

Habitats Regulations Assessment: Frodsham Neighbourhood Plan

Frodsham Neighbourhood Plan Steering Group

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Quality information

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1. Introduction

Scope of project

- 1.1 AECOM was appointed by the Frodsham Neighbourhood Plan Group to undertake a Habitats Regulations Assessment (HRA) for the Frodsham Neighbourhood Plan (FNP). This is to inform the planning group and local council of Cheshire West and Chester of the potential effects of Neighbourhood Plan (NP) development on European Sites and how they are being, or should be, addressed in the draft NP.
- 1.2 The purpose of this report is to produce a clear assessment of the identified sites to advise which ones might be appropriate for allocation in the Plan, in particular whether they comply with National Planning Policy Guidance and the strategic policies of Cheshire West and Chester Council's adopted Local Plan. This will help FNP to ensure that the Neighbourhood Planning site selection process is robust and transparent and will meet the Basic Conditions considered by the Independent Examiner, as well as any potential legal challenges by developers and other interested parties.
- 1.3 The objective of this HRA is to identify if any particular site allocation proposed by in the FNP have the potential to cause an adverse effect on the integrity of 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 or policy mitigation measures are required.

Legislation

- 1.1 The UK left the EU on 31 January 2020 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 UK is no longer a member of the European Union. However, Habitats Regulations Assessment will continue as set out in the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019¹.
- 1.2 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 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 European sites.
- 1.3 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

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

¹ these don't replace the 2017 Regulations but are just another set of amendments

- To assist the Qualifying Body (Frodsham Neighbourhood Plan Group) 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 (Cheshire West & Chester 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’).
- 1.5 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.
- 1.6 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.
- 1.7 In spring 2018 the ‘Sweetman’ European Court of Justice ruling² clarified that ‘mitigation’ (i.e., measures that are specifically introduced to avoid or reduce a harmful effect on a European 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.

Quality Assurance

- 1.8 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.
- 1.9 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.

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

3. Methodology

Introduction

- 3.1 The HRA has been carried out with reference to the general EC guidance on HRA³ and that of the UK government⁴.
- 3.2 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.

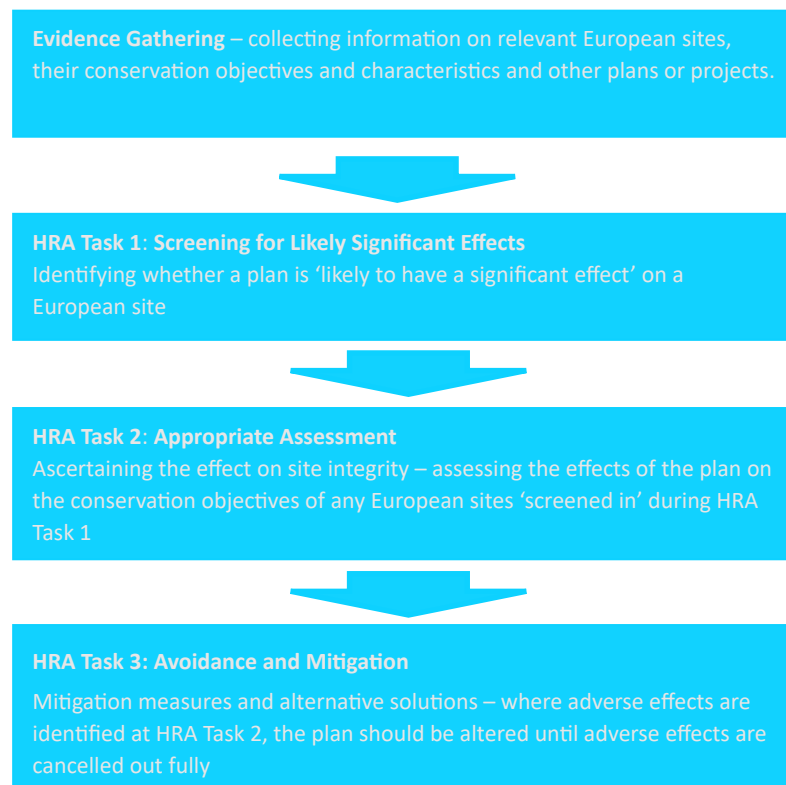


Figure 1: Four Stage Approach to Habitats Regulations Assessment. Source GOV.UK, 2019.

HRA Task 1 – Test of Likely Significant Effects (ToLSE)/ Screening

- 3.3 Following evidence gathering, the first stage of any Habitats Regulations Assessment is a Test of Likely Significant Effect (ToLSE) 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?"

- 3.4 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 European sites, usually because there is no mechanism for an adverse interaction with European sites. This stage is undertaken in Chapter 4 of this report.

³ 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.

⁴ <https://www.gov.uk/guidance/appropriate-assessment>

- 3.5 The ToLSE is based on identification of the impact source, the pathway of impact to receptors and then confirmation of the specific European Site receptors. These are normally designated features but also include habitats and species fundamental to those designated features achieving favourable conservation status (notably functionally linked land outside the European site boundary).
- 3.6 In the Waddenzee case⁵, 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).
- 3.7 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 European Sites that might be affected. It identifies European designated sites that could be affected by the Plan and also those impact pathways that are most likely to require consideration.
- 3.8 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)

- 3.9 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.
- 3.10 During July 2019 the Ministry of Housing, Communities and Local Government published guidance for Appropriate assessment⁶. 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’.
- 3.11 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)).
- 3.12 A decision by the European Court of Justice⁷ 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.

⁵ Case C-127/02

⁶ <https://www.gov.uk/guidance/appropriate-assessment#what-are-the-implications-of-the-people-over-wind-judgment-for-habitats-regulations-assessments> [Accessed: 07/01/2020].

⁷ People Over Wind and Sweetman v Coillte Teoranta (C-323/17)

- 3.13 Also, in 2018 the Holohan ruling⁸ 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

- 3.14 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.
- 3.15 In evaluating significance, AECOM has relied on professional judgement and the LP HRA regarding development impacts on the European sites considered within this assessment.
- 3.16 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 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.

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

- 3.17 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.
- 3.18 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.
- 3.19 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.

⁸ Case C-461/17

4. Internationally Designated Sites

- 4.1 In the case of the FNP, it has been determined that the European sites identified in **Table 1** require consideration. This was based upon a search of surrounding European sites and based on the vulnerabilities of the interest features of the European sites.

Table 1. European Sites for Consideration and their Location in Relation to the Frodsham Neighbourhood Plan

European site	Location
Mersey Estuary Ramsar and SPA	Located adjacent to the FNP boundary (Frodsham)
Midland Meres and Mosses Ramsar	Fragments located c.3.2km, main body c7.5km from the FNP boundary (Frodsham)
Oak Mere SAC	Located c.7.5km from the FNP boundary (Frodsham)
West Midland Mosses SAC	Located c.7.7km from the FNP boundary (Frodsham)

Source: <https://magic.defra.gov.uk/MagicMap.aspx>

- 4.2 All the above sites were subjected to the initial screening exercise. It should be noted that the presence of a conceivable pathway linking the Parish to a European site does not mean that likely significant effects will occur.
- 4.3 The scoping process also evaluated whether pathways existed to the following European site as it they are considered to be functionally linked to the Mersey Estuary, but it was concluded that they could be scoped out of consideration:
- The Dee Estuary SPA, Ramsar, SAC – This site is designated for a range of species and habitats. However, the site is over c.17.5km away from the FNP boundary. Due to the distance of this site from the FNP boundary, there are no realistic linking impact pathways to the environmental vulnerabilities of this site (under-grazing, water and air pollution, inappropriate management etc). Although the closest part of the European Site lies adjacent to the A540 south of Birkenhead, and thus may be susceptible to air quality impacts from the road, this is unlikely to be a significant journey to work route for residents of the FNP area.
 - The River Dee and Bala Lake SAC - This site is designated for its water courses of plain to montane levels with *Ranunculus fluitantis* and its waters support Atlantic salmon *Salmo salar*. The site is over c.17km away from the FNP boundary. Due to the distance of this site from the FNP boundary, there are no realistic linking impact pathways to the environmental vulnerabilities of this site (under-grazing, water and air pollution, inappropriate management, air quality etc).
 - Mersey Narrows & North Wirral Foreshore SPA – The site is designated for its nesting terns and its overwintering waterfowl and waders. However, it is located over 19km from Frodsham and there are no realistic linking impact pathways.
- 4.4 The reason for designation, conservation objectives and environmental vulnerabilities of the European sites are detailed below.

Mersey Estuary Ramsar, SPA

Introduction

- 4.5 This site occurs as a large (50km²), sheltered estuary comprising large areas of saltmarsh and intertidal sand and mudflats. The site includes brackish marsh, rocky shoreline, and cliffs set in a rural and industrial environment. Internationally important numbers of various species of water birds feed and roost at the site in winter, or stage at the site in spring and fall, notably Common ringed plover *Charadrius hiaticula*. The Mersey Estuary SPA supports overwintering Golden plover (*Pluvialis apricaria*), Redshank (*Tringa totanus*), Shelduck (*Tadorna tadorna*), Teal (*Anas crecca*), Pintail (*Anas acuta*), Dunlin (*Calidris alpina alpina*) and Black-tailed godwit (*Limosa limosa islandica*). The site also supports on passage redshank (*Tringa totanus*), as well as an internationally important water bird assemblage.

Reasons for Designation⁹

- 4.6 The site is designated as an SPA for The site is designated as a SPA for its non-breeding:
- Golden plover *Pluvialis apricaria*
 - Shelduck *Tadorna tadorna*
 - Teal *Anas crecca*
 - Pintail *Anas acuta*
 - Dunlin *Calidris alpina alpina*
 - Black-tailed godwit *Limosa limosa islandica*
 - Redshank *Tringa totanus*
- 4.7 Waterbird assemblage: great crested grebe *Podiceps cristatus*, shelduck, wigeon *Anas penelope*, teal, pintail, ringed plover *Charadrius hiaticula*, golden plover, grey plover *Pluvialis squatarola*, lapwing *Vanellus vanellus*, dunlin, black-tailed godwit, curlew *Numenius arquata* and redshank.
- 4.8 The site is designated as a Ramsar for the following Criteria:
- 4.9 Criterion 4: The site regularly supports plant and/or animal species at a critical stage in their life cycles, or provides refuge during adverse conditions. During 2004/05 - 2008/09 the Mersey Narrows and North Wirral Foreshore Ramsar site supported important numbers of non-breeding little gulls and common terns.
- 4.10 Criterion 5: The site regularly supports 20,000 or more water birds: During the winters 2004/05 - 2008/09, the Mersey Narrows and North Wirral Foreshore Ramsar site supported an average peak of 32,402 individual water birds.
- 4.11 Criterion 6: The site regularly supports 1% of the individuals in the populations of the following species or subspecies of water bird in any season: During the winters 2004/05 - 2008/09, the Mersey Narrows and North Wirral Foreshore Ramsar site supported 2.4% of the *islandica* subspecies, W Europe/Waddensea/Britain/Ireland (non-breeding) population of knot and 2.8% of the *lapponica* subspecies W Europe/NW Africa (non-breeding) population of bar-tailed godwits.

Conservation Objectives¹⁰

- 4.1 “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;”
- 4.2 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.

Current Pressures and Threats

- 4.3 The Site Improvement Plan identifies the following pressures and threats to the SPA and Ramsar:

⁹ <http://publications.naturalengland.org.uk/publication/4749900759695360> [Accessed 14/03/2021]

¹⁰ [UK9005131-Mersey-Estuary-SPA-V2019.pdf](http://publications.naturalengland.org.uk/publication/4749900759695360) [Accessed 14/04/2021]

- Recently commissioned reports indicate there have been large decreases in bird numbers on this SPA compared to local SPAs and regional trends. There is a need to investigate and understand reasons for these changes.
- The population of Canada geese has significantly increased on the site introducing resource competition with some bird species e.g. via increased grazing and increased nutrient pressure. There is a threat from the spread and increase in density of invasive non-native species, such as Chinese mitten crab.
- Increasing recreational pressure causing disturbance to water birds, with the use of drones and jet skis are expected to increase across the site.
- Increasing development pressure around the Mersey Estuary, for example the proposed airport expansion (Liverpool John Lennon Airport Masterplan to 2050) and other functionally linked land, has the associated concerns for squeeze on available habitats for birds along with air quality impacts.

Midland Meres and Mosses Ramsar

Introduction

- 4.4 The 18 units which make up the site are spread over the Wrexham / Shropshire / Cheshire and Staffordshire Plain. The majority of the units are in Cheshire and north Shropshire, with a small number of outlying sites in adjacent parts of Staffordshire and Wrexham. The Meres and Mosses form a geographically diverse series of lowland open water and peatland sites. The 18 component sites include open water bodies (meres), the majority of which are nutrient-rich with associated fringing habitats, reed swamp, fen, carr and damp pasture. Peat accumulation has resulted in the nutrient-poor peat bogs (mosses) forming in some sites on the fringes of the meres or completely infilling basins. In a few cases the result is a floating quaking bog.

Reason for Designation¹¹

- 4.5 The site is designated as a Ramsar for the following Criteria:

Criterion 1: The site comprises a diverse range of habitats from open water to raised bog.

- 4.6 Criterion 2: The site supports several rare species of plants associated with wetlands, including the nationally scarce *cowbane* *Cicuta virosa* and, *elongated sedge* *Carex elongata*. Also present are the nationally scarce bryophytes *Dicranum affine* and *Sphagnum pulchrum*.

- 4.7 Criterion 3: The site supports many rare and scarce invertebrates. There are 16 species of British Red Data Book insect listed for this site including the following endangered species: the moth *Glyphipteryx lathamella*, the caddisfly *Hagenella clathrata* and the sawfly *Trichiosoma vitellinae*.

Factors (Past, Present or Potential) Adversely Affecting the Site's Ecological Character

- 4.8 The Information Sheet on Ramsar Sites¹² identifies the following pressures and threats to the Ramsar site:

- Eutrophication (off-site)
- Pollution – agricultural fertilisers (off-site)
- Pollution – agricultural runoff
- Human activities – fishing, hunting, recreational

¹¹ Ibid

¹² Ibid

Oak mere SAC

Introduction

- 4.9 Oak Mere SAC, in the West Midlands of England, is a lake formed within sediments that are low in nutrients and oligotrophic. It is a large waterbody that has formed in a kettle hole in the fluvio-glacial sands of the Cheshire Plain. The site has clear water of low nutrient status characteristic of oligotrophic waters and a marginal zone of shore-weed *Littorella uniflora*. The site supports an assemblage of plants that are now rare in the lowlands of England, including floating mats of bog-moss *Sphagnum* spp. and the scarce narrow small-reed *Calamagrostis stricta*. Open water and peat deposits lie in this kettle-hole depression within Delamere Forest, and peat-cutting has given rise to additional pools and fens. The water is acidic, but slightly nutrient-rich. There are transitions at the water's edge with soft rush *Juncus effusus*, water horsetail *Equisetum fluviatile*, common spike-rush *Eleocharis palustris*, marsh pennywort *Hydrocotyle vulgaris*, the moss *Drepanocladus fluitans* and bulrush *Typha latifolia*. Small depressions in the peat are occupied by bottle sedge *Carex rostrata*, common cottongrass *Eriophorum angustifolium*, purple moor-grass *Molinia caerulea*, cross-leaved heath *Erica tetralix* and round-leaved sundew *Drosera rotundifolia*.

Reason for Designation¹³

- 4.10 Qualifying features Annex I habitats include:

- Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*). Nutrient-poor shallow waters with aquatic vegetation on sandy plains
- Transition mires and quaking bogs, open water and peat deposits lie in kettle-hole depressions within Delamere Forest, and peat-cutting has given rise to additional pools and fens. The water is acidic, but slightly nutrient-rich. Very wet mires often identified by an unstable 'quaking' surface

Conservation Objectives¹⁴

- 4.11 "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
- The structure and function (including typical species) of qualifying natural habitats, and
- The supporting processes on which qualifying natural habitats rely"

Current Pressures and Threats

- 4.12 The Site Improvement Plan¹⁵ identifies the following pressures and threats to the SAC:

- Water pollution
- Invasive species
- Hydrological changes
- Air pollution
- Impact of atmospheric nitrogen deposition

West Midlands Mosses SAC

Introduction

- 4.13 West Midlands Mosses SAC contains three pools, one at Clarepool Moss and two at Abbots Moss, that are examples of dystrophic lakes and ponds in the lowlands of England and Wales, where this habitat type is rare. The lake at

¹³ Oak Mere - Special Areas of Conservation (jncc.gov.uk) [accessed 14/04/2021]

¹⁴ <http://publications.naturalengland.org.uk/file/6099038630051840> [accessed 14/04/2021]

¹⁵ <http://publications.naturalengland.org.uk/file/5420717696876544> [accessed 14/04/2021]

Clarepool Moss is unusual as a dystrophic type on account of its relatively base-rich character, which is reflected in the presence of a diverse fauna and flora. The two at Abbots Moss are more typical, base-poor examples. The dystrophic lakes and ponds at this site are associated with Schwingmoor development, a characteristic of this habitat type in the West Midlands. Schwingmoor is an advancing floating raft of bog-moss *Sphagnum*, often containing NVC type M3 *Eriophorum angustifolium* bog pool community, which grows from the edge of the pool and can completely cover over the pool

Reason for Designation¹⁶

4.14 Qualifying features Annex I habitats include:

- Natural dystrophic lakes and ponds
- Transition mires and quaking bogs

Conservation Objectives¹⁷

4.15 *“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*
- *The structure and function (including typical species) of qualifying natural habitats, and*
- *The supporting processes on which qualifying natural habitats rely”*

Current Pressures and Threats

4.16 The Site Improvement Plan¹⁸ identifies the following pressures and threats to the SAC:

- Water pollution
- Invasive species
- Hydrological changes
- Air pollution
- Impact of atmospheric nitrogen deposition
- Inappropriate scrub control
- Game management - Pheasant rearing
- Forestry and woodland management

¹⁶ [West Midlands Mosses - Special Areas of Conservation \(jncc.gov.uk\)](http://jncc.gov.uk) [accessed 14/04/2021]

¹⁷ <http://publications.naturalengland.org.uk/file/6061488964108288> [accessed 14/04/2021]

¹⁸ [://publications.naturalengland.org.uk/file/5747088459563008](http://publications.naturalengland.org.uk/file/5747088459563008) [accessed 14/04/2021]

5. Test of Likely Significant Effects

Background to Frodsham Parish

- 5.1 Frodsham is a market town, civil parish and electoral ward in the unitary authority of Cheshire West and Chester and the ceremonial county of Cheshire, England. Its population was 9,077 at the 2011 Census. It is approximately 5 km south of Runcorn, 26 km south of Liverpool, and 45 km southwest of Manchester. The River Weaver runs to its northeast and on the west, it overlooks the estuary of the River Mersey. The A56 road and the Chester–Manchester railway line pass through the town, and the M56 motorway passes to the northwest.

Physical scope of the HRA

- 5.2 There are no standard criteria for determining the ultimate physical scope of an HRA. Rather, the source-pathway-receptor model should be used to determine whether there is any potential pathway connecting development to any European sites.
- 5.3 The European sites that are described Section 3 are located within a 10km radius of the FNP area: Mersey Estuary Ramsar and SPA (north of Frodsham within the FNP boundary), Midland Meres and Mosses Ramsar (fragments 3.2km, with the main body 7.5km, south-east), Oak Mere SAC (7.5km South-east), West Midland Mosses SAC (7.7km south-east). European sites more distant are not considered to present any realistic impact pathways connecting to growth in Frodsham.
- 5.4 Based upon Natural England Site Improvement Plans, there are several impact pathways that require consideration regarding increased development within the FNP area and said European sites. These are:
- Recreational pressure;
 - Air quality and atmospheric pollution;
 - Water quality (surface water runoff);
 - Water quality (discharge of treated sewage effluent); and.
 - Loss of functionally linked habitats (FLH).
- 5.5 Table 2 describes these environmental impact pathways. The consideration of Neighbourhood Plan policies (the Test of Likely Significant Effects) is then documented in Table 3.

Table 2. Description of potential impact pathways from increased development to European Sites.

Impact pathway	Discussion
Water quality (surface water runoff)	Increased residential development within Frodsham could lead to the loss of previously undeveloped land and increased surface water runoff to nearby European Sites. Mersey Estuary Ramsar and SPA Midland Meres and Mosses Ramsar are located north within the FNP boundary and 3.2km south east of the parish boundary respectively. However, Mersey Estuary is over 50km ² and drains a considerable area of north-west England so surface area runoff will likely have little effect. Moreover, all allocated sites in Frodsham are on the opposite side of the M56 from the SPA/Ramsar site and are separated from it by both Frodsham Marsh and the Manchester Ship Canal. The close by fraction of Midland Mares and Mosses (3.2km away) is at a higher elevation than Frodsham and will likely receive little surface water runoff. Changes in water quality due to surface water runoff has therefore been screened out. ¹⁹
Water quality (discharge of treated sewage effluent)	<p>Increased housing development within the FNP area could lead to increased sewage production. 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, in the absence of environmental mitigation and adequate wastewater treatment works. Currently, treated sewage effluent is discharged into the Mersey Estuary and additional development could increase this net discharge.</p> <p>Wastewater treatment within the Districts is currently handled by United Utilities through their Water Resources Management Plan 2019, which has been subject to its own HRA and concluded '<i>no adverse effects, alone or in-combination on any European site.</i>'²⁰. The company is set to invest in wastewater treatment and sustainability and have the capacity to accommodate the additional allocated sites and housing numbers proposed within the FNP. United Utilities have also produced a Weaver Gowey Drainage and Wastewater Management Plan (SPA_13), published in May 2023²¹ which is a long-term plan setting out how they intend to maintain robust and resilient drainage and wastewater systems. Changes in water quality as a result of the discharge of sewage effluent has therefore been screened out. Changes in water quality as a result of the discharge of sewage effluent has therefore been screened out.</p>
Hydrological changes, including water abstraction	Midland Meres and Mosses, Oak Mere and West Midland Mosses are all sites that are susceptible to changes in water table fluctuations. However, none of these sites are connected to aquifers used for public water supply. Moreover, all three sites are over 3.2km from the FNP parish boundary and hydrological changes have therefore been screened out. Frodsham lies within United Utilities' Integrated Resource Zone which serves approximately 6.7 million people in south Cumbria, Lancashire, Greater Manchester, Merseyside, most of Cheshire and a small part of Derbyshire. The Integrated Zone can supply around 1,803 Ml/d of potable water, which includes water imports from Wales, Cumbria, and other parts of North West England. It constitutes a large integrated supply network that enables substantial flexibility in distributing supplies within the zone with the 'west to east link' further aiding this flexibility and thus breaking the traditional division in which Greater Manchester received water from Cumbria and Merseyside received water from the River Dee (which lies partly in England and partly in Wales) and from purely Welsh sources (e.g. Lake Vyrnwy). The most recent United Utilities Water Resource Management Plan (WRMP) indicates that without the reductions in demand from a free meter option programme and water efficiency programmes there would be a supply demand deficit in the Integrated Resource Zone of 107 Ml/d by 2040. However, increased abstraction from European sites beyond the current licensed volumes is not part of United Utilities' intended future supply strategy, which depends on a mixture of demand management and increased abstraction from groundwater. As a result, there is no pathway of impact linked to European sites and therefore this impact pathway can be screened out of further assessment.

¹⁹ [Water Resources Management Plan \(unitedutilities.com\)](https://www.unitedutilities.com/globalassets/z_corporate-site/about-us-pdfs/wrmp-2019---2045/final-water-resources-management-plan-2019-habitats-regulations-assessment.pdf) [accessed 20/04/2021]

²⁰ Available at: https://www.unitedutilities.com/globalassets/z_corporate-site/about-us-pdfs/wrmp-2019---2045/final-water-resources-management-plan-2019-habitats-regulations-assessment.pdf [accessed 06/09/2023]

²¹ Available at: https://www.unitedutilities.com/globalassets/z_corporate-site/about-us-pdfs/dwmp-2023/spa_13-weaver-gowey-dwmp_redacted-reupload.pdf [accessed 06/09/2023]

Air quality	<p>Increased residential development would likely lead to a greater number of vehicles within the FNP area. As such, increased air pollution could arise relative to a situation of no growth. Pollutants released from vehicles may be carried directly by wind currents and deposited to the Mersey Estuary, Midland Meres and Mosses, Oak Mere and West Midland Mosses or pollutants may become soluble and taken up during evaporation and deposited to said sites during precipitation. Guidance from the Institute of Air Quality Management and Highways England both set an impact zone of 200m from the roadside for potential significant air quality effects to vegetation from main road traffic. There are many smaller residential roads within 200m of the Mersey Estuary and the A54 within 200m of Oak Mere, but the number of vehicles would likely not increase with proposed development as these are not key journey to work routes. The Runcorn-Widnes bridge does lie within 200m of the Mersey Estuary and could be major commuting routes for new development in the FNP area resulting in increased air pollution affecting the site ²². Therefore, this pathway is explored further for Mersey Estuary SPA/Ramsar site.</p>
Recreational pressure	<p>Increased development within the FNP area could lead to higher numbers of visitors to European Sites. For example, the nature, scale, timing and duration of some human activities can result in the disturbance of birds at a level that may substantially affect their behaviour, and consequently affect the long-term viability of the population. It is long standing knowledge that the European Sites are attractive to visitors on a county, national and in some cases international level. Increased visitors can have direct and indirect impacts for a European Site that could prevent said site achieving its conservation objectives. The relevant European Site impacted by recreational pressure is the Mersey Estuary. The Midland Meres & Mosses SAC, Oak Mere SAC and Midlands Meres & Mosses Ramsar site are considered at low risk of recreational trampling damage because their mere and bog nature will naturally restrict off-track recreational activity for safety reasons.</p>
Loss of Functionally Linked Habitats (FLH)	<p>While most internationally designated sites have been geographically defined in order to encompass the key features that are necessary for coherence of their structure and function, this is not the case for all such sites. Due to the highly mobile nature of waterfowl in locations such as the Mersey Estuary, it is inevitable that areas of habitat of crucial importance to the maintenance of their populations are outside the physical limits of the European site for which they are an interest feature. However, this area will still be essential for maintenance of the structure and function of the interest feature for which the site was designated and land use plans that may affect this land should still therefore be looked at for impacting European site populations.</p>

²² [air-quality-impacts-on-nature-sites-2020.pdf \(iaqm.co.uk\)](#) [accessed 20/04/2021]

Table 3. Screening assessment (likely significant effect) of the FNP.

Policy	European Sites and Proximity to Policy Area	Brief summary	Screening outcome
Policy H1: Location of Housing Development	Mersey Estuary Ramsar and SPA - Located within the FNP boundary	Policy describes the requirement to provide a mix of dwellings, that meet the needs of Frodsham now and in the future, address the changing demographics and the towns sustainability. To encourage active travel (walking and cycling)	Likely Significant Effect. Screened in. This policy allocates 90 - 95 houses across 6 sites.
Policy H2: Housing layout and design	N/A	Policy describes how new development within the NP area that demonstrates high-quality design will be supported. It also looks at other issues including: <ul style="list-style-type: none"> • Developments must respect views and vistas in Frodsham in particular those identified on the attached map. • Developments should complement the area's green infrastructure, biodiversity and links to open countryside by ensuring that appropriate planting schemes including trees are included wherever possible. • Mature trees should be retained where possible • Developments adjacent to a main road namely, Bridge Lane, High Street, Main Street, Chester Road, Church Street, Red Lane, Vicarage Lane and Fluin Lane, where traffic is likely to queue should be set back from the road and provide a green buffer to reduce pollution. 	No likely Significant Effect. Screened out. This is a development management policy and does not specifically allocate sites for development. Therefore, no impact pathways exist to European Sites.
Policy H3: Housing Mix and Type	N/A	Policy describes how proposals for new housing should provide a mix of house types, tenures, and sizes taking account of the needs in the area.	No likely Significant Effect. Screened out. This is a development management policy and does not specifically allocate sites for development. Therefore, no impact pathways exist to European Sites.
Policy H4: Affordable Housing	N/A	Policy sets out the principles for applying the local connection test to affordable housing.	No likely Significant Effect. Screened out. This is a development management policy and does not specifically allocate sites for development. Therefore, no impact pathways exist to European Sites.
Policy H5: Design and Character	N/A	Policy describes how new development within the NP area will be required to demonstrate specifically how they have considered, and fully taken into account the design	No likely Significant Effect. Screened out. This is a development management policy and does not specifically allocate sites for development. Therefore, no impact pathways exist to European Sites.

Policy	European Sites and Proximity to Policy Area	Brief summary	Screening outcome
		principles and detailed guidance contained within the Frodsham Design Codes report and the Frodsham Town Design Statement into account	
Policy H6: Heritage Assets	N/A	Policy states that heritage assets are to be protected and where possible enhanced.	No likely Significant Effect. Screened out. This is a development management policy and does not specifically allocate sites for development. Therefore, no impact pathways exist to European Sites.
Policy Business and Employment	EDVE1: N/A	To preserve, protect and promote the growth of existing employment and support new business opportunities.	No likely Significant Effect. Screened out. This is a development management policy specifically for Frodsham. Therefore, no impact pathways exist to European Sites.
Policy Tourism and Visitor Economy	EDVE2: Mersey Estuary Ramsar and SPA - Located within the FNP boundary	Policy describes the need to promote Frodsham as a visitor and a green tourist destination and supports development where they can demonstrate no adverse impacts on Frodsham Marshes.	No likely Significant Effect. Screened out. This is a development management policy that includes a caveat of no adverse effects. Therefore, no impact pathways exist to European Sites.
Policy EDVE3: Retail and Services	N/A	Policy describes the need to preserve and protect all types of retailers and service providers in maintaining and developing both short and long-term businesses	No likely Significant Effect. Screened out. This is a development management policy specifically for Frodsham town centre. Therefore, no impact pathways exist to European Sites.
Policy GSRL1: To designate Local Green Space	N/A	Policy describes the requirement to designate and protect all Frodsham's local Green Spaces	No likely Significant Effect. Screened out. This is a development management policy and does not specifically allocate sites for development. Therefore, no impact pathways exist to European Sites.
Policy GSRL2: Protecting and Enhancing Green and Open Spaces	N/A	Policy states that developments will be supported where they retain, preserve, maintain, protect and provide additional or new Green spaces.	No likely Significant Effect. Screened out. This is a development management policy and does not specifically allocate sites for development. Therefore, no impact pathways exist to European Sites.
Policy GSRL3: Maintaining our Green and Open spaces	N/A	Policy describes the need to support developments that retain, maintain and protect existing green and open spaces for communal and social use.	No likely Significant Effect. Screened out. This is a development management policy and does not specifically allocate sites for development. Therefore, no impact pathways exist to European Sites.
Policy GSRL4: Creating new green	N/A	Policy states that developments are to encourage developments that create or develop additional green	No likely Significant Effect. Screened out. This is a development management policy and does not

Policy	European Sites and Proximity to Policy Area	Brief summary	Screening outcome
spaces		community/recreational spaces.	specifically allocate sites for development. Therefore, no impact pathways exist to European Sites.
Policy GSRL5: N/A Enhancing Health and Wellbeing in the community		Policy states that developments are to be encouraged that provide opportunities for exercise, activities and well-being.	No likely Significant Effect. Screened out. This is a development management policy and does not specifically allocate sites for development. Therefore, no impact pathways exist to European Sites.
Policy CA1: Footpaths and Cycle Paths	N/A	Policy states the need to enable Frodsham to be a cycle friendly town, supporting the needs of cycling for education, commuting, recreation and leisure.	No likely Significant Effect. Screened out. This is a development management policy and does not specifically allocate sites for development. Therefore, no impact pathways exist to European Sites.
Policy CA2: Electric Vehicles	N/A	Policy states that developments are to ensure development provides provision for charging points for electric vehicles.	No likely Significant Effect. Screened out. This is a development management policy and does not specifically allocate sites for development. Therefore, no impact pathways exist to European Sites.
Policy CA3: Parking	N/A	Policy aims to ensure that adequate vehicle and cycle parking is provided to help Frodsham to become a safe and active travel friendly town.	No likely Significant Effect. Screened out. This is a development management policy and does not specifically allocate sites for development. Therefore, no impact pathways exist to European Sites.

6. The ‘in Combination’ Scope

- 6.1 It is a requirement of the Regulations that the impacts and effects 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 internationally designated site(s) in question.
- 6.2 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 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 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 Waddenzee²³ case.
- 6.3 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: recreational pressure, air quality and loss of functionally linked habitats. The following plans have been assessed for their in-combination impact to interact with the Frodsham Neighbourhood Plan:
- Warrington – Adopted Local Plan core strategy; new Local Plan recently completed Main Modifications consultation
 - Cheshire West & Chester Adopted Local Plan (this set a minimum target of 250 dwellings to be delivered in Frodsham. The Frodsham Neighbourhood Plan allocates sites for housing development that would contribute to meeting this target and would also exceed it by 109 units (an increase of 27%))
 - Halton – adopted Halton Local Plan
 - Knowsley – Knowsley Local Plan Core Strategy
 - Liverpool – Adopted Liverpool Local Plan
 - Wirral – Wirral Local Plan (currently going through Examination)
 - Sefton – adopted Local Plan
- 6.4 It should be noted that, while the broad potential impacts of these other projects and plans will be considered, we do not propose carrying out full HRA on each of these plans – we will however draw upon existing HRA that have been carried out for surrounding regions and plans.

²³ Waddenzee case (Case C-127/02, [2004] ECR-I 7405)

7. Appropriate Assessment

- 7.1 The law does not prescribe how an appropriate assessment should be undertaken or presented 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.
- 7.2 The main impact pathways of concern to this HRA (air quality, recreational pressure and loss of functionally linked habitats) are inherently ‘in combination’ with neighbouring plans and projects. However, for completeness, potential impacts of the –90 – 95 net residential dwellings allocated within the Frodsham Neighbourhood Plan area in isolation are also assessed.
- 7.3 The HRA screening exercise undertaken in Table 3 indicates one potential H1 policy (Location of Housing Development) that will encompass the 6 potential site allocations. These may have likely significant effects on the European Sites due to recreational pressure, air quality and loss of functionally linked habitats. At the screening stage, the following potential housing allocations were screened in and require further assessment:
- FRO/0010 – Site is centrally located on Main Street, the A56 main arterial route through the town centre. Frodsham.
 - FRO/0038 – Site is current Frodsham Sea Scouts HQ located on the northern edge of Frodsham off High Street, Frodsham.
 - FRO/0039 - Land to the rear of St Hilda’s Drive, Frodsham
 - S/01 – Site is former school adjacent to the Princeway Health Centre with frontages to Queensway, Princeway and Martin Road, Frodsham.
 - S/07 – Site is at the junction of Main Street and Fountains Lane, Frodsham. Brook House is a Grade II Listed building.
 - S/10 – Land is adjacent to Penkman’s Lane.

Recreational pressure

- 7.4 There is growing 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 and impacts on European protected sites^{24 25}. This applies to any habitat, but the additional recreational pressure from housing growth on destinations with water features is likely to be especially strong and some of the qualifying waterfowl are known to be susceptible to disturbance. Different European sites are subject to different types of recreational pressures and have different vulnerabilities. Studies across a range of species have shown that the effects from recreation can be complex. HRAs of Plans tend to focus on recreational sources of disturbance as a result of new residents²⁶.
- 7.5 Human activity can affect organisms directly (e.g. loss of habitat or by causing species to flee) and indirectly (e.g. by damaging their habitat or reducing their fitness in less obvious ways e.g. stress). The most obvious direct effect is the loss of habitat as a result of increased visitors to a site (i.e. trampling). 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 to species (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/death²⁷.

²⁴ 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.

²⁵ 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.

²⁶ 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’.

²⁷ Riley, J. 2003. Review of Recreational Disturbance Research on Selected Wildlife in Scotland. Scottish Natural Heritage.

- 7.6 At the screening stage (Table 3) One European Site was identified that could be impacted by recreational pressure. This was Mersey Estuary Ramsar, SPA. This related to the following policies:
- **Policy H1: Location of Housing Development** - allocates 90 - 95 houses across 6 sites.
 - **Policy EDVE2: Tourism and the Visitor Economy** - enhance and build on existing visitor attractions and promote the future use of the marshes, the Weaver navigation and the adjoining riverside.
- 7.7 Impacts of recreational pressure for Mersey Estuary Ramsar, SPA would likely be through more indirect means such as disturbance of species. For example, the impact of bird disturbance has been particularly well studied. Much research concern stems from the fact that birds expend energy unnecessarily when disturbed and the time they spend responding to humans is time that is not spent feeding²⁸. Disturbance therefore risks increasing energy expenditure of birds while reducing their energy intake, which can adversely affect their 'condition' and ultimately their survival. 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 birds²⁹.
- 7.8 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 and abundance than hiking³⁰. Scientific evidence also suggests that key disturbance parameters, such as areas of influence and flush distance, are significantly greater for dog walkers than hikers³¹. 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 HRAs³².
- 7.9 Mersey Estuary Ramsar, SPA is a site where visitor activity surveys have been undertaken. These surveys were undertaken by the Marine Management Organisation³³. With regards to current visitor pressure, Beach recreation, sailing, wildlife watching, and powered aircraft had medium (11–15) to high (51–100) participation of visitors with motor boating, jet skis, beach recreation, drone use and powered aircraft all increasing. Many of these activities are deemed to be of high intensity towards overwintering birds. According to survey work undertaken on behalf of Natural England³⁴ 97% of recreational visitors to the north-west coastal European sites and SSSIs were on a short visit directly from home and interviewees visiting directly from home typically lived within a short radius of the survey point (a mean distance of 5.3 km). Half of these interviewees lived within 1.9 km (median value) and three quarters within 5.2km. For the Mersey Estuary SPA specifically 75% of people visiting the site from home lived within 8.3km of the survey point, although this was only based on a single survey location. Most of these lived along the coast, within easy access of the coast (e.g. clear line along the A595) or within highly populated areas (e.g. Liverpool).
- 7.10 All of the proposed housing sites allocated by the FNP are within 4.5km of the Mersey Estuary Ramsar, SPA. The closest site to the SPA boundary is FRO/0039, which is 2.3km away. Therefore, residential development within the FNP area may lead to increased visitors to the Mersey Estuary Ramsar, SPA when considered in-combination with growth across the district (including the amount of housing allocated for Frodsham in the Local Plan, which is encompassed by the Neighbourhood Plan allocations) and in surrounding districts, as set out in paragraph 6.3 of this report. However, it should also be noted that Frodsham is actually relatively isolated from the SPA/Ramsar due to the M56, Frodsham Marsh and the Manchester Ship Canal. The most accessible parts of the SPA/Ramsar are actually on the opposite side of the River Mersey. Therefore, growth in Frodsham would probably make a very minor contribution to recreational pressure in the SPA/Ramsar site. There is also the potential for impacts on Frodsham Marsh and thus for recreational disturbance of functionally-linked land. However, this would occur on a relatively small scale as walkers / dog walkers are more likely to use the areas to the south and east of Frodsham including Frodsham Hill and parts of the Sandstone Trail. Frodsham also includes the large and very well used Castle Park.

²⁸ Riddington, R. *et al.* 1996. The impact of disturbance on the behaviour and energy budgets of Brent geese. *Bird Study* 43:269-279

²⁹ Gill, J.A., Sutherland, W.J. & Norris, K. 1998. The consequences of human disturbance for estuarine birds. *RSPB Conservation Review* 12: 67-72

³⁰ Banks P.B., Bryant J.Y. 2007. Four-legged friend or foe? Dog walking displaces native birds from natural areas. *Biology Letters* 3: 14pp.

³¹ Miller S.G., Knight R.L., Miller C.K. 2001. Wildlife responses to pedestrians and dogs. 29: 124-132.

³² Weitowitz D., Panter C., Hoskin R., Liley D. The spatio-temporal footprint of key recreation activities in European protected sites. Manuscript in preparation.

³³ [MMO Report Style and GIS Guide \(publishing.service.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/61111/MMO_Report_Style_and_GIS_Guide.pdf) [accessed 21/04/2021]

³⁴ Data taken from page 4 of Liley, D., Panter, C., Marsh, P. & Roberts, J. (2017) Recreational activity and interactions with birds within the SSSIs on the North-West coast of England. Unpublished report for Natural England

- 7.11 The potential for disturbance of wintering birds using the Mersey Estuary SPA/Ramsar site as a result of growth across the Liverpool City Region (LCR), Cheshire West & Chester and the Lancashire coast (i.e. the in combination effects of growth to 2030 and beyond outlined in the Liverpool Local Plan, Sefton Local Plan, Knowsley Local Plan, St Helens Local Plan, Wirral Local Plan, Cheshire West & Chester Local Plan, West Lancashire Local Plan, Halton Local Plan and potentially areas beyond such as Blackpool and Fylde) has been identified for some time. Since the major population centres are in the Liverpool City Region (e.g. Sefton) those authorities have led the investigation of this issue, in conjunction with Natural England, and have also led on the development of a multi-authority mitigation strategy to address the matter, called the Recreation Management Strategy. The RMS is currently being advanced as a strategic response to the issue of recreation pressure arising from the total quantum of housing development across the Liverpool City Region.
- 7.12 Clearly, participation in the RMS would be beyond the scope of what Frodsham Neighbourhood Plan Group can accomplish. However, Policy ENV 4 Biodiversity and geodiversity, paragraph 8.41 of the Cheshire West and Chester Local Plan (Part One) Strategic Policies - adopted 29 January 2015 states *'The Council will, where appropriate, work in partnership with other local authorities and relevant bodies, to avoid and manage cumulative, and in combination, impacts of development on these sites. The Habitats Regulation Assessment highlighted the issue of recreational pressure as a result of increased population on the Mersey Estuary/Dee Estuary SPA/SAC and Ramsar sites. The Council will need to work with other local authorities and organisations to monitor the progress of ongoing assessments and recreational management studies being undertaken on these sites. The determination of development proposals will need to take account of the evidence and recommendations in this research.'* However, it is noted that Cheshire West & Chester Council are not a signatory to the RMS and no other Neighbourhood Plans in the authority within the recreational catchment of the SPA have included mitigation.
- 7.13
- To deliver Policy GSRL2 (Protecting and Enhancing Green and Open Spaces) the Parish Council should promote areas of recreational semi-natural greenspace in the parish, other than Frodsham Marshes. Promoting these sites, and improving access and signage to them, could be included as a potential option for spending Community Infrastructure Levy funds.
- 7.14 With regard to Policy EDVE2 on tourism, it was recommended in the previous version (2020) of this HRA that a caveat is added that tourism development will only be supported if it will not result in adverse impacts on the ecological value and function of Frodsham Marshes, including its role in providing supporting habitat for the Mersey Estuary SPA/Ramsar. Moreover, it is recommended that the section of the policy promoting future use of the marshes is removed as it could conflict with avoidance of recreational disturbance impacts on functionally linked habitat for the Mersey Estuary SPA/Ramsar site. This has now been added to the Policy.
- 7.15 Given the lack of easy direct access to the SPA, presence of numerous alternative recreational areas and small amount of housing planned, mean there is very limited risk of increased recreational pressure on the Mersey Estuary SPA/Ramsar site and growth in Frodsham will therefore make a negligible contribution to the overall in combination recreational pressure effect. Therefore, coupled with the measures identified above, a conclusion of no adverse effect on integrity can be drawn.

Air Quality

- 7.16 Atmospheric pollution relating to nitrogen deposition might lead to eutrophication in the Mersey Estuary SPA and Ramsar. However, the only significant road within 200m of the mudflats of the SPA and Ramsar is the Runcorn-Widnes Bridge. The Site Relevant Critical Load on APIS for nitrogen deposition relating to each of the qualifying bird species indicates that nitrogen deposition is currently up to 17.5 kgN/ha/yr, compared to a critical load (for littoral sediment) of 20-30 kgN/ha/yr. It is highly unlikely that increases in traffic on Runcorn Widnes Bridge would increase the nitrogen deposition by the required 13 kgN/ha/yr, to exceed the critical load of 30 kgN/ha/yr. Furthermore, APIS concludes the effects of additional nitrogen deposition may be positive for many SPA birds, because such nitrogen enrichment potentially means an increase in prey abundance. Therefore, a conclusion of no adverse effect on integrity can be drawn.

Loss of Functionally Linked Habitat

- 7.17 The screening for FNP identified the following policies within the Plan that require Appropriate Assessment regarding the impact pathway loss of functionally linked land:
- **Policy H1: Location of Housing Development** - allocates 90 - 95 houses across 6 sites.
 - **Policy EDVE2: Tourism and the Visitor Economy** - enhance and build on existing visitor attractions and promote the future use of the marshes, the Weaver navigation and the adjoining riverside.
- 7.18 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 always the case. A diverse array of qualifying species including birds, bats and amphibians are not confined to the boundary of designated sites.
- 7.19 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 part of the formal designation, this habitat 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. Examples of other mobile qualifying species are great-crested newts and bats.
- 7.20 The Mersey Estuary Ramsar, SPA supports overwintering Golden plover (*Pluvialis apricaria*), Redshank (*Tringa totanus*), Shelduck (*Tadorna tadorna*), Teal (*Anas crecca*), Pintail (*Anas acuta*), Dunlin (*Calidris alpina alpina*) and Black-tailed godwit (*Limosa limosa islandica*). The site also supports on passage redshank (*Tringa totanus*), as well as an internationally important water bird assemblage.
- 7.21 However, the sites allocated in the Frodsham Neighbourhood Plan are all small urban edge sites separated from Frodsham Marsh and the SPA/Ramsar site by the M56. There is therefore a low risk that any allocations will constitute significant parcels of functionally-linked land and no adverse effect on integrity will arise.

8. Conclusions

- 8.1 This assessment undertook both Screening and Appropriate Assessment of the policies and the proposed allocations resulting from the Parish's Call for Sites.
- 8.2 The international designated sites considered within the Appropriate Assessment for impact pathways that could not be screened out at the screening stage were:
 - Mersey Estuary Ramsar and SPA
- 8.3 Impact pathways considered during the screening were: recreational pressure, air quality and loss of functionally linked habitat.
- 8.4 Six potential Site Allocations to provide net new residential development were subject to Appropriate Assessment as they were located within the accepted zones of influence of the aforementioned international sites and could result in adverse effects on the integrity of an international site in combination with other projects and plans. Ultimately, a conclusion of no adverse effect on integrity could be reached for them all, except for recreational pressure related to the Mersey Estuary SPA/Ramsar site.
- 8.5 Following Appropriate Assessment, it is concluded that, provided the recommended changes are made, the Frodsham Neighbourhood Plan will contain sufficient policy framework to ensure no adverse effects on the integrity of international designated sites will occur in isolation or in combination with other projects and plans.