

Habitat Regulations Assessment: Ringstead Neighbourhood Plan

Ringstead Parish Council

August 2020

Quality information

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Revision	Revision date	Details	Authorized	Name	Position
00	26/08/20	Draft for group review	JR	James Riley	Technical Director

Distribution List

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1. Introduction

Scope of Project

- 1.1 AECOM was appointed by Ringstead Parish Council to undertake Habitat Regulation Assessment (HRA) for the Pre-submission Ringstead Neighbourhood Plan 2011-2031. This is to inform the planning group and local councils of the potential effects of Neighbourhood Plan (NP) development on European Sites and how they are being addressed in the draft NP.
- 1.2 The East Northamptonshire Local Plan Part 1, known as the North Northamptonshire Joint Core Strategy (JCS) 2011-2031, was adopted on 14 July 2016. The East Northamptonshire Council's Local Plan Part 2 (LPP2) is currently being prepared. That Plan will replace remaining policies from the 2011 Rural North, Oundle and Thrapston Plan (RNOTP) and 1996 East Northamptonshire District Local Plan (DLP), where such policies have not been, or are being, replaced by an equivalent policy in a Neighbourhood Plan.
- 1.3 The East Northamptonshire LPP2 (1st draft Local Plan Part 2 consultation, November 2018 – February 2019) did not allocate an amount of residential development within Ringstead. This is because 7,580 dwellings were allocated at several towns (i.e. excluding Ringstead) within East Northamptonshire and the remaining 820 dwellings are set out as a '*generic district-wide rural target*.' The objective of this particular HRA is therefore to identify if any particular site allocations and/or policies in the Neighbourhood Plan that have the potential to cause an adverse effect on the integrity of Natura 2000 or European designated sites (Special Areas of Conservation, SACs, Special Protection Areas, SPAs, and Ramsar sites designated under the Ramsar convention), either in isolation or in combination with other plans and projects, and to determine whether site-specific mitigation measures are required.

Legislation

- 1.4 The need for HRA is set out within the Conservation of Habitats & Species Regulations 2017 (as amended) and concerns the protection of European sites. European sites (also called Natura 2000 sites) can be defined as actual or proposed/candidate Special Areas of Conservation (SAC) or Special Protection Areas (SPA). It is also Government policy for sites designated under the Convention on Wetlands of International Importance (Ramsar sites) to be treated as having equivalent status to Natura 2000 sites.
- 1.5 The HRA process applies the precautionary principle to protected areas. Plans and projects can only be permitted having ascertained that there will be no adverse effect on the integrity of the site(s) in question. Plans and projects may still be permitted if there are no alternatives to them and there are Imperative Reasons of Overriding Public Interest (IROPI) as to why they should go ahead. In such cases, compensation would be necessary to ensure the overall integrity of the site network.

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 purpose of the assessment under regulation 105... [which sets out the formal process for determination of 'likely significant effects' and the appropriate assessment]."

Box 1: The legislative basis for HRA

- 1.6 It is therefore important to note that this report has two purposes:
 - To assist the Qualifying Body (Ringstead Parish Council) in preparing their plan by recommending (where necessary) any adjustments required to protect European sites, thus making it more likely their plan will be deemed compliant with the Conservation of Habitats and Species Regulations 2017 (as amended); and

- On behalf of the Qualifying Body, to assist the Local Planning Authority 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').
- 1.7 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. 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.
- 1.8 Over the years, 'Habitats Regulations Assessment' (HRA) has come into wide currency to describe the overall process set out in the Habitats Regulations, from screening through to identification of IROPI. This has arisen in order to distinguish the overall process from the individual stage of "Appropriate Assessment". Throughout this Report the term HRA is used for the overall process and restricts the use of Appropriate Assessment to the specific stage of that name.

2. Methodology

Introduction

- 2.1 Figure 1 below outlines the stages of HRA according to current Ministry of Housing, Communities and Local Government guidance. 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.

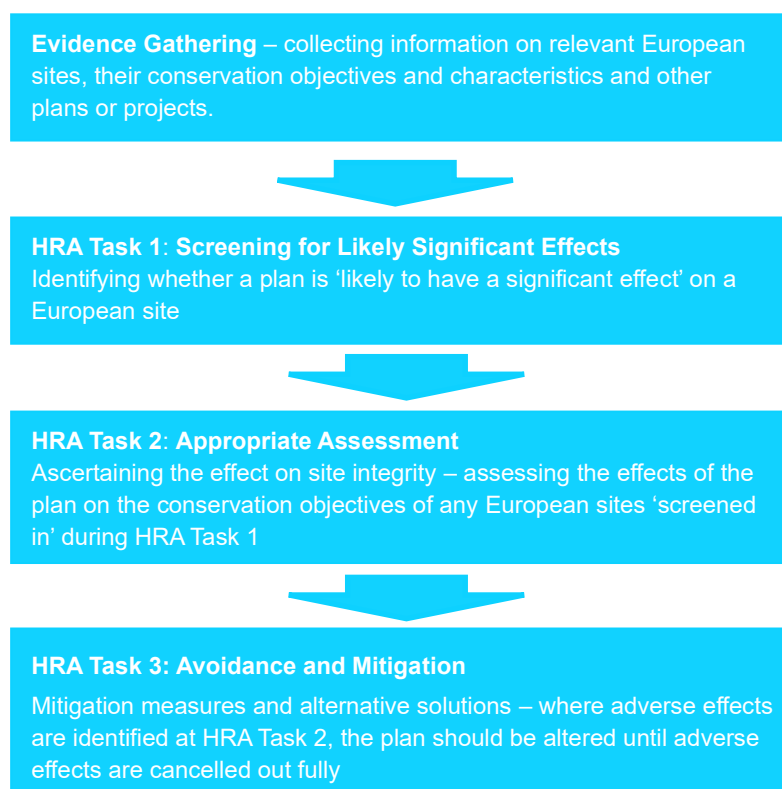


Figure 1: Four Stage Approach to Habitats Regulations Assessment. Source GOV.UK, 2019.

HRA Task 1 – Likely Significant Effects (LSE)

- 2.2 Following evidence gathering, the first stage of any Habitats Regulations Assessment is a Likely Significant Effect (LSE) test - essentially a risk 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?"

- 2.3 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 European sites, usually because there is no mechanism for an adverse interaction with European sites. This stage was first undertaken in Spring 2020 by PLAN-ITX and published separately. That analysis is updated in Chapter 4 of this report.

HRA Task 2 – Appropriate Assessment (AA)

- 2.4 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.
- 2.5 During July 2019 the Ministry of Housing, Communities and Local Government published guidance for Appropriate assessment¹. Paragraph: 001 Reference ID: 65-001-20190722m 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’*.
- 2.6 As this analysis follows on from the screening process, there is a clear implication that the analysis will be more detailed than undertaken at the Screening stage and one of the key considerations during appropriate assessment is whether there is available mitigation that would entirely address the potential effect. In practice, the appropriate assessment takes any policies or allocations that could not be dismissed following the high-level screening analysis and analyses the potential for an effect in more detail, with a view to concluding whether there would be an adverse effect on integrity (in other words, disruption of the coherent structure and function of the European site(s)).
- 2.7 A decision by the European Court of Justice² concluded that measures intended to avoid or reduce the harmful effects of a proposed project on a European site may no longer be taken into account by competent authorities at the Likely Significant Effects or ‘screening’ stage of HRA. The UK is no longer part of the European Union. However, as a precaution, it is assumed for the purposes of this HRA that EU case law regarding Habitat Regulations Assessment will still be considered informative jurisprudence by the UK courts. That ruling has therefore been considered in producing this HRA.
- 2.8 Also, in 2018 the Holohan ruling³ was handed down by the European Court of Justice. Among other provisions paragraph 39 of the ruling states 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 appropriate assessment, if they are necessary to the conservation of the habitat types and species listed for the protected area’* [emphasis added]. This has been taken into account in the HRA process.

HRA Task 3 – Avoidance and Mitigation

- 2.9 Where necessary, measures are recommended for incorporation into the Plan in order to avoid or mitigate adverse effects on European sites. There is considerable precedent concerning the level of detail that a Neighbourhood Plan document needs to contain regarding mitigation for recreational impacts on European 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.
- 2.10 In evaluating significance, AECOM has relied on professional judgement and the LP HRA regarding development impacts on the European sites considered within this assessment.
- 2.11 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 details 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.

¹ <https://www.gov.uk/guidance/appropriate-assessment#what-are-the-implications-of-the-people-over-wind-judgment-for-habitats-regulations-assessments> [Accessed: 05/08/2020].

² People Over Wind and Sweetman v Coillte Teoranta (C-323/17)

³ Case C-461/17

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

- 2.12 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 European site(s) in question.
- 2.13 In considering the potential for combined regional housing development to impact on European sites the primary consideration is the impact of visitor numbers – i.e. recreational pressure and urbanisation.
- 2.14 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.

3. Internationally Designated Sites

Upper Nene Valley Gravel Pits SPA and Ramsar Site

Introduction

3.1 The closest part of the Upper Nene Valley Gravel Pits (Kinewell Lake) is located within Ringstead Parish. The European site is approximately 35km in length and approximately 1,360ha in size. The site comprises a chain of extant and extinct gravel pits that follow alluvial deposits along the River Nene. It is dominated by a mix of shallow and deeper inland waterbodies, with associated marginal vegetation, improved grassland and nationally scarce wet broad-leaved deciduous woodland dominated by white willow *Salix alba* with crack willow *S. fragilis* and occasionally ash *Fraxinus excelsior*, Osier *S. viminalis* and grey willow *S. cinerea*. The site contains internationally important populations of non-breeding wintering waterbirds that have been found in numbers in excess of 20,000 individuals.

Qualifying Features⁴

3.2 The site is designated as an SPA for its wintering population of:

- Eurasian bittern *Botaurus stellaris* (Europe - non breeding) 2% of the GB population 5-year peak mean 1999/2000 – 2003/04
- European golden plover *Pluvialis apricaria* [North-western Europe - non breeding] 2.3% of the GB population 5-year peak mean 1999/2000 – 2003/04

3.3 The site is designated as an SPA as it regularly supports:

- Gadwall *Anas strepera* (North-western Europe – non breeding) 2% of the population 5-year peak mean 1999/2000 – 2003/2004
- In the non-breeding season the area regularly supports 23,821 waterfowl (5-year peak mean count 1999/2000 - 2003/2004) including: northern shoveler *Anas clypeata*, Eurasian wigeon *Anas penelope*, mallard *Anas platyrhynchos*, Gadwall *Anas strepera*, Common pochard *Aythya ferina*, tufted duck *Aythya fuligula*, Eurasian bittern *Botaurus stellaris*, Eurasian coot *Fulica atra*, great cormorant *Phalacrocorax carbo*, golden plover *Pluvialis apricaria* [North-western Europe - breeding], great crested grebe *Podiceps cristatus*, and northern lapwing *Vanellus vanellus*.

3.4 The site is designated as a Ramsar site under the criterion for the following:

- Criterion 5: in the non-breeding season, the site regularly supports 23,821 individual waterbirds (5 year peak mean 1999/2000 – 2003/04);
- Criterion 6: because it regularly supports 1% of the individuals in the populations of the following species or subspecies of waterbird in any season:
 - Mute swan *Cygnus olor*: 629 wintering individuals (5 year peak mean 1999/2000 – 2003/04) approximately 1.7% of British population; and,
 - Gadwall *Anas strepera*: 773 wintering individuals (5 year peak mean 1999/2000 – 2003/04) approximately 2.0% of the north-west Europe population (breeding).

Conservation Objectives⁵

3.5 With regard to the SPA 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;

3.6 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:

⁴ jncc.defra.gov.uk/pdf/SPA/UK9020296.pdf [Accessed: 05/08/2020].

⁵ <http://publications.naturalengland.org.uk/publication/5495529882517504> [Accessed: 05/08/2020]

- 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

Threats / Pressures to Site Integrity⁶

3.7 The key threats and pressures to the integrity of the Upper Nene Valley Gravel Pits SPA / Ramsar have been identified in Natural England's Site Improvement Plan:

- Public access / disturbance
- General planning permissions
- Fisheries: Freshwater
- Change in land management

Impact Pathways Considered Relevant to the Site

3.8 The following impact pathways are considered to be potentially relevant to the site:

- Recreational disturbance;
- Loss of functionally linked land; and
- Water quality and resources

⁶ <http://publications.naturalengland.org.uk/publication/6732225261338624> [Accessed 05/08/2020]

4. Test of Likely Significant Effects

- 4.1 Ringstead is a village and a civil parish located in the centre of East Northamptonshire District. Ringstead is a rural village with the majority of land in the parish comprised of farmland. The village has a population of 1252 people currently living in Ringstead.

Physical scope of the HRA

- 4.2 Only two European Sites are located within 10km of the Ringstead Parish boundary: Upper Nene Valley Gravel Pits SPA and the similarly named Ramsar, both designated for non-breeding birds. Based upon Natural England's Site Improvement Plans and previous HRA work undertaken for the East Northamptonshire Council Local Plans and Ringstead Parish Council, there are four impact pathways that require initial analysis regarding increased development within Ringstead Parish and said European Sites. These impact pathways are:
- Water quality (surface water runoff),
 - Water quality (treatment of sewage effluent),
 - Loss of functionally linked habitat, and
 - Recreational pressure.
- 4.3 Table 1 describes these environmental impact pathways. The consideration of Neighbourhood Plan policies (the Test of Likely Significant Effects) is then documented in Table 2.

Table 1. Description of potential impact pathways from increased development to European Sites.

Impact pathway	Discussion
Water quality: surface water runoff	Increased residential development within Ringstead could lead to the loss of previously undeveloped land and increased surface water runoff to nearby European Sites. The Upper Nene Valley Gravel Pits SPA/ Ramsar overlaps Ringstead Parish and the Kinewell Lake section of the SPA/Ramsar is located directly adjacent he village of Ringstead. Considering this, there is a risk that inappropriate drainage design may lead to increased surface water runoff from new development.
Water quality: discharge of treated sewage effluent	Increased housing development at Ringstead could lead to increased sewage production. Sewage effluent from residential and employment development in Ringstead is treated by Raund Sewage Treatment works (STW) and Little Addington STW, that are both operated by Anglian Water, discharge of sewage takes take place at local watercourses including the River Nene that is hydrologically connected to the Upper Nene Valley Gravel Pits SPA/ Ramsar. Therefore, it is necessary to consider any risk that increased sewage could degrade the water quality (i.e. through increased phosphorus discharge) of European Sites when in the absence of environmental mitigation and adequate wastewater treatment works.
Recreational pressure	Increased residential development can lead to increased visitor numbers to European Site, particularly those within relatively easy recreational access. Recreational pressure to each European Site is individual and varied, for example, the nature, scale, timing and duration of some human activities can result in the disturbance of bats at a level that may substantially affect their behaviour, and consequently affect the long-term viability of the population ⁷ . The Upper Nene Valley Gravel Pits SPA/ Ramsar supports a wide assemblage of breeding, non-breeding and overwintering bird species that can be easily disturbed by human activities such as dog walking and hiking ^{8 9 10} . Furthermore, recreation disturbance in winter can be more adverse because birds are more vulnerable at this time of year due to food shortages. Since Ringstead Parish supports a large proportion of the Upper Nene Valley Gravel Pits SPA/ Ramsar it is expected that recreational pressure would likely result from increased residential development.
Loss of Functionally linked habitat	<p>Birds are highly mobile creatures that are not expected to be confined to the boundaries of European Site boundaries. There is now an abundance of authoritative examples of HRA cases on plans affecting bird populations, where Natural England recognised the potential importance of functionally linked land¹¹. For example, bird surveys in relation to a previous HRA established that approximately 25% of the golden plover population in the Somerset Levels and Moors SPA were affected while on functionally linked land, and this required the inclusion of mitigation measures in the relevant plan policy wording. Another important case study originates from the Mersey Estuary SPA / Ramsar, where adjacently located functionally linked land had a peak survey count of 108% of the 5 year mean peak population of golden plover. As in the above example, this led to considerable amendments in the planning proposal to ensure that the site integrity was not adversely affected.</p> <p>In relation to the European sites considered in this HRA, the golden plover <i>Pluvialis apricaria</i> and, to a lesser extent, lapwing <i>Vanellus vanellus</i> are the species that this concept is most relevant to (shoveler is also of some relevance but tend to stay immediately adjacent to the SPA. Both golden plover and lapwing are known to feed on parcels of agricultural land outside of European site boundaries. This has been documented in a number of academic articles and research reports by the British Trust for Ornithology (BTO). For example, a study in County Durham (UK) determined that foraging fields of golden plover were up to 3.7km away from their nest site¹². A BTO research report highlighted that</p>

⁷ Speakman, J.R, Webb, P.I and Racey, P.A (1991). Effects of disturbance on energy expenditure of hibernating bats. *Journal of applied Ecology*. 28, 1087-1104.

⁸ Riley, J. 2003. Review of Recreational Disturbance Research on Selected Wildlife in Scotland. Scottish Natural Heritage.

⁹ Riddington, R. *et al.* 1996. The impact of disturbance on the behaviour and energy budgets of Brent geese. *Bird Study* 43:269-279

¹⁰ Gill, J.A., Sutherland, W.J. & Norris, K. 1998. The consequences of human disturbance for estuarine birds. *RSPB Conservation Review* 12: 67-72

¹¹ Chapman C & Tyldesley D. 2016. Functional linkage: How areas that are functionally linked to European sites have been considered when they may be affected by plans and projects – A review of authoritative decisions. Natural England Commissioned Reports 207: 73pp.

¹² Whittingham M.J., Percival S.M. & Brown A.F. (2000). Time budgets and foraging of breeding golden plover *Pluvialis apricaria*. *Journal of Applied Ecology* 37: 632-646.

flocks, or at least individuals, of golden plover made regular movements of 10-12km between agricultural fields, highlighting the potentially long foraging trips this species undertakes¹³. Aside from the distance to European sites, field size and surrounding land use are also factors that require consideration.

¹³ Gillings S. & Fuller R.J. (1999). Winter Ecology of Golden Plovers and Lapwings: A review and Consideration of Extensive Survey Methods. BTO Research Report No. 224. 54pp.

- 4.4 For the Screening assessment (Table 2) **green** shading in the final column indicates that the proposed development site or policy has been determined not to lead to a likely significant effect on any European sites due to the absence of any mechanism for an adverse effect. **Orange** shading indicates that a pathway of impact exists, and further discussion is therefore required. Note that where European Site boundaries overlap, the closest distance to the SPA or Ramsar is taken.
- 4.5 Also, considered in this HRA is the Special Protection Area Mitigation Strategy prepared for the Upper Nene Valley Gravel Pits SPA. This strategy was adopted by East Northamptonshire Council on the 21st November 2016, as an addendum to the SPA Supplementary Planning Document (SPD). This places a mitigation charge for any new dwelling within a 3km of the SPA boundary to address possible significant effects of additional residential development to the SPA. Alternatively, individual developments may undertake a bespoke project level Appropriate Assessment and undertake the identified mitigation in agreement with Natural England. However, the existence of this strategy is not taken into account in determining likely significant effects.

Table 2. Screening assessment (Likely Significant Effects) of the Ringstead Neighbourhood Plan Policies.

Policy	European Sites and Proximity to Policy Area	Brief summary	Screening outcome
Policy R1: Features of Local Heritage interest	N/A	Policy affords protection to the character and heritage of Ringstead.	No likely Significant Effect. Screened out. This is a development management policy and does not allocate sites for development. Therefore, no impact pathways exist to European Sites.
Policy R2: Design	N/A	Policy ensures new development reflects the local character of Ringstead.	No likely Significant Effect. Screened out. This is a development management policy and does not allocate sites for development. Therefore, no impact pathways exist to European Sites.
Policy R3: Local Green Spaces	N/A	Policy affords protection to local green spaces these include parks, recreation grounds, churchyards, community gardens and allotments.	No likely Significant Effect. Screened out. This is a development management policy and does not allocate sites for development. Therefore, no impact pathways exist to European Sites.
Policy R4: Community Services and Facilities	N/A	Policy protects local community services and facilities from inappropriate development.	No likely Significant Effect. Screened out. This is a development management policy and does not allocate sites for development. Therefore, no impact pathways exist to European Sites.
Policy R5: Village Hall	N/A	Policy ensures the local services and facilities provided by the village hall are maintained and improved if necessary.	No likely Significant Effect. Screened out. This is a development management policy and does not allocate sites for development. Therefore, no impact pathways exist to European Sites.
Policy R6: Infrastructure	N/A	Policy ensures new development will be supported by the provision of new or improved infrastructure, together with financial contributions.	No likely Significant Effect. Screened out. This in itself does not allocate sites for development, rather it provides policy requirements to ensure local services and facilities are retained and improved. Therefore, no impact pathways exist to European Sites.
Policy R7: Parking	N/A	Policy ensures new development should ensure that there is satisfactory provision for parking, servicing and manoeuvring in accordance with Highway Authority Parking Standards.	No likely Significant Effect. Screened out. This is a development management policy and does not allocate sites for development. Therefore, no impact pathways exist to European Sites.
Policy R8: The Countryside	N/A	Development outside the Ringstead Parish will only be supported for specified purposes.	No likely Significant Effect. Screened out. This in itself does not allocate sites for development, rather it provides policy requirements to ensure there is no inappropriate development within the countryside of Ringstead. Therefore, no impact pathways exist to European Sites.
Policy R9: Locally Important Views	N/A	Policy affords protection to the views that are regarded as highly characteristic within Ringstead.	No likely Significant Effect. Screened out. This is a development management policy and does not allocate sites for development. Therefore, no impact pathways exist to European Sites.
Policy R10: Ringstead Area of Separation	N/A	Policy affords protection to 'areas of separation' from development.	No likely Significant Effect. Screened out. This is a development management policy and does not allocate sites for development. Therefore, no impact pathways exist to European Sites.
Policy R11: Public Rights of Way network	N/A	Policy affords protection to public right of way.	No likely Significant Effect. Screened out. This is a development management policy and does not allocate sites for development. Therefore, no impact pathways exist to European Sites.
Policy R12: SPA Mitigation Strategy	N/A	Policy affords protection to the Upper Nene Valley Gravel Pits SPA/Ramsar and 3km buffer zone.	No likely Significant Effect. Screened out. This is a positive environmental policy that affords protection to European Sites and features. Therefore, no impact pathways exist to European Sites.

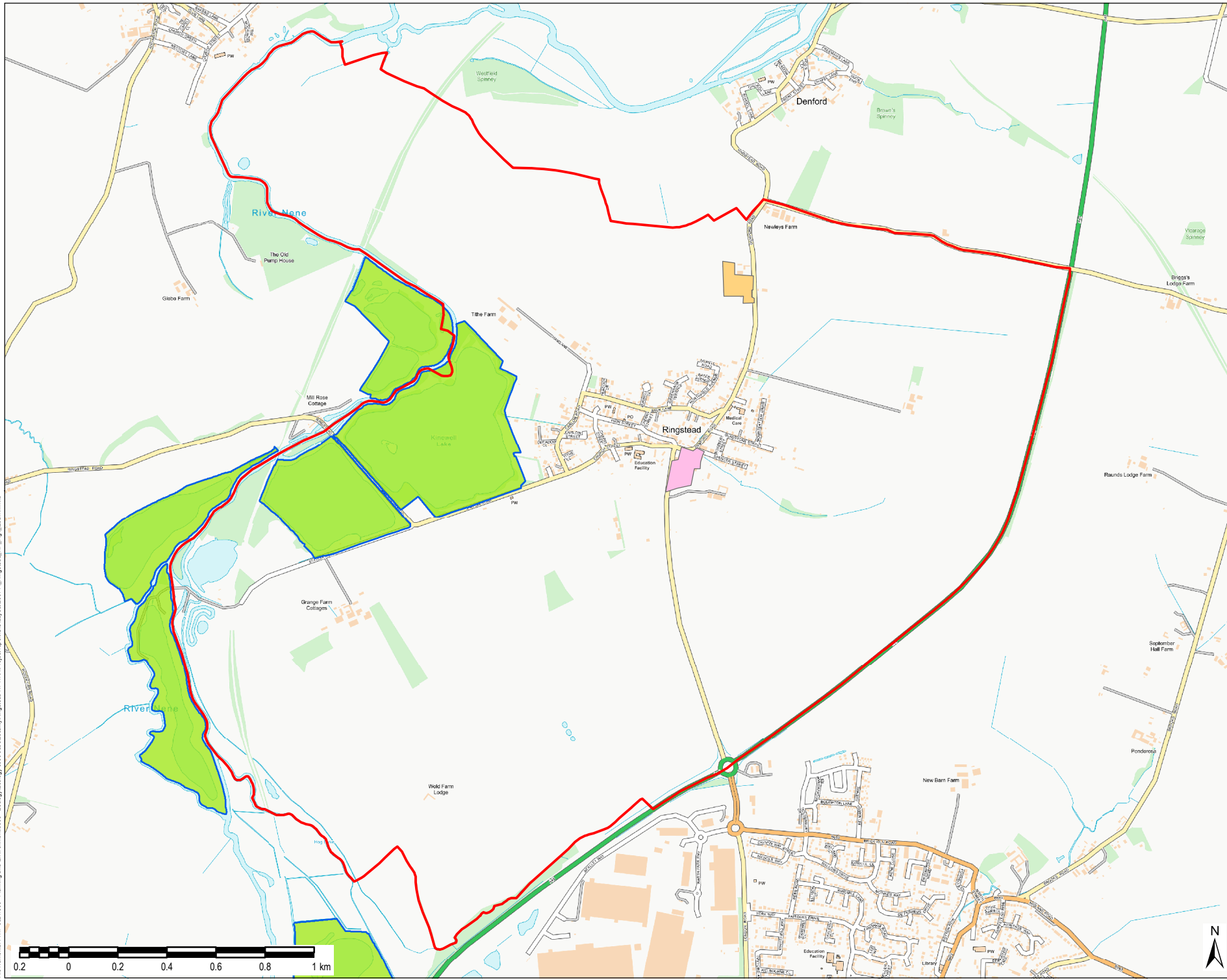
Policy R13: Ecology and Biodiversity	N/A	Policy provides protection to the ecology network and habitats within Ringstead.	No likely Significant Effect. Screened out. This is a development management policy and does not allocate sites for development. Therefore, no impact pathways exist to European Sites.
Policy R14: Providing for Housing	N/A	Policy supports the provision of housing development provided applications are within the settlement boundary.	No likely Significant Effect. Screened out. This in itself does not allocate sites for development, rather it provides policy requirements to ensure housing development is in accordance with other NP policies. Therefore, no impact pathways exist to European Sites.
Policy R15: Land at Dodson & Horrell	Housing allocation is 590m east of the Upper Nene Valley Gravel Pits SPA/Ramsar.	Policy allocates 1.6ha of land for up to 36 dwelling. The current land use is industrial units and pasture divided into small fields with large well-developed hedgerows.	Likely Significant Effect. Screened in. This policy allocates up to 36 residential dwellings within 600m of the Upper Nene Valley Gravel Pits SPA/Ramsar. Therefore, impacts could arise from: <ul style="list-style-type: none"> • Water quality: treatment of sewage effluent • Recreational pressure, and • Loss of functionally linked habitat. As such, there is a requirement for further assessment regarding these impact pathways. Due to the distance of 590m impacts from surface water runoff is considered highly unlikely. Therefore, impacts of water quality from surface water runoff only, are screened out from further assessment.
Policy R16: Residential Conversion of Rural Buildings	N/A	Policy ensures that the re-use of disused rural buildings is in keeping within the local character.	No likely Significant Effect. Screened out. This in itself does not allocate sites for development, rather it provides policy requirements to ensure housing development is in accordance with local character setting. Therefore, no impact pathways exist to European Sites.
Policy R17: Brownfield Land	N/A	Policy supports development of brownfield sites.	No likely Significant Effect. Screened out. This in itself does not allocate sites for development, rather it provides policy ensures development is focused to brown fields sites of low environmental/ ecological value. Therefore, no impact pathways exist to European Sites.
Policy R18: Housing Mix	N/A	Policy ensures that the correct amount of housing is meet through new development.	No likely Significant Effect. Screened out. This is a development management policy and does not allocate sites for development. Therefore, no impact pathways exist to European Sites.
Policy R19: Affordable Housing	N/A	Policy ensures the provision of affordable housing is meet through new development.	No likely Significant Effect. Screened out. This is a development management policy and does not allocate sites for development. Therefore, no impact pathways exist to European Sites.
Policy R20: Gypsies and Travellers	N/A	Policy supports proposals for the intensification of Hilltop Farm Gypsy and Traveller site subject to a series of conditions.	No likely Significant Effect. Screened out. This in itself does not allocate sites for development, rather it provides policy requirements to ensure further intensification of traveller use is in accordance with local character setting. As such, it sets out the Parish Council's view on the acceptability of intensification of the site rather than identifying the scale of such intensification. Moreover, this is already an active traveller site and is largely unvegetated so cannot serve as

			functionally linked land. Therefore, no impact pathways exist to European Sites.
Policy R21: Blackthorn Marina	N/A	Policy ensures that Blackthorn Marin will be safeguarded for water-base leisure uses.	No likely Significant Effect. Screened out. This is a development management policy and does not allocate sites for development. Therefore, no impact pathways exist to European Sites.
Policy R22: Ringstead Business Centre	N/A	Policy ensures that current employment space is safeguarded.	No likely Significant Effect. Screened out. This is a development management policy and does not allocate sites for development. Therefore, no impact pathways exist to European Sites.
Policy R23: Business conversion of rural buildings	N/A	Policy ensure that the conversation of rural buildings for business use will be sympathetic to local character.	No likely Significant Effect. Screened out. This is a development management policy and does not allocate sites for development. Therefore, no impact pathways exist to European Sites.

Figure 2: Ringstead Parish in relation to European Sites.

LEGEND

- Ringstead Parish Boundary
- Housing Allocation
- Traveller Site
- Upper Nene Valley Gravel Pits Ramsar
- Upper Nene Valley Gravel Pits SPA



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Purpose of Issue
DRAFT

Client
LOCALITY & RINGSTEAD PARISH COUNCIL

Project Title
RINGSTEAD Neighbourhood Plan HRA

Drawing Title
Ringstead Parish in relation to European Sites

Drawn LL	Checked AD	Approved HC	Date 14/07/2020
AECOM Internal Project No. 60571087		Scale @ A4 1:20,000	

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File Name: IBA-WP-02-1300 - Planning and Environment\003 - Ecology\Ecology 3336 Jobs\locality\Ringstead NP\HRA\project reports\GSL\layout\00714_Ringstead_NP_Fig1_ZoomIn.mxd

5. Appropriate Assessment

Introduction

- 5.1 The law does not prescribe how an appropriate assessment should be undertaken but the appropriate assessment must consider all impact pathways that have been screened in, whether they are due to policies alone or to impact pathways that arise in combination with other projects and plans. That analysis is the purpose of this section. The law does not require the 'alone' and 'in combination' effects to be examined separately provided all effects are discussed.
- 5.2 By virtue of the small amount of growth specified for Ringstead (i.e. 36 dwellings) and the distance to the closest European sites, the main impact pathways of concern to this HRA (water quality, hydrological changes, recreational pressure and loss of functionally linked habitat) are inherently 'in combination' with all other growth in the East Northamptonshire Joint Core Strategy and neighbouring plans and projects. However, for completeness, the potential impacts of 40 net residential developments within Ringstead Parish in isolation are also assessed.
- 5.3 The HRA screening exercise undertaken in Chapter 4, Table 2 indicated only Policy R15 (allocates 36 dwellings) that may have likely significant effects European Sites.

Water quality: discharge of treated sewage effluent

- 5.4 Sewage and some industrial effluent discharges contribute to increased nutrients in the European sites and most importantly to elevated phosphate levels in watercourses. Phosphorus is the primary limiting nutrient in surface waters such as lakes, reservoirs and rivers¹⁴, and excessive concentrations might lead to undesirable shifts in ecological communities such as dominance of the phytoplankton by cyanobacteria.
- 5.5 The quality of the water that feeds European Sites is an important nature determinant of their habitats and the species they support¹⁵. Rivers, streams and aquatic environments supported/that are fed by these sites can be affected by pollution from road run-off such as oil/ vehicle chemicals, and in the winter increased salt from de-icing the roads and pollution incident(s).
- 5.6 Poor water quality can have a range of environmental impacts. At high levels, toxic chemicals and metals can result in the immediate death of aquatic life. At lower levels, detrimental effects can also be experienced, including increased vulnerability to disease and changes in wildlife behaviour¹⁶.
- 5.7 Dabbling ducks such as gadwall, for which the Upper Nene Valley Gravel Pits SPA / Ramsar is designated, mainly feed on submerged macrophytes and these, largely being shaped by phosphate levels, are susceptible to the influx of sewage effluent. Freshwater bodies are therefore particularly prone to eutrophication, which involves excessive algal growth and concomitant deoxygenation of the water. Overall, sewage pollutants, and especially phosphorus levels, have the potential to affect the food sources of gadwall.

Discussion

- 5.8 Increased housing development at Ringstead would likely lead to increased sewage production.
- 5.9 Sewage effluent from residential and employment development in Ringstead is treated by Raunds Sewage Treatment Works (STW) and Little Addington STW, that are both operated by Anglian Water.
- 5.10 Raunds STW and Little Addington STW both discharge processed effluent into the River Nene Navigation, which is very likely to be connected to the gravel pits that constitute the SPA. However, this connection will be through groundwater which significantly limits the ability of phosphate discharged to surface watercourse to influence surface water phosphate concentrations in the gravel pits due to percolation through the intervening soils. Moreover, water quality is not identified as a threat or risk to the SPA on the Natural

¹⁴ Smith V.H., Tilman G.D. & Nekola J.C. (1999). Eutrophication: Impacts of excess nutrient inputs on freshwater, marine, and terrestrial ecosystems. *Environmental Pollution* 100: 179-196.

¹⁵ Johnson, W.W. and Finley, M.T., 1980. *Handbook of acute toxicity of chemicals to fish and aquatic invertebrates: Summaries of toxicity tests conducted at Columbia National Fisheries Research Laboratory, 1965-78* (No. 137). US Fish and Wildlife Service.

¹⁶ Poulin, R., 1992. Toxic pollution and parasitism in freshwater fish. *Parasitology Today*, 8(2), pp.58-61.

England Site Improvement Plan. . However, it is important to ensure that the treatment plant operates within its Environment Agency (EA) discharge consent in order to meet the water quality objectives set out in the Water Framework Directive (WFD). As identified in Natural England's Site Conservation Objective Supplementary Advice for the SPA / Ramsar, this will ensure that the site integrity of the Upper Nene Valley Gravel Pits SPA / Ramsar remains protected.

- 5.11 The Ringstead NP does provide policy wording to ensure there is sewage capacity at local STW:
- 5.12 Policy R15: Land at Dodson & Horrell: '*I. Surface water and foul water drainage strategies shall be devised in consultation with the relevant infrastructure bodies prior to any construction and this should incorporate an appropriately designed, constructed and maintained sustainable drainage system.*'
- 5.13 Policy R13: Ecology and Biodiversity: '*Development should not harm the network of local ecological features and habitats which include... 1. The Upper Nene Valley Gravel Pits Special Protection Area.*'
- 5.14 Supporting text, paragraph 7.22: '*Anglian Water have advised that there is a surface water sewer adjacent to site boundary and a foul sewer crosses the site. The developer should take account of several crude sewage/grey water incidents have occurred in the area.*'
- 5.15 These policies and supporting text apply to the development of 36 residential dwellings allocated by Policy R15. However, to ensure protection to the Upper Nene Gravel Pits SPA/Ramsar in relation to the impact of water quality, **it is recommended that additional wording is included to Policy R15, to clarify that 'it should also be ensured through consultation with Anglian Water that sufficient treatment capacity exists within the permit for the relevant Sewage Treatment Works to accept the additional growth'**. This is because the existing permit for the relevant Sewage Treatment Works have been subject to the Environment Agency's Review of Consents Process and have been confirmed not to adversely affect any European sites.

Recreational pressure

- 5.16 Human activity can affect birds either directly (e.g. by causing them to flee) or indirectly (e.g. by damaging their habitat or reducing their fitness in less obvious ways e.g. stress). The most obvious direct effect is that of immediate mortality such as death by shooting, but human activity can also lead to much subtler behavioural (e.g. alterations in feeding behaviour, avoidance of certain areas and use of sub optimal areas etc.) and physiological changes (e.g. an increase in heart rate). While these are less noticeable, they might result in major population-level changes by altering the balance between immigration/birth and emigration/death¹⁷.
- 5.17 Concern regarding the effects of disturbance on birds stems from the fact that they are expending energy unnecessarily and the time they spend responding to disturbance is time that is not spent feeding¹⁸. Disturbance therefore risks increasing energetic expenditure of birds while reducing their energetic intake, which can adversely affect the 'condition' and ultimately survival of the birds. Additionally, displacement of birds from one feeding site to others can increase the pressure on the resources available within the remaining sites, as they then must sustain a greater number of birds¹⁹. 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. Recreational effects on ground-nesting birds are particularly severe, with many studies concluding that urban sites support lower densities of key species, such as stone curlew and nightjar^{20 21}. Recreation disturbance in winter can be more adverse because birds are more vulnerable at this time of year due to food shortages.
- 5.18 Evidence in the literature suggests that the magnitude of disturbance clearly differs between different types of recreational activities. For example, dog walking leads to a significantly higher reduction in bird diversity

¹⁷ Riley, J. 2003. Review of Recreational Disturbance Research on Selected Wildlife in Scotland. Scottish Natural Heritage.

¹⁸ Riddington, R. *et al.* 1996. The impact of disturbance on the behaviour and energy budgets of Brent geese. *Bird Study* 43:269-279

¹⁹ Gill, J.A., Sutherland, W.J. & Norris, K. 1998. The consequences of human disturbance for estuarine birds. *RSPB Conservation Review* 12: 67-72

²⁰ Clarke R.T., Liley D., Sharp J.M., Green R.E. 2013. Building development and roads: Implications for the distribution of stone curlews across the Brecks. PLOS ONE. doi:10.1371/journal.pone.0072984.

²¹ Liley D., Clarke R.T. 2003. The impact of urban development and human disturbance on the numbers of nightjar *Caprimulgus europaeus* on heathlands in Dorset, England. *Biological Conservation* 114: 219-230.

and abundance than hiking²². Scientific evidence also suggests that key disturbance parameters, such as areas of influence and flush distance, are significantly greater for dog walkers than hikers²³. A UK meta-analysis suggests that important spatial (e.g. the area of a site potentially influenced) and temporal (e.g. how often or long an activity is carried out) parameters differ between recreational activities, suggesting that activity type is a factor that should be taken into account in HRAs²⁴.

- 5.19 Several academic studies investigated recreational disturbance on the golden plover *Pluvialis apricaria*, one of the key qualifying species that overwinters in the Upper Nene Valley Gravel Pits SPA / Ramsar. One study showed that golden plover actively avoided any areas within 200m of footpaths used by visitors²⁵. These results were corroborated in another study, which determined that golden plover responded with major flight to moorland visitors that approached to within 200m²⁶. The disturbance effect was more pronounced when chicks were present, with parents spending 11% of the day reacting to people that represented a 15% increase in energy expenditure.
- 5.20 Disturbance can also result from a wider urbanisation effect that might pose a more direct threat to survival, such as in the case of predation by dogs and cats. Dogs are often exercised off-lead and roam out of sight of their owners, and have been documented to kill ground-nesting birds. Cats tend to roam freely at night, potentially seeking out prey many kilometres away from their home.

Discussion

- 5.21 Following the submission of the draft North Northamptonshire Joint Core Strategy HRA in 2012, Natural England recommended a visitor access survey of the Upper Nene Valley Gravel Pits designated site be undertaken. The Visitor Access Study²⁷ undertaken in winter 2012 and spring 2013 interviewed 939 individuals. 98% of the interviewees were on a short visit from home. The most common activity undertaken by visitors to the Upper Nene Valley Gravel Pits was dog walking (48% of interviewees) with 636 dogs recorded on site. Walking was the next most common activity (36% of interviewees), followed by bird watching.
- 5.22 The survey found that the median distance travelled by a visitor from a home postcode to a survey point location within the designated site was 3.2km (mean 5.85km ± 0.31) with 75% of visitors living within 7.5km of the survey point within the designated site. There was no statistically significant seasonal difference between the distances travelled between spring and winter. Following discussions with Natural England, the Joint Planning Unit and following consideration of the Visitor Access Study, it was decided that the zone from which a significant quantum of recreational pressure to the designated sites originated was 3km. As such, it was determined that any new residential development within 3km of the SPA/Ramsar site could result in an in-combination likely significant effects as a result of increases in recreational activities within the sites.
- 5.23 The site allocation Policy R15: Land at Dodson & Horrell allocates a total of 36 dwellings and is located 590m east of the Upper Nene Valley SPA/Ramsar. Therefore, mitigation measures will be required to prevent recreation disturbance to the Upper Nene Valley SPA/Ramsar in combination with the parishes surrounding Ringstead and the SPA.
- 5.24 Paragraph 1.4 of the mitigation strategy SPD Addendum states that '*residential developments which result in a net increase in the number of dwellings within 3km of the SPA it is proposed to avoid and mitigate likely significant effect on the SPA by making a financial contribution towards Strategic Access Management and Monitoring (SAMM) and/or other suitable mitigation*'. In the SPD addendum the contribution is identified as £269.44 per dwelling but this is indexed linked, with a base date of 2016 and therefore is likely to be different as of 2020. The SPD Addendum note that large site situated close to the SPA (Rushden Lakes East being specifically identified) may need to deliver additional mitigation such as Suitable Alternative Natural Greenspace. However, the site allocated in Policy R15 will only accommodate 36 dwellings.

²² Banks P.B., Bryant J.Y. 2007. Four-legged friend or foe? Dog walking displaces native birds from natural areas. *Biology Letters* 3: 14pp.

²³ Miller S.G., Knight R.L., Miller C.K. 2001. Wildlife responses to pedestrians and dogs. 29: 124-132.

²⁴ Weitowitz D., Panter C., Hoskin R., Liley D. The spatio-temporal footprint of key recreation activities in European protected sites. Manuscript in preparation.

²⁵ Finney S.K., Pearce-Higgins J.W. & Yalden D.W. (2005). The effect of recreational disturbance on an upland breeding bird, the golden plover *Pluvialis apricaria*. *Biological Conservation* 121: 53-63.

²⁶ Yalden P.E. & Yalden D.W. (1990). Recreational disturbances of breeding golden plovers *Pluvialis apricaria*. *Biological Conservation* 51: 243-262.

²⁷ Footprint Ecology (2014). Visitor Access Study of the Upper Nene Valley Gravel Pits SPA.

- 5.25 According to the 2011 census the population of Ringstead village was 1,461 people. Therefore, the delivery of 36 net new dwellings, assuming a typical average occupancy of 2.4 residents per dwelling, would result in 86 new residents. Assuming that these are all people who do not already live within the village (which is a precautionary assumption), it would involve a 6% increase in the population of the village. As such, this development would not materially change the level of recreational pressure arising from Ringstead village. Moreover, Kinewell Lake (Management Unit 7 of the underlying SSSI) is one of the more rural parts of the SPA and is therefore likely to be subject to considerably lower existing pressure than the more urban parts of the SPA around Rushden and Wellingborough. This would appear to be supported by the SSSI condition assessment undertaken by Natural England which states for this Management Unit that *'Birds present in appropriate numbers with pochard, coot and shoveler species only slightly below previous survey figures. Part of site not being managed appropriately which will eventually lead to loss of feeding habitat'*. It is noted that the latest reported assessment was in 2009, but if still true it is in contrast to other parts of the SPA where bird numbers are understood to be declining. This would also appear to be reflected in the SPD Addendum itself, which refers to Management Unit 7 as a *'Low disturbance area; however, needs to be kept as such'*.
- 5.26 Therefore, although the housing site is located close to the SPA and certainly within easy walking distance, the appropriate financial contributions to the SPD mitigation strategy should be sufficient to conclude no adverse effect on integrity from this development alone or in combination with other projects and plans. It is noted that the SPD also states that *'Further mitigation will be in exceptional circumstances and where Natural England advise. If a bespoke process is required, then a project level Appropriate Assessment will be required'*. This requirement would therefore need to be reflected in Neighbourhood Plan policy in order to allow for the appropriate application-level assessment as needed.
- 5.27 In accordance with the Upper Nene Valley Gravel Pits SPA mitigation strategy It is a requirement that discussion with Natural England is undertaken at the earliest possible stage of planning. If additional measures are required (which this analysis indicates should not be necessary) these could include:
- Habitat management,
 - Locate development away from the SPA
 - Management of visitor flows and access on adjacent land (outside European site),
 - Provision of new greenspace sites where access is promoted and encouraged,
 - Enhance access in areas away from designated sites,
 - Restrict/prevent access to some areas within the site,
 - Provide dedicated fenced dog exercise areas,
 - Zoning (spatial or temporal),
 - Infrastructure to screen, hide or protect the nature conservation interest,
 - Management of car parking,
 - Path design and management,
 - Signs, interpretation and leaflets,
 - Codes of conduct,
 - Wardening,
 - Provision of information off-site to local residents and users,
 - Contact with relevant local clubs, and
 - Limiting visitor numbers.
- 5.28 The Ringstead NP does provide mitigation policies for the protection of European Sites:
- 5.29 Policy R13: Ecology and Biodiversity: *'Development should not harm the network of local ecological feature... New development will be expected to maintain and enhance these and other ecological corridors and landscape features (such as watercourses, hedgerows and tree-lines). The priority for biodiversity enhancement is to link the wetland habitat reservoirs through the River Nene corridor.'*

- 5.30 Policy R12: SPA Mitigation Strategy: *'For all residential development within the Upper Nene Valley Gravel Pits SPA/Ramsar site 3km buffer zone, as shown in the Local Plan, financial contributions to mitigate the adverse impacts of development upon the SPA/Ramsar site will be sought in accordance with the Addendum to the SPA Supplementary Planning Document: Mitigation Strategy.'*
- 5.31 **It is considered that to more fully reflect the SPD Mitigation Strategy this text should be amended to include the following *'In line with the SPD requirements, consultation is required by Natural England in advance of submitting any planning application. As part of that consultation, further mitigation may be needed in exceptional circumstances and where Natural England advise. If a bespoke process is required, then a project level Appropriate Assessment will be required to accompany any planning application'*.**
- 5.32 With this adjustment to wording, it is considered that the overall mitigation provided by the Ringstead Parish NP and the Upper Nene Valley Gravel Pits SPA Supplementary Planning Document will provide sufficient policy framework to ensure that no adverse effects on integrity arise alone or in combination with growth across the relevant parts of East Northamptonshire or elsewhere within the 3km zone.

Loss of functionally linked habitat

- 5.33 While most European sites have been geographically defined to encompass the key features that are necessary for coherence of their structure and function, and the support of their qualifying features, this is not necessarily the case. A diverse array of qualifying species including birds, bats and amphibians are not always confined to the boundary of designated sites.
- 5.34 For example, the highly mobile nature of both wildfowl and heathland birds implies that areas of habitat of crucial importance to the maintenance of their populations are outside the physical limits of European sites. Despite not being designated, this area is still integral to the maintenance of the structure and function of the interest feature on the designated site and, therefore, land use plans that may affect such areas should be subject to further assessment.
- 5.35 There is now an abundance of authoritative examples of HRA cases on plans affecting bird populations, where Natural England recognised the potential importance of functionally linked land²⁸. For example, bird surveys in relation to a previous HRA established that approximately 25% of the golden plover population in the Somerset Levels and Moors SPA were affected while on functionally linked land, and this required the inclusion of mitigation measures in the relevant plan policy wording. Another important case study originates from the Mersey Estuary SPA / Ramsar, where adjacently located functionally linked land had a peak survey count of 108% of the 5 year mean peak population of golden plover. As in the above example, this led to considerable amendments in the planning proposal to ensure that the site integrity was not adversely affected.
- 5.36 In relation to the European sites considered in this HRA, the golden plover *Pluvialis apricaria* and, to a lesser extent, lapwing *Vanellus vanellus* are the species to which this concept is most relevant. Both species are known to feed on parcels of agricultural land outside of European site boundaries.

Discussion

- 5.37 In accordance with the Upper Nene Valley Gravel Pits SPA Supplementary Planning Document undeveloped farmland sites (2ha or larger) within 4km of the designated site could support designated bird features such as golden plover. Since then, Natural England have advised that the 4km threshold requires revision and is based on out-of-date evidence.
- 5.38 In consultation with Natural England over the Kettering Local Plan Part 2 HRA it was agreed that the document 'Impact Risk Zones Guidance Summary Sites of Special Scientific Interest Notified for Birds Version 1.1' (dated March 2019) should be used to define a precautionary distance around with SPA within which functionally-linked land associated with the SPA could be found. Based on that report it was agreed that there is a basis to use a distance of 10km, accepting that this distance is precautionary. This is based on the statements in the report that *'Golden plover can forage up to 15km from a roost site within a protected site'* but that *'Developments affecting functionally linked land more than 10km from the site are unlikely to*

²⁸ Chapman C & Tyldesley D. 2016. Functional linkage: How areas that are functionally linked to European sites have been considered when they may be affected by plans and projects – A review of authoritative decisions. Natural England Commissioned Reports 207: 73pp.

impact significantly on designated populations' and that a table in the Natural England report indicates that 5km may be an appropriate zone for residential development.

- 5.39 Policy R15: Land at Dodson & Horrell is well within 5km of the SPA and therefore, based on distance alone, cannot be dismissed from consideration as functionally linked land for the Upper Nene Valley SPA/Ramsar. Part of the site is currently pastoral/improved grassland that could be utilised by SPA/Ramsar features, such as the golden plover *Pluvialis apricaria* over winter. However, the site is divided into a number of small fields, all of which are less than 0.5ha in size, by a series of tall thick hedgerows and tree lines. It is therefore very likely that these fields are too small to be of significance as functionally linked habitat and provide very poor sightlines against predators and disturbance that is also likely to severely limit use by golden plover and lapwing. The industrial units and hardstanding to the north of Policy R15 are not of value to SPA/Ramsar features.
- 5.40 However, as a general safeguard, it is **recommended that additional policy wording is included to Policy R12 or R15, that includes the requirement 'any development proposals at greenfield land should consult with the RSPB and Natural England to ensure no loss of functionally linked habitat to the Upper Nene Valley SPA/Ramsar'.**

6. Conclusion

- 6.1 For those policies brought forward for appropriate assessment the recommended safeguarding policy wording, where applicable to a policy, should be added to the Ringstead Neighbourhood Plan. Once these recommendations have been incorporated, it can be concluded that a sufficient policy framework exists to ensure that no adverse effect would occur on the integrity of European Sites within the catchment of Ringstead as a result of NP policies.