siltation
- Fisheries: Recreational marine and estuarine
- Invasive species
- Inappropriate coastal management
- Fisheries: Commercial marine and estuarine
- Predation

[63] Natural England, 2014. The Wash and North Norfolk Coast Site Improvement Plan. Accessed 25/03/2025 via: https://publications.naturalengland.org.uk/publication/5327498292232192

A.6 North Norfolk Coast SPA and Ramsar

Conservation Objectives

7.29 With regard to the SPA[64] and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change;

7.30 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;

- 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.

Qualifying Features

- A021 Botaurus stellaris; Great bittern (Breeding)
- A040 *Anser brachyrhynchus*; Pink-footed goose (Non-breeding)
- A046a *Branta bernicla bernicla*; Dark-bellied brent goose (Non-breeding)
- A050 *Anas penelope*; Eurasian wigeon (Non-breeding)
- A081 *Circus aeruginosus*; Eurasian marsh harrier (Breeding)
- A084 *Circus pygargus*; Montagu's harrier (Breeding)
- A132 *Recurvirostra avosetta*; Pied avocet (Breeding)
- A143 *Calidris canutus*; Red knot (Non-breeding)
- A191 *Sterna sandvicensis*; Sandwich tern (Breeding)
- A193 *Sterna hirundo*; Common tern (Breeding)
- A195 *Sterna albifrons*; Little tern (Breeding)
- Waterbird assemblage

7.31 With regards to the North Norfolk Coast Ramsar[65] the following are reasons for designation:

Ramsar Criterion 1

7.32 The site e 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

[64] Natural England, 2018. North Norfolk Coast SPA Conservation Objectives. Accessed 25/03/2025 via: https://publications.naturalengland.org.uk/file/4744900111499264
[65] North Norfolk Coast Ramsar Information Sheet. Accessed 25/03/2025 via: https://jncc.gov.uk/jncc-assets/RIS/uk11048.pdf

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.

Ramsar Criterion 2

7.33 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.

Ramsar Criterion 5

7.34 Assemblages of international importance, species with peak counts in winter: 98462 waterfowl (5 year peak mean).

Ramsar Criterion 6 – species/populations occurring at levels of international importance.

7.35 Qualifying Species/populations (as identified at designation):

7.36 Species regularly supported during the breeding season:

- Sandwich tern, *Sterna (Thalasseus) sandvicensis sandvicensis*
- Common tern, *Sterna hirundo Hirundo*
- Little tern, *Sterna albifrons albifrons*

7.37 Species with peak counts in spring/autumn:

- Red knot, *Calidris canutus islandica*

7.38 Species with peak counts in winter:

- Pink-footed goose, *Anser brachyrhynchus*
- Dark-bellied brent goose, *Branta bernicla bernicla*
- Northern pintail, *Anas acuta*
- Eurasian wigeon, *Anas penelope*

7.39 Species/populations identified subsequent to designation for possible future consideration under criterion 6:

7.40 Species with peak counts in spring/autumn:

- Ringed plover, *Charadrius hiaticula*
- Sanderling, *Calidris alba*
- Bar-tailed godwit, *Limosa lapponica lapponica*

Environmental Vulnerabilities

7.41 With regards to this SAC's SIP[66] the following are threats and pressure listed for the site:

- Inappropriate water levels

[66] Natural England, 2014. Natural England, 2014. The Wash and North Norfolk Coast Site Improvement Plan. Accessed 25/03/2025 via: https://publications.naturalengland.org.uk/publication/5327498292232192

- Public Access/Disturbance
- Siltation
- Fisheries: Recreational marine and estuarine
- Invasive species
- Inappropriate coastal management
- Fisheries: Commercial marine and estuarine
- Predation

A.7 River Wensum SAC

Conservation Objectives

7.42 With regard to the SAC[67] and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change;

7.43 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;

- 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.

Qualifying Features

- Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation; Rivers with floating vegetation often dominated by water-crowfoot
- Desmoulin`s whorl snail *Vertigo moulinsiana*
- White-clawed (or Atlantic stream) crayfish *Austropotamobius pallipes*
- Brook lamprey *Lampetra planeri*
- Bullhead *Cottus gobio*

[67] Natural England, 2018. River Wensum SAC Conservation Objectives. Accessed 17/01/2025 via: River Wensum SAC Conservation Objectives (publications.naturalengland.org.uk)

Environmental Vulnerabilities

7.44 With regards to this SAC's SIP[68] the following are threats and pressure listed for the site:

- Physical modification
- Inappropriate weirs, dams, and other structures
- Siltation
- Invasive species
- Water pollution
- Water abstraction

7.45 The 2019 Supplementary Advice to the Conservation Objectives[69] (SACO) goes into more detail on these vulnerabilities.

A.8 The Wash and North Norfolk Coast SAC

Conservation Objectives

7.46 With regard to the SAC[70] and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change;

7.47 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;

- 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.

[68] Natural England, 2014. River Wensum Site Improvement Plan. Accessed 17/01/2025 via: River Wensum SIP (publications.naturalengland.org.uk)
[69] Natural England, 2019. River Wensum SAC Supplementary Advice on Conservation Objectives. Accessed 17/01/2025 via: https://publications.naturalengland.org.uk/file/5213489320951808
[70] Natural England, 2018. A.4 The Wash and North Norfolk Coast SAC Conservation Objectives. Accessed 25/03/2025 via: https://publications.naturalengland.org.uk/file/5213489320951808

Qualifying Features

- H1110 Sandbanks which are slightly covered by sea water all the time; Subtidal sandbanks
- H1140 Mudflats and sandflats not covered by seawater at low tide; Intertidal mudflats and sandflats
- H1150 Coastal lagoons*
- H1160 Large shallow inlets and bays
- H1170 Reefs
- H1310 Salicornia and other annuals colonising mud and sand; Glasswort and other annuals colonising mud and sand
- H1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)
- H1420 Mediterranean and thermo-Atlantic *halophilous* scrubs (*Sarcocornetea fruticosi*); Mediterranean saltmarsh scrub
- S1355 *Lutra lutra*; Otter
- S1365 *Phoca vitulina*; Common seal

Environmental Vulnerabilities

7.48 With regards to this SAC's SIP[71] the following are threats and pressure listed for the site:

- Inappropriate water levels
- Public Access/Disturbance
- Siltation
- Fisheries: Recreational marine and estuarine
- Invasive species
- Inappropriate coastal management
- Fisheries: Commercial marine and estuarine
- Predation

[71] Natural England, 2014. The Wash and North Norfolk Coast Site Improvement Plan. Accessed 17/01/2025 via: https://publications.naturalengland.org.uk/file/6240487188987904

Appendix B Policy Screening

Table 3 Norwich Over the Wensum Neighbourhood Plan Policy Screening

Policy Name	Policy summary (full policy details can be found in the NP document)	Potential Likely Significant Effect?
NOW1: Regeneration	This policy provides general support for the regeneration of the Neighbourhood Plan area through the: ▪ Development of brownfield sites ▪ Remodelling, demolition or redevelopment of existing unlisted buildings ▪ Development of surface carparks ▪ Retention of existing manufacturing and industrial uses ▪ Development of the Large District Centre including reuse of upper floors ▪ Development under St Crispin's Road Flyover ▪ Reuse and creative adaptation and improvement of historic buildings	**Possible likely significant effects.** The policy proposes brownfield opportunity sues where development will be supported in principle. The sites include those already covered in the GNLP and new sites which are not currently allocated. This policy is screened in for Likely Significant Effects for the following impact pathways: • Water quality • Water quantity • Recreational disturbance
NOW2: Residential Development	This policy provides guidance on the provision of a mix of accommodation, including affordable housing accommodation, in residential development plans.	**No likely significant effects.** The policy provides guidance on residential developments, It does not provide for a quantum or location of any development. There are no pathways linking this policy to any Habitat sites.
NOW3: Heritage, Character and Identity	This policy provides guidance on proposed developments in relation to: ▪ The local sense of place and surrounding townscape ▪ The character and appearance of the City Centre Conservation Area	**No likely significant effects.**

Policy Name	Policy summary (full policy details can be found in the NP document)	Potential Likely Significant Effect?
	▪ The city wall and historic churches ▪ Historic shopfronts	The policy is a management policy and does not allocate specific sites for development. There are no pathways linking this policy to any Habitat sites.
NOW4: Sustainable Urban Design	This policy provides guidance on proposed developments in relation to: ▪ Creation of a high-quality public realm ▪ Material usage ▪ Screening of storage facilities ▪ Screening of service areas ▪ Sustainable drainage ▪ Sensitively designed lighting schemes ▪ Features reducing carbon footprint and supporting biodiversity	**Possible likely significant effects.** The policy could impact surface and groundwater regimes including the potential for additional pollution through the use of SUDS and permeable surfacing. This policy is screened in for Likely Significant Effects for the following impact pathways: • Water quality
NOW5: Green and Blue Infrastructure	This policy provides guidance on proposed developments in relation to: ▪ Development of sites next to the River Wensum ▪ Retention of mature trees and hedgerows ▪ Enhancement of green and blue infrastructure ▪ Development within Gildencroft park ▪ Development adjacent to parks, greenspace or pay areas	**Possible likely significant effects.** The policy could create corridors or stepping stones between designated sites which could potentially help to spread non-native invasive species. This policy is screened in for Likely Significant Effects for the following impact pathways: • Invasive species
NOW6: Sustainable and Active Travel	This policy provides guidance on proposed developments in relation to: ▪ Meeting the travel needs of the Neighbourhood areas diverse population ▪ Promotion of active travel ▪ Vehicle access, circulation, servicing and parking	**No likely significant effects.** The policy is a management policy and does not allocate specific sites for development. There are no pathways linking this policy to any Habitat sites.

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