

Habitats Regulations Assessment of the Places for Everyone Joint Development Plan *(draft)*

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APPENDICES

1 Introduction

- 1.1 European protected sites are of exceptional importance for the conservation of important species and natural habitats. The purpose of Habitats Regulation Assessment (HRA) of land use plans is to ensure that protection of the integrity of European protected sites is an integral part of the planning process at a regional and local level.

Article 6(3) of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 dealing with the conservation of European protected sites states that:

‘Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subject to assessment of its implications for the site in view of the site’s conservation objectives. In light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after it is ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.’

The Places for Everyone joint development plan is regarded as a Plan which is considered likely to have significant effect on one or more European protected site and should therefore be subject to assessment.

- 1.2 Habitats Regulation Assessments can be seen as having a number of discrete stages –

- Stage 1 - Screening
- Stage 2 – Appropriate Assessment
- Stage 3 – Assessment of Alternatives
- Stage 4 – Assessment where no alternatives are available

This document summarises Stage 1 and Stage 2 of the Habitats Regulation Assessment process and contributes (in part) to the fulfilment of the statutory

duty of the nine Districts of Greater Manchester who are parties to the Plan as regards Article 6(3). That is, it is an Opinion on and an Assessment of whether the Plan may have a significant effect on the special interest of any European designated protected sites.

It is also an Opinion on, and an Assessment of, whether any of the identified effects (if any) can be avoided or mitigated or whether any of the actions proposed in the planning application need adjustment.

1.3 Stage 1 – Screening

The purpose of the Screening stage of the HRA process is to initially identify the risk or the possibility of significant adverse effects on a European site which could undermine the achievement of a site’s conservation objectives and which therefore require further detailed examination through an appropriate assessment. If risks which might undermine a site’s conservation objectives can clearly be ruled out (based on the consideration of objective information), a proposal will have no likely significant effect (LSE) and no appropriate assessment will be needed.

In order for a policy or an allocation in a Plan to be screened out of the HRA process a conclusion must be made ‘beyond reasonable scientific doubt’ that the policy or allocation will not have an LSE on the Natura 2000 site or its qualifying features.

Case law has established in relation to screening that -

- An effect is likely if it ‘cannot be excluded on the basis of objective information’ (Waddenzee C127-02 ∞ 45). This requires consideration and a conclusion made against known and presented data/survey or results/scientific evidence (e.g. literature review).
- An effect is significant if it ‘is likely to undermine the conservation objectives’ [of the European protected site (Waddenzee (C127-02 ∞ 48)]. This excludes from consideration other impacts not related to the qualifying features and their conservation objectives.
- In undertaking a screening assessment for likely significant effects ‘it is not that significant effects are probable, a risk is sufficient, but there must be credible evidence (see above) that there is ‘a real, rather than a hypothetical, risk’ Boggis v Natural England & Waveney District Council. This refines the understanding of the ‘precautionary principle’ as it applies to the Habitats Regulations.

- The Sweetman (case C258-11) also offers some simple guidance that the screening step ‘operates merely as a trigger’, in order to progress to further assessment stages through the process.

1.4 **Stage 2 – Appropriate Assessment**

In 2017 the decision of the Court of Justice of the European Union (People over Wind, case C323/17) concluded that it was not appropriate within the Screening Stage to consider measures that would mitigate for impacts on the qualifying or designated features of the Natura 2000 site. This ruling has resulted in an update to the Habitats Regulations 2017 as they have been translated into UK domestic legislation and updated to reflect the exit of the UK from the European Union..

In a Stage 2 – Appropriate Assessment, evidence and detail should be considered which can demonstrate that a Plan including any embedded measures or additional mitigation can result in a conclusion that there would be no ‘adverse effect on integrity’ (AEOI), when considering a Natura 2000 site’s conservation objectives.

In applying the Stage 2 – Appropriate Assessment the relevant competent Authority – in this case the Local Authorities concerned - must also consider whether there is a relevant planning mechanism (which may apply at a different level of the planning hierarchy) which can secure the necessary mitigation via either conditions or obligations.

In the case of a high level Strategic Plan the level of detail in land use plans concerning developments that will be permitted under the Plan at some time in the future is rarely sufficient to allow the fullest quantification of potential adverse effects. It is therefore necessary to be cognisant of the fact that HRAs for plans can be tiered, with assessments being undertaken with increasing specificity at lower tiers. This is in line with DCLG guidance and court rulings that the level of detail of the assessment, whilst meeting the relevant

requirements of the Habitats Regulations, should be ‘appropriate’ to the level of plan or project that it addresses.

Government guidance says:

“The scope and content of an appropriate assessment will depend on the nature, location, duration and scale of the proposed plan or project and the interest features of the relevant site. ‘Appropriate’ is not a technical term. It indicates that an assessment needs to be proportionate and sufficient to support the task of the competent authority in determining whether the plan or project will adversely affect the integrity of the site.”

That is, the Plan must make every effort to ensure that no Policies or Allocations will cause harm to the special nature conservation interest of European sites. But where some doubt remains as to whether harm will occur the plan must show that sufficient safeguards will be in place in other levels of the planning hierarchy to ensure that no harm will be caused to the special interest of European sites.

A precautionary approach should always be taken.

The advice of Advocate-General Kokott to the European Court of Justice (9th June 2005, Case C-6/04) is relevant. She commented that:

“It would ...hardly be proper to require a greater level of detail in preceding plans [rather than planning applications] or the abolition of multi-stage planning and approval procedures so that the assessment of implications can be concentrated on one point in the procedure. Rather, adverse effects on areas of conservation must be assessed at every relevant stage of the procedure to the extent possible on the basis of the precision of the Plan. This assessment is to be updated with increasing specificity in subsequent stages of the procedure”

1.5 In Combination Assessment

The Habitats Regulations also include a requirement for an assessment not only for a Plan alone but also for consideration of any LSE in combination with other projects or plans. An ‘in combination’ assessment should be undertaken for any impact which is shown to have an effect even where it might be considered ‘*de minimis*’ for the plan in isolation. In the application of the in combination test projects or plans are also considered to include reasonably foreseeable proposals (RFP), which may include projects, plans or schemes which have not concluded their passage through the development planning process, whether they are in full or outline or include other strategic planning documents.

The implication of ‘in combination’ considerations for a plan with the scale of Places for Everyone may be profound, since a very wide range of other plans and proposals may be influenced by the operation of the Plan, and *vice versa*. It would be practically impossible for a detailed analysis to be undertaken of every possible plan or proposal which may be influenced by the Places for Everyone in isolation. Instead, in some cases this Assessment has taken a high-level precautionary approach and assumed that the impacts arising from the operation of the Places for Everyone Plan are likely to result in in-combination effects. This precautionary principle particularly relates to impacts which may arise from air pollution and recreational impact effects.

1.6 The Competent Authority – identification and roles

Under the terms of the Habitats Regulations the role of the competent authority is the body which undertakes the assessment of likely significant effects (LSE). This is usually the Local Planning Authority in relation to the preparation of Plans or the consideration of planning applications, but may also be another statutory body who has authority and powers to permit, consent or licence activities (e.g. the Environment Agency).

Places for Everyone is a joint Plan of nine district Councils of Greater Manchester, namely Bolton, Bury, Manchester, Trafford, Tameside, Salford,

Wigan, Rochdale and Oldham They are collectively ‘the competent authority’ in this case.

Natural England as the statutory government advisor in these matters also has a role in the process to ensure that the Plan will not have any likely significant harmful effects on European sites. Natural England have advised the Councils during the preparation of this HRA.

A recent Judicial Review (*R (Preston) v Cumbria County Council* [2019] EWHC 1362) concerning a project level HRA ruled that a Local Planning Authority cannot rely on the future decisions and assessment of another permitting competent authority within their own conclusions on the Screening (Stage 1) and must give consideration of sufficient securing measures (Stage 2 – Appropriate Assessment) at the time of their own determination of an application for development.

Government guidance in this regard which seems relevant to plans, outline proposals or operations which might require an additional consent/permit from a third party indicates: -

“a competent authority is permitted to grant a plan or project consent which leaves the applicant free to determine subsequently certain parameters relating to the construction phase, only if that authority is certain that the consent includes conditions that are strict enough to guarantee that those parameters will not adversely affect the integrity of the site.”

While this Plan, and the HRA, are at a high tier of the planning process, this is important when considering any necessary mitigation for identified effects.

1.7 The Greater Manchester Ecology Unit

The Greater Manchester Ecology Unit (GMEU), as the specialist ecological adviser to the Greater Manchester Combined Authority and to the nine Greater Manchester local planning authorities involved in the preparation of this Plan, has prepared this Screening Opinion and Assessment. Natural England and the JNCC were consulted for information on the conservation

objectives and favourable condition tables for the European Sites concerned (the information is summarised below).

GMEU ecologists, who are familiar with the European sites concerned and their special interests, reviewed the ecological information for the site. The key vulnerabilities and sensitivities of the European sites concerned are well understood by GMEU allowing for an informed assessment of the possible effects of the Plan, and any specific aims, objectives and policies contained in the Plan.

GMEU has prepared a number of HRAs for District-level Local Plans and Strategies, prepares HRAs for individual planning applications across GM and Lancashire on a regular basis and is often consulted on HRAs prepared by others.

1.8 **Scope of the Assessment**

This report Assesses only the Policies included in the Plan and the 'Strategic Allocations' for development included in the Plan. It is recognised that, as the name suggests, the Plan provides a Framework for all development in the Greater Manchester area up to 2040, including a large number of local allocations specific to each District. This additional level of more local development is not specifically assessed in this report because these allocations will be assessed as part of HRA appraisals carried out on individual local plans as part of the planning hierarchy. Where Local Plans are yet to be developed or are in progress the overarching mitigation themes of this Framework will be taken into account as the detail of the allocations and/or detailed design briefs are developed.

However, the assessment of cumulative impacts (in-combination assessment) undertaken as part of this HRA has taken into account the total quantum of development encompassed by Places for Everyone. As a consequence a precautionary approach has been taken throughout.

2 Description of the Plan

2.1 The Plan being assessed is the Places for Everyone Joint Development Plan.

Places for Everyone is a joint Plan across nine local authorities in Greater Manchester, primarily to plan for and manage the supply of land for jobs and new homes. Places for Everyone is aimed at ensuring that Greater Manchester has the right land in the right places to deliver housing and employment land up to 2037, along with identifying the new infrastructure (such as roads, rail, Metrolink and utility networks) required to achieve the aspirations of the Plan and describing the required measures and mechanisms to achieve sustainable growth.

The Plan is inclusive and holistic and includes Policies and proposals for improving public health, reducing carbon emissions, reducing flood risks, improving water quality, protecting and enhancing green infrastructure and the natural environment, protecting built heritage assets, improving education, skills and knowledge, improving social cohesion and enhancing recreation.

The Plan will form an overarching development plan within which the nine local planning authorities involved in Plan preparation can identify more detailed sites for jobs and homes in their own areas. As such, the Plan does not cover everything in the detail that a Local Plan would cover and individual districts will continue to produce their own Local Plans. It is a high-level strategic plan.

Although it is the case that Places for Everyone is planning for growth levels above and beyond those levels already identified in Local Plans, it includes development proposals already put forward as part of Local Plans and therefore includes development proposals that have already been Assessed under the terms of the Habitats Regulations. These proposals have been, or are being, Assessed as part of the Local Plan process and are not therefore Assessed again in this Report, except in relation to the potential cumulative effects when considered in combination with proposals in Places for Everyone. In particular many sites and areas identified for potential future development and which contribute to the overall projected levels of growth

planned for in Places for Everyone have been, or will be, individually Assessed in other assessments of Local Plans.

- 2.2 Places for Everyone specifically addresses the environmental capacity of the nine Greater Manchester districts involved, setting out how the Plan can enhance and protect the quality of the natural environment, conserve wildlife and tackle low carbon and flood risk issues, so that growth can be accommodated sustainably.

The Plan has two distinct parts –

- Thematic Policies
- Proposals for the identification (allocation) of Strategic areas ‘of-scale’ for development

The Thematic Policies and the Strategic Areas have been Screened and, where required, Assessed in this report.

- 2.3 The Plan includes Policies for environmental enhancement, including environmental gain and biodiversity gain, and undertakings to prepare and implement a Nature Recovery Network (NRN) for Greater Manchester, part of a national initiative to develop a national NRN.

Policies for Green Infrastructure improvement focus on important habitats included in European sites, including lowland mossland, upland moorland and canals.

Environmental enhancement and net gain go beyond simple mitigation and compensation for ecological harm caused by development to also require habitat creation and repair. Gain can take place either within the development boundary or, importantly for this Assessment, off-site and potentially some distance from where the development takes place. The implication of this is that development managed by the operation of the Plan may contribute directly to habitat repair within European sites. The contribution that these policies could make to the enhancement of European sites is uncertain and therefore the extent to which enhancement policies could contribute to mitigation for other potentially environmentally damaging parts of the Plan is

uncertain. Whether such measures could be described as 'true mitigation' is therefore subject to debate.

The creation and enhancement of Green Infrastructure close to strategic allocations may have a role to play in reducing the harm caused to European sites by public disturbance by encouraging people to enjoy outdoor activities closer to home, reducing the need to travel long distances to European sites. This enhancement is able to be described as 'true' mitigation for recreational disturbance.

3 The European designated sites concerned

3.1 This Assessment has first screened European protected sites in the North West of England to decide which of these sites are most likely to be affected by development in Greater Manchester. When assessing the impact of a Plan on European protected sites it is important to consider the impact on sites not only within the administrative area covered by The Plan but also those which fall outside The Plan boundary, as these could still potentially be affected by the implementation of the Plan.

3.2 In carrying out this initial screening process the Assessment has considered the main possible sources of effects on the European sites arising from The Plan, possible pathways to the European sites and the effects on possible sensitive receptors in the European sites. Only if there is an identifiable source, a pathway and a receptor is there likely to be a significant effect.

3.3 Possible sources and pathways for effects arising from development implemented as a result of Plan adoption, and used in the screening of European sites, were considered to include:

- Land take (direct habitat loss)
- Cultivation (agriculture)
- Diffuse and localised air pollution including dust and odour
- Noise disturbance
- Light spill or shading
- Human presence/disturbance
- Emissions to water (surface or ground water) containing pollutants or sediments
- Ground water depression or flow interception
- Decrease in surface water run-off e.g. through interception in a void
- Increase in surface water run-off
- Introduction and spread of invasive species
- Effects on functionally linked land*

- Changes to predator/prey relationships

More specific sources of harm to particular designated sites are listed in the summary descriptions of screened in European sites provided in Appendix 1.

** Areas of land or sea outside of the boundary of a European site may be important ecologically in supporting the populations for which the site has been designated or classified. Occasionally impacts to such habitats can have a significant effect upon the species interest of such sites, where these habitats are considered to be 'functionally linked' to the site.*

- 3.4 Guidance and precedence concerning distances at which significant effects on European sites are caused by water or air pollution has been taken into account during the screening of European sites. Recommended buffer zones for certain types of 'most damaging' operations (for example, the operation of landfill sites) have been used in the screening of sites. The buffer zones are based on distances before air pollution sources and water pollution sources become so diffuse so as to be indiscernible or impossible to ascribe to particular point sources.

Outside of these buffer zones significant effects on European sites arising from water and air pollution are considered unlikely to arise. The largest (most cautious) buffer zone considered is 15km; that is, most operations with the potential of causing direct water and/or air pollution impacts located further than 15km from the boundary of a European site are considered very unlikely to have a significant effect on the special interest of that site.

Natural England also publish SSSI 'Impact Risk Zones' (IRZs) providing guidance on the types of development which should be considered for their possible impacts on SSSIs and which impacts should be considered. All European designated sites are also designated as SSSIs. IRZs have also been taken into account when screening European sites which could be affected by the Plan.

Although this guidance has been taken into account when screening European protected sites, in the case of a Plan affecting the development of a very large entire Metropolitan Region, the 15km buffer zone should be regarded as important but not as definitive – for example, this buffer zone may not be sufficient when assessing certain very large-scale developments or secondary impacts. In particular, applying the 15km buffer may not be appropriate where the most likely effect on a European site will be caused by diffuse air or water pollution that may arise from large scale development, or where there are secondary recreational pressures on more distant protected sites arising from increased regional and sub-regional populations.

Functionally linked land may also be located at very large distances from the relevant European site; for example in the case of some seabird species the nesting/overwintering sites may be within a European site but the feeding areas or important stop-over locations may be located many km away.

- 3.5 Since Places for Everyone is a high-level, large-scale strategic plan where the main impacts on European sites are likely to be diffuse and cumulative it is considered that certain potential diffuse or indirect sources will be more likely to result from the Plan than more direct sources of harm. None of the proposed allocations in the Plan will result in direct land-take of any European sites

These sources are considered to include –

- air pollution,
- diffuse water pollution and
- recreational pressures.

- 3.6 Taking the above into account, the following European protected sites were screened in to the Assessment.

1. Manchester Mosses Special Area of Conservation (SAC)
2. Rochdale Canal Special Area of Conservation (SAC)

3. Peak District Moors South Pennines (Phase 1) Special Area of Conservation (SAC)
4. Peak District Moors South Pennines (Phase 1) Special Protection Area (SPA)
5. South Pennine Moors (Phase 2) Special Area of Conservation (SAC)
6. South Pennine Moors (Phase 2) Special Protection Area (SPA)
7. Rixton Claypits Special Area of Conservation (SAC)
8. Mersey Estuary Special Protection Area (SPA)
9. Rostherne Mere Ramsar / National Nature Reserve

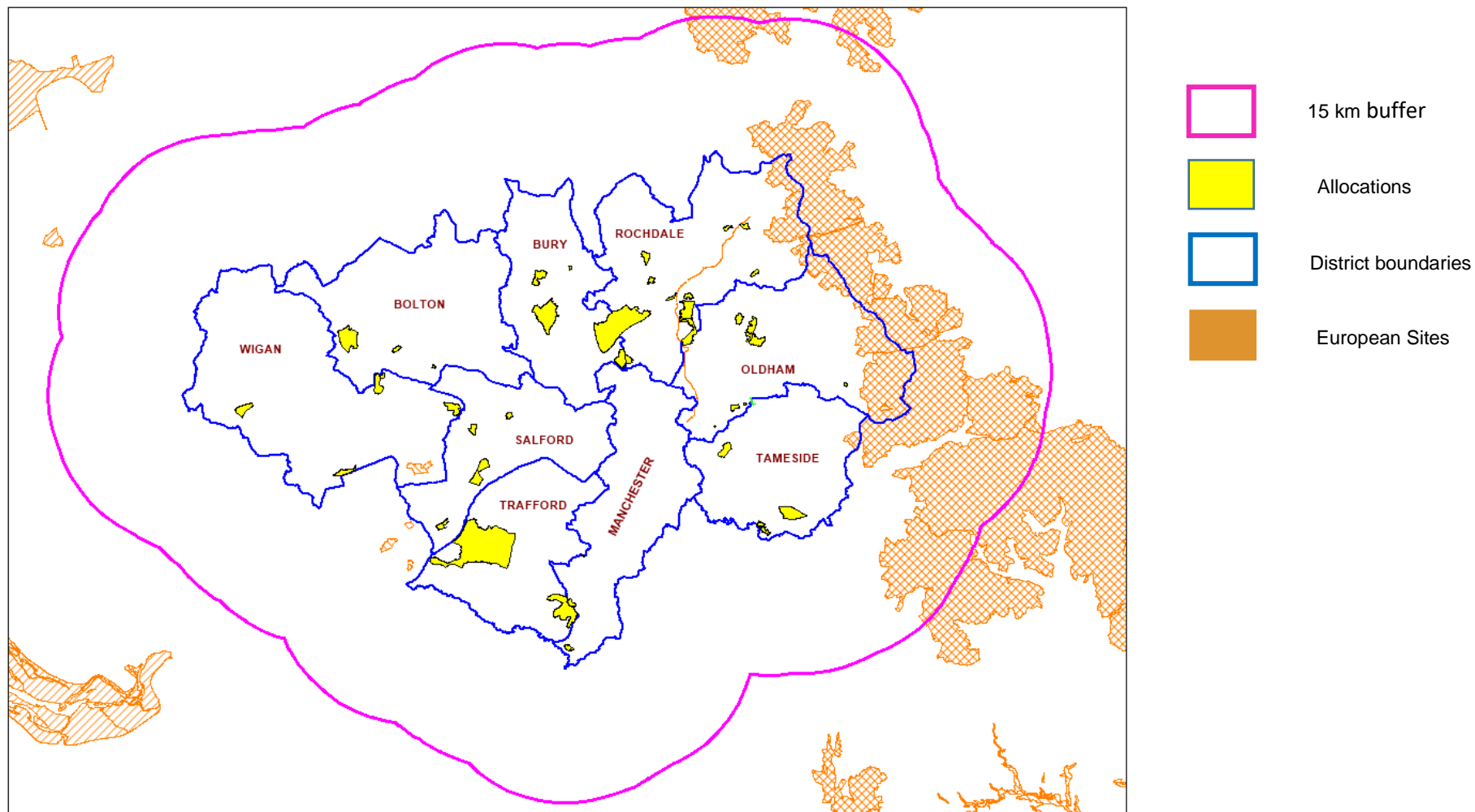
In practice sites 3, 4, 5 and 6 are connected and/or contiguous and support similar species and habitat types. Together they encompass a very large area of the South Pennines and they are sometimes referred to collectively in this Assessment as the 'South Pennine Moors European protected sites'

Details of the special nature conservation interest of these sites is given in Appendix 1.

Other European protected sites were considered to be too distant to fall under the influence of the Plan, or too distant for measurable effects to be discernible.

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Fig 1 Location and extent of the Plan area in relation to relevant European sites



4 Initial Screening of potential Likely Significant Effects (LSE)

Fig 1 shows the locations and extent of potential strategic allocations for development as identified in the Plan in relation to the European sites screened in to the assessment.

4.1 Given the distances of the allocations from the European sites concerned and the special nature conservation interests of the European sites the following impacts can be effectively screened out of the assessment as being very unlikely to be caused through the operation of the plan, or any effects will be so diffuse or diluted so as to be *nugatory* (that is, too small to be distinguished from background)

- Cultivation
- Land take
- Noise disturbance
- Ground water depression or flow interception
- Decrease in surface water run-off e.g. through interception in a void
- Introduction and spread of invasive species
- Changes to predator/prey relationships

4.2 The following impacts have been screened in to the assessment as considered to have the potential to cause likely significant effects –

- Diffuse and localised air pollution including dust and odour
- Human presence/disturbance
- Emissions to water (surface or ground water) containing pollutants
- Increase in surface water run-off
- Loss of functionally linked land
- Light spill or shading [relevant to the Rochdale Canal SAC only]

The following brief discussion of these impacts is included to give an understanding of the rationale for the conclusions reached in the subsequent Screening process, summarised in Table 5.1 and Table 5.2

4.3 Air Pollution

The main types of air pollutants likely to have an adverse effect on ecological sites are:

- Oxides of Nitrogen (NO_x)
- Ammonia (NH₃)
- Dust (including particulates)
- Sulphur Dioxide (SO₂)
- Low level Ozone (O₃)

(Scott Wilson Ltd 2007)

4.3.1 Of these NO_x (nitrates) are considered to be the most likely to arise as a result of development controlled by the Plan under consideration here. Dust and low level ozone only have effects very close to the source. Ammonia emissions are most closely associated with certain types of intensive agricultural production not identified as a significant land-use within Greater Manchester or not in the scope of the plan being assessed. The emissions of sulphur dioxide are most closely associated with certain industrial operations not in the scope of the Plan being assessed.

Nitrates can cause harm to habitats in two ways –

- Direct effects on species health, particularly to some plant species
- Favouring the growth of some plants (e.g. grasses) over others, leading to increased competition and simplified plant communities

The main sources of these pollutants are road traffic and industrial processes. The greatest damage caused by nitrates occurs within 200 - 250 m of the source. Although the strategic allocations are overwhelmingly located further

than 250m from any of the European sites it is recognised that development within the allocations will generate road traffic over a much wider area, and some of this traffic may subsequently pass within 250m of European sites.

- 4.3.2 The assessment of air pollution effects on notable habitats within European sites is a specialist discipline. **The modelling and assessment of air pollution which could arise from increases in road traffic has therefore been undertaken by specialists, and the discussion and results presented in this document represent just a summary of this work. A more comprehensive discussion of the methodology used in the screening and assessment of air pollution, and the results of the air pollution assessment, are presented in a separate Appendix.**

For all European-designated sites contained in the study area, a sub-regional air dispersion model (RapidAIR) was used to model predicted air quality impacts at a resolution of 3m x 3m. Traffic growth within the study area was provided by the Greater Manchester Variable Demand Model (GMVDM). The air quality impacts associated with the PfE Plan allocations were assessed for three cases:

- 2025 contribution from allocations: assesses the air quality impacts associated with the PfE Plan allocations in 2025.
- 2040 contribution from allocations: assesses the air quality impacts associated with the PfE Plan allocations in 2040.
- 2040 contribution from allocations with link road: assesses the air quality impacts associated with the PfE Plan allocations in 2040, as well as the air quality impacts associated with a new link road between the A57 and M62.

For HRA Stage 1 Screening, air quality impacts on designated sites were assessed based on predicted annual average airborne concentrations of oxides of nitrogen (NO_x) and ammonia (NH₃), as well as annual deposition of nutrient nitrogen and acid. The contributions attributable to the allocations in each of the three cases described above were compared to screening thresholds, where the screening threshold for each pollutant / designated site

combination was set to 1% of the Critical Load or Critical Level applicable for that pollutant at that designated site. Likely significant effects (LSEs) can be discounted where the model results and analysis indicate that the contribution from the allocations, alone and in-combination with other applicable plans and projects, is below the 1% screening threshold.

The model has adopted a precautionary, 'worst-case scenario' approach.

4.3.3 For the designated sites where the 1% screening threshold has been reached and which require further analysis and Appropriate Assessment, this process is not yet complete, but will include the following steps:

1. Calculation of the total predicted pollution levels (baseline pollution levels + contribution from allocations) and comparison with the applicable Critical Loads and Critical Levels. This step also considers in-combination effects associated with other plans and projects. Where the total predicted pollution levels are predicted to be below the applicable Critical Loads and Critical Levels, adverse effects on the designated site can be ruled out and no further analysis is necessary. These results are included in this report (in Table 5.3), whereas the rest of the steps described below will be completed during the consultation phase for the PfE Plan.
2. For designated sites where the total pollution levels are predicted to exceed the applicable Critical Loads and/or Critical Levels, an Appropriate Assessment will be undertaken. The aim of the Appropriate Assessment will be to determine whether the air quality impacts from the allocations, alone or in combination with other plans and projects, will have an adverse effect on the designated site. The scope and approach of the Appropriate Assessment will be determined in consultation with Natural England. The approach is likely to include considerations such as: the distribution of sensitive qualifying features within the designated site and their predicted exposure to air pollution; the current status of the site, whether favourable or unfavourable; the conservation objectives for the site; and whether there are plans to increase or restore the distribution of sensitive qualifying features within the site.

3. For designated sites where the Appropriate Assessment indicates that there are adverse effects related to air pollution, mitigation measures will be investigated and recommended. Potential mitigation measures will be discussed with Natural England, and measures which meet the appropriate regulatory requirements for classification as mitigation measures will be recommended.

Where appropriate, further recommendations will be made for the Greater Manchester Combined Authority to work collaboratively with other local authorities under the Duty to Cooperate. This will be recommended in cases where mitigation measures are required for air quality impacts related to the PfE Plan allocations on a particular site, and Habitats Regulations Assessments (HRAs) for other local authority development plans have identified an air quality impact on the same designated site.

4.4 Diffuse Water Pollution

While there is no apparent direct hydrological connectivity between any of the allocated areas and any European sites, pollutants of water courses can be highly mobile and can have discernible impacts on receptors distant from the source.

The most likely source of water pollution arising as a result of plan operation is the discharge of sewage to water courses. Where proposed developments within Greater Manchester are considered to have the potential to result in this type of diffuse pollution arising and affecting a European site, these have been screened into this Assessment.

This is of particular relevance to proposed allocations close to the Rochdale Canal SAC because this site is designated for its aquatic plant communities which are sensitive to water pollution, and to the Mersey Estuary SPA because most of the major rivers in Greater Manchester (e.g. Irwell, Medlock

& Irk) are all effectively tributaries of the River Mersey (via the Manchester Ship Canal) and these eventually discharge into the Mersey Estuary

Although the Mersey Estuary is approximately 15km from the boundaries of Greater Manchester, given the scale of development under consideration in this Plan, and the need to take a precautionary approach when preparing an HRA, the Mersey Estuary has been 'Screened In' to this assessment, although in general Individual Policies and Areas have not been specifically identified as being sources of water pollution because of the difficulties involved in attributing a pollution effect on the Estuary with a distant source. However, it is assumed for the purposes of Screening that the Plan in total may contribute to diffuse water pollution in the Estuary.

The Rochdale Canal is a somewhat unusual SAC because it is a man-made artefact running through heavily industrialised and built-up areas of Greater Manchester, and because it has been designated for the presence of a single species rather than a complex of habitats or a community of species, an aquatic plant called floating water plantain (*Luronium natans*). There is limited understanding of the effects of water pollution on this plant, and even less is known about the effects of air pollution; a precautionary approach has therefore been taken in relation to potential impacts on the Canal.

4.5 Recreational Pressures (Disturbance)

The effects of significantly increased regional and sub-regional populations on recreational pressures on the north west's European protected sites has been considered in this Assessment because it is recognised that this could be an important harmful impact on the special interest of some European sites.

Recreational use of an internationally designated site has potential to:

- Cause damage through excessive erosion (trampling, wear and tear)
- Cause nutrient enrichment

- Cause disturbance to sensitive species, particularly nesting and overwintering birds
- Prevent appropriate management or exacerbate existing management difficulties

Different types of internationally designated sites are subject to different types of recreational pressures and have different vulnerabilities. The best studied effects of disturbance are concerned with birds, although even with birds studies across a wide range of species have shown that the effects from recreational disturbance can be complex. The outcomes of many of these studies therefore need to be treated with caution. For instance, the effect of disturbance is not necessarily correlated with the impact of disturbance, i.e. the most easily disturbed species are not necessarily those that will suffer the greatest impacts. It has been shown that, in some cases, the most easily disturbed birds simply move to other feeding sites if these are available, whilst others may remain (possibly due to an absence of alternative sites) and thus suffer greater impacts on their population. These facts have to be taken into account when attempting to predict the impacts of future recreational pressure on internationally designated sites, something that is particularly difficult when trying to assess the effects of a large-scale Strategic Plan.

As with diffuse water pollution effects recreational pressures can also be (very) diffuse and it can therefore be difficult to accurately apportion any harmful impacts to a particular development; for example, increased recreational pressures on European sites within the South Pennines may be caused by increases in the population of Greater Manchester, but such pressures may also be caused by increases in national and even international visitors.

For these reasons a precautionary approach has been taken when Screening policies and areas for this effect.

4.6 **Functionally Linked Land**

For an area to be considered to be functionally linked to a European site it must be shown to regularly support significant numbers of species for which a European site has been designated. 'Regularly' is taken to mean over a number of years, but there is no accepted standard definition of what may constitute 'significant numbers' because this will depend on the species concerned.

The concept has been most often studied in relation to birds, bats and marine species, because these species are highly mobile in their habits and can rely on sites very far apart to complete their life cycles.

For an area to be Screened in to this Assessment the following criteria have been used –

- Area supports habitat suitable for use by species for which the European site has been designated
- Area has habitat connectivity with the European site which would facilitate species movement between the designated site and the allocated area

In practice, species associated with the Manchester Mosses SAC and the Rochdale Canal SAC are not mobile in their habits and will not rely on other land to complete their life cycles. Although Rixton Claypits has been designated for its populations of great crested newts, and great crested newts may rely on land outside of the designated site, they rarely move more than 250m from breeding ponds.

The South Pennine Moors SPA and the Mersey Estuary SPA have been designated for important bird species which are highly mobile in their habits and may rely on land outside of the designated sites to complete their life cycle.

4.7 Surface Water Run-off

Although the scale of built development being planned for in Greater Manchester within the strategic allocations could potentially cause an increase in surface water run-off it is not considered that this effect will cause

any harm to any European designated sites. The only European site which could potentially be affected is the Mersey Estuary, since most surface water drainage originating in Greater Manchester ultimately discharges into the Estuary. But the tidal estuary is subject to very large water flows each day such that any increases in run-off from greater Manchester would be nugatory.

4.8 **Light spill and shading**

These effects will only apply to the Rochdale Canal, because development may take place close to the Canal and *Lurionium natans* is known to be affected by both high artificial light levels and by excessive shading. Whether this impact occurs, and if it does how it is mitigated, depends on the detail of any particular development (e.g. how close buildings are to the Canal banks and/or how high the buildings are) and may be best dealt with at project level rather than in the HRA of a high level strategic plan.

SCREENING SUMMARY TABLES

TABLE 5.1 – SCREENING OF THEMATIC POLICIES

 Screened out
  Screened In for further Assessment

[Note Policy References may be subject to change]

| Policy | Brief Summary | Screening Outcome |
|-------------------------|---|---|
| Spatial Strategy | | |
| JP-Strat 1 | <p>Core Growth Areas</p> <p>The economic role of the Central Economic Area will be protected and enhanced, with development supporting major growth in the number of jobs provided across the area.</p> | No Likely Significant Effect. Core growth areas are too distant from European sites for effects to occur. |
| JP-Strat 2 | <p>City Centre</p> <p>The role of the City Centre as the most significant economic location in the country outside London will be strengthened considerably. The City Centre will continue to provide the primary focus for business, retail, leisure, culture and tourism activity in Greater Manchester.</p> | No Likely Significant Effect. Manchester and Salford City Centres are too distant from European sites for effects to occur. |

| | | |
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| <p>JP-Strat 3</p> | <p>The Quays</p> <p>The [Salford] Quays will continue to develop as an economic location of national significance, characterised by a wide mix of uses. Its business, housing, leisure and tourism roles will all be significantly expanded.</p> | <p>No Likely Significant Effect. Salford Quays is too distant from European sites for effects to occur</p> |
| <p>JP-Strat 4</p> | <p>Port Salford will be developed as an integrated tri-modal facility, with on-site canal berths, rail spur and container terminal as essential elements of the scheme. The overall facility will provide around 500,000m² of employment floor space. This will include an extension of the permitted scheme onto land to the north and west of Barton Aerodrome.</p> | <p>Likely significant effect. Potential harmful effect from increase in travel to/from Port Salford resulting in potential increases in diffuse air pollution (on the Manchester Mosses)</p> |
| <p>JP-Strat 5</p> | <p>Inner Areas</p> <p>Aims to promote the continued regeneration of the inner areas. High levels of new development will be accommodated, enabling new people to move into these highly accessible areas whilst retaining existing communities. A high priority will be given to enhancing the quality of places, including through enhanced green infrastructure and improvements in air quality.</p> | <p>No Likely Significant Effect. The Inner Areas are too distant from European sites for impacts to occur</p> |

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| | |
| <p>JP-Strat 6</p> <p>Northern Areas</p> <p>Aims to achieve a significant increase in the competitiveness of the northern areas will be sought. Although There will be a strong focus on urban regeneration and enhancing the role of the town centres, this will be complemented by the selective release of Green Belt in key locations</p> | <p>Likely significant effect. Potential harmful effects on the Rochdale Canal SAC and South Pennine Moors SAC/SPA by large-scale developments, particularly from air pollution, water pollution and increased recreational disturbance</p> |
| <p>JP-Strat 7</p> <p>M62 North-East Corridor</p> <p>The M62 North-East Corridor will deliver a nationally-significant area of economic activity and growth, extending along the motorway from junction 18 to junction 21.</p> | <p>Likely significant effect. Potential harmful effects from diffuse air pollution increasing along the M62 corridor through the South Pennines and past the Manchester Mosses SAC, potential recreational impacts on the South Pennines and the Rochdale Canal</p> |
| <p>JP-Strat 8</p> <p>Wigan-Bolton Growth Corridor</p> <p>Aims to deliver a regionally significant area of economic and residential development</p> | <p>No likely significant effect because the growth corridor is considered to be too distant and separated from any European sites.</p> |

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| | |
| <p>JP-Strat 9</p> | <p>Southern Areas</p> <p>The economic competitiveness, neighbourhood quality and environmental attractiveness of the southern areas will be protected and enhanced. There will be a strong emphasis on maximising the economic potential of, and benefits of investment in, Manchester Airport and associated transport infrastructure which will be complemented by the selective release of Green Belt for new employment and housing.</p> |
| <p>JP-Strat 10</p> | <p>Manchester Airport will continue to be developed as a world class airport with high quality services and facilities, providing the UK’s principal international gateway outside London. The introduction of services to a wide range of new destinations will enable a doubling of passenger numbers to around 55 million per annum.</p> |
| <p>JP-Strat 11</p> | <p>New Carrington</p> <p>Aims to develop a new settlement with housing, employment, a new centre and transport links</p> |
| <p>Likely significant effect. Potential harmful effect from increase in travel to/from the airport resulting in potential increases in air pollution and from increased recreational use of European sites</p> | <p>Likely significant effect. Potential harmful effect from increase in travel to/from the airport resulting in potential increases in diffuse air pollution (all European sites)</p> |
| <p>Likely significant effect. Potential harmful effect from increase road traffic resulting in potential increases in diffuse air pollution (particularly Manchester Mosses SAC and Rostherne Mere) and potential recreational disturbance impacts on Manchester Mosses</p> | |

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| <p>JP-Strat 12</p> | <p>Main Town Centres</p> | <p>No Likely Significant Effect because the main town centres are distant from European sites and because development of the main centres may reduce development pressures closer to sensitive sites.</p> |
| <p>GM-Strat 13</p> | <p>Strategic Green Infrastructure</p> <p>Aims to protect and enhance strategic green infrastructure</p> | <p>No likely significant effect. Strategic Green Infrastructure includes European sites so this Policy would protect the sites and there is a potentially positive effect from GI enhancement because this may reduce recreational pressures on more distant areas.</p> |
| <p>GM-Strat 14</p> | <p>A sustainable and integrated transport network</p> <p>Aims to ensure that half of all daily trips will be made by walking, cycling and public transport</p> | <p>No likely significant effect. Potential positive effect by reducing air pollution</p> |
| <p>Sustainable and Resilient Places</p> | | |
| <p>JP-S 1</p> | <p>Sustainable development</p> <p>Development should aim to maximise its economic, social and environmental benefits simultaneously, minimise its adverse impacts and actively seek opportunities to secure net gains across each of the different objectives</p> | <p>No likely significant effect. Positive effect if environmental benefits are achieved</p> |

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| <p>JP-S 2</p> | <p>Carbon and Energy</p> <p>Aims to deliver a carbon neutral Greater Manchester no later than 2038, with a dramatic reduction in greenhouse gas emissions, will be supported through a range of measures.</p> | <p>No likely significant effect. Positive effect by reducing air pollution and mitigating climate change</p> |
| <p>JP-S 3</p> | <p>Heat and Energy Networks</p> <p>The provision of decentralised energy infrastructure is critical to the delivery of Greater Manchester’s objectives for low carbon growth, carbon reductions and an increase in local energy generation.</p> | <p>No likely significant effect. Positive effect by reducing air pollution and mitigating climate change effects</p> |
| <p>JP-S 4</p> | <p>Resilience</p> <p>The development of Greater Manchester will be managed so as to increase considerably the capacity of its citizens, communities, businesses and infrastructure to survive, adapt and grow in the face of physical, social, economic and environmental challenges.</p> | <p>No likely significant effects. Positive effect by reducing air pollution and mitigating climate change effects</p> |
| <p>JP-S 5</p> | <p>Flood risk and the water environment</p> | <p>No likely significant effect. Positive effect by reducing water pollution.</p> |

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| | <p>An integrated catchment based approach will be taken to protect the quantity and quality of water bodies and managing flood risk.</p> | |
| JP-S 6 | <p>Clean Air</p> <p>A comprehensive range of measures will be taken to support improvements in air quality, focusing particularly on locations where people live, where children learn and play, and where air quality targets are not being met.</p> | <p>No likely significant effect. Positive effect by improving air quality</p> |
| JP-S 7 | <p>Resource Efficiency</p> <p>Aims to achieve a circular economy and a zero-waste economy</p> | <p>No likely significant effect. May benefit European sites by reducing air and water pollution.</p> |
| Places for Jobs | | |
| JP-J1 | <p>Supporting long-term economic growth</p> <p>A thriving and productive economy will be sought in all parts of Greater Manchester. There will be an emphasis on maintaining a very high level of economic diversity across Greater Manchester.</p> | <p>Likely significant effect. Potential diffuse harm from unsustainable growth (e.g. increases in diffuse air and water pollution, recreational disturbance)</p> |

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| <p>JP-J2</p> | <p>Employment sites and premises</p> <p>A diverse range of employment sites and premises, both new and second-hand, will be made available across Greater Manchester in terms of location, scale, type and cost. This will offer opportunities for all kinds and sizes of businesses, including start-ups, firms seeking to expand, and large-scale inward investment.</p> | <p>Likely significant effect. No development areas are planned within or adjacent to any European sites but potentially harmful effects could arise from increased travel leading to increases in diffuse air pollution</p> |
| <p>JP-J3</p> | <p>Office development</p> <p>Significant new office floor space will be provided in Greater Manchester over the Plan period</p> | <p>Likely significant effect. No development areas are planned within or adjacent to any European sites but potentially harmful effects could arise from increased travel leading to increases in diffuse air pollution</p> |
| <p>JP-J4</p> | <p>Industry and Warehousing Development</p> <p>Significant areas of new industrial and warehousing floor space will be provided in Greater Manchester over the Plan period.</p> | <p>Likely significant effect. No development areas are planned within or adjacent to any European sites but potentially harmful effects could arise from increased travel leading to increases in diffuse air pollution</p> |
| <p>Places for Homes</p> | | |
| <p>JP-H1</p> | <p>Scale, Distribution and Phasing of new Housing development</p> <p>Aims to deliver a minimum of 201,000 net additional dwellings in the period 2018-37, an annual average of around 10,580</p> | <p>Likely significant effect. Potential harmful effects from increased recreational pressures and possible increased diffuse air pollution (all European sites)</p> |

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| <p>JP-H 2</p> | <p>Affordability of New Housing</p> <p>Aims to ensure a substantial improvement in the affordability of new homes</p> | <p>No likely significant effect. Policy aims to ensure a supply of affordable homes but will not increase the numbers of new dwellings overall</p> |
| <p>JP-H 3</p> | <p>Type, Size and design of New Housing</p> | <p>No likely significant effect. Policy aims to ensure the supply of a range of dwellings of different designs but will not increase the numbers of new dwellings overall.</p> |
| <p>JP-H 4</p> | <p>Density of New Housing</p> | <p>No likely significant effect.</p> |
| <p>Places for People</p> | | |
| <p>JP-P1</p> | <p>Sustainable Places</p> <p>Greater Manchester will aim to become one of the most liveable city-regions in the world, consisting of a series of beautiful, healthy and varied places.</p> | <p>No likely significant effect. Potentially positive effect by reducing the need for people to travel long distances for recreation.</p> |
| <p>JP-P2</p> | <p>Heritage</p> | <p>No likely significant effect.</p> |

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|--------------|---|---|
| | Aims to positively protect and enhance the character, archaeological and historic value of Greater Manchester's designated and non-designated heritage assets and their settings. | |
| JP-P3 | Cultural Facilities Seeks to develop and support cultural businesses and attractions | No likely significant effect |
| JP-P4 | New retail and leisure uses in town centres The existing hierarchy of centres for retail and leisure uses will be maintained and enhanced. | No likely significant effect. Potentially positive effect by reducing the need for people to travel long distances for recreation |
| JP-P5 | Education, skills and knowledge Significant enhancements in education, skills and knowledge will be promoted throughout Greater Manchester | No likely significant effect |
| JP-P6 | Health | No likely significant effect. May have a positive effect by reducing the need for people to travel long distances for recreation |

| | | |
|-----------------------|---|---|
| | <p>New development and Local Plans will be required, as far as practicable, to:</p> <p>A. Maximise its positive contribution to health and wellbeing;</p> <p>B. Support healthy lifestyles, including through the use of active design principles making physical activity an easy, practical and attractive choice; and</p> <p>C. Minimise potential negative impacts of new development on health</p> | |
| JP-P7 | <p>Sport and Recreation</p> <p>A network of high quality and accessible sports and recreation facilities will be protected and enhanced, supporting greater levels of activity for all ages.</p> | No likely significant effect. Possible positive effect (by limiting recreational pressure on European sites) |
| Greener Places | | |
| JP-G1 | Valuing Important Landscapes | No likely significant effect. Potentially positive effect if off-site net gains are implemented within European sites |
| JP-G2 | Green Infrastructure Network | No likely significant effect. Potentially positive effect if off-site net gains are implemented within European sites |
| JP-G3 | <p>River Valleys and Waterways</p> <p>Seeks to protect river valleys and waterways</p> | No likely significant effect. Policy will protect the Rochdale Canal SAC |

| | | |
|---------------|---|--|
| JP-G4 | Lowland Wetlands and Mosslands Seeks to protect important lowland wetland areas | No likely significant effect. Policy will protect parts of the Manchester Mosses SAC |
| JP-G5 | Uplands Seeks to protect important upland areas | No likely significant effect. Policy will protect the South Pennines SAC/SPA |
| JP-G6 | Urban Green Space Seeks to protect and enhance urban green space | No likely significant effect. Potentially positive effect by reducing the need for people to travel for outdoor recreation |
| JP-G7 | Trees and Woodlands Seeks to protect, enhance and expand tree and woodland cover | No likely significant effect. Positive effect. |
| JP-G8 | Standards for Greener Places Seeks to enhance green spaces and create high quality new green spaces | No likely significant effect. Potentially positive effect by reducing the need for people to travel for outdoor recreation |
| JP-G9 | Net Enhancement for Biodiversity and Geodiversity | No likely significant effect. Potentially positive effect |
| JP-G10 | The Green Belt Provides protection to the Green Belt | No likely significant effect |
| JP-G11 | Safeguarded Land Seeks to protect open land | No Likely significant effect |

| Connected Places | | |
|-------------------------|---|--|
| JP-C1 | <p>Our Integrated Network</p> <p>Delivering a pattern of development that minimises the need to travel and the distances travelled to access jobs and other key services/opportunities'</p> | No likely significant effect. Positive effect by reducing the need for travel (reduction in air pollution) |
| JP-C2 | <p>Digital connectivity</p> <p>Greater Manchester's ten district councils and Combined Authority will support the provision of affordable, high quality, digital infrastructure.</p> | No likely significant effect. Positive effect by reducing the need for travel (reduction in air pollution) |
| JP-C5 | <p>Walking and Cycling</p> <p>A higher proportion of journeys made by walking and cycling will be achieved by creating a safe, attractive and integrated walking and cycling network connecting every neighbourhood and community across Greater Manchester.</p> | No likely significant effect. Positive effect by reducing the need for unsustainable travel (reduction in air pollution) |
| JP-C3 | <p>Public Transport</p> | No likely significant effect. Positive effect by reducing reliance on road transport |

| | | |
|---------------------|---|---|
| <p>JP-C7</p> | <p>Major improvements to the public transport network will be delivered (includes support for HS2)</p> <p>Transport requirements of new developments</p> <p>In making planning decisions Greater Manchester's authorities will require development to support a significant increase in the proportion of journeys made by walking, cycling and public transport, and a reduction in the adverse environmental impacts of transport.</p> | <p>No likely significant effect. Positive effect by reducing the need for travel (reduction in air pollution)</p> |
| <p>JP-C6</p> | <p>Freight and logistics</p> <p>More efficient and sustainable movement of freight will be supported.</p> | <p>No likely significant effect. Positive effect by reducing the need for travel (reduction in air pollution)</p> |
| <p>JP-C4</p> | <p>Streets for All</p> <p>Greater Manchester's streets will be designed and managed to make a significant positive contribution to the quality of place and support high levels of walking, cycling and public transport,</p> | <p>No likely significant effect. Positive effect by reducing road transport (reducing air pollution effects)</p> |

| Site Allocations | | |
|---------------------|--|---|
| SDD 1 | <p>Refers to individual strategic site allocations.</p> <p>Site allocations are Screened in Table 5.2 below</p> | |
| Delivering the Plan | | |
| JP-D 1 | Infrastructure Implementation | No likely significant effect |
| JP-D 2 | <p>Developer Contributions</p> <p>Will require developments to provide, or contribute towards, the provision of mitigation measures to make the development acceptable in planning terms.</p> | No likely significant effect. Potentially positive effect (biodiversity net gain) |

PLACES FOR EVERYONE HRA SCREENING –

TABLE 5.2 - STRATEGIC AREAS (ALLOCATIONS)

Note – following advice from Natural England all allocations are screened into the assessment because of potential cumulative effects from air pollution caused by increased road traffic. The air pollution modelling used in the HRA does not allow for the effects of individual allocations to be screened/assessed.



Screened out



Screened In for further Assessment

| Site | Type of development proposed | Screening Outcome |
|-------------------------------------|------------------------------|--|
| Wigan | | |
| GMA42 M6 Jnct 25 | Employment | Likely significant effect arising from cumulative road traffic increases in turn leading to air pollution impacts |
| GMA52 Pocket Nook | Housing | Likely significant effect. Within 3km of the Manchester Mosses SAC, potential cumulative air pollution effects and recreational impacts |
| GMA55 West of Gibfield | Mixed use | Likely significant effect. Within 5km of the Manchester Mosses SAC, potential cumulative air pollution effects and recreational impacts |
| GMA43 North of Mosley Common | Housing | Likely significant effects. Within 5km of the Manchester Mosses SAC, potential cumulative air pollution effects and recreational impacts |
| Salford | | |
| GMA29 North of Irlam Station | Housing | Within 3km of the Manchester Mosses SAC and Rixton Clay Pits SAC, potential cumulative air pollution effects and recreational impacts |

| | | |
|---|-------------------|--|
| GMA30 Port Salford Extension | Employment | Within 5km of the Manchester Mosses SAC, potential cumulative air pollution effects |
| GMA28 Land East of Boothstown | Housing | Within 5km of the Manchester Mosses SAC, potential cumulative air pollution effects and recreational impacts |
| GMA27 Land at Hazelhurst Farm | Housing | Likely significant effect arising from cumulative road traffic increases in turn leading to air pollution impacts |
| Trafford | | |
| GMA41 New Carrington | Mixed | Within 5km of the Manchester Mosses SAC, potential cumulative air pollution effects and recreational impacts |
| GMA3.2 Timperley Wedge | Housing | Likely significant effect arising from cumulative road traffic increases in turn leading to air pollution impacts |
| Manchester | | |
| GMA3.1 Medipark | Employment | Likely significant effect arising from cumulative road traffic increases in turn leading to air pollution impacts |
| GMA10 Global Logistics | Employment | Likely significant effect arising from cumulative road traffic increases in turn leading to air pollution impacts |
| GMA11 Southwick Park | Housing | Likely significant effect arising from cumulative road traffic increases in turn leading to air pollution impacts |
| Tameside | | |
| GMA40 South of Hyde | Housing | Likely significant effect arising from cumulative road traffic increases in turn leading to air pollution impacts |
| GMA 39 Godley Green Garden Village | Housing | Large allocation within 10km of the South Pennine Moors SPA/SAC; potential effects from cumulative air pollution effects and increased recreational pressure |

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| GMA38 Ashton Moss West | Employment | Likely significant effect arising from cumulative road traffic increases in turn leading to air pollution impacts |
| Oldham | | |
| GMA15 Chew Brook Vale (Robert Fletchers) | Housing | Within 1km of the South Pennine Moors SPA/SAC; potential effects from increased recreational pressure and cumulative air pollution from increased traffic. May also act as Functionally Linked Land |
| GMA19 Land South of Rosary Road | Housing | Likely significant effect arising from cumulative road traffic increases in turn leading to air pollution impacts |
| GMA18 Land South of Coal Pit Lane (Ashton Road) | Housing | Likely significant effect arising from cumulative road traffic increases in turn leading to air pollution impacts |
| GMA13 Bottom Field Farm (Woodhouses) | Housing | Likely significant effect arising from cumulative road traffic increases in turn leading to air pollution impacts |
| GMA16 Cowlshaw | Housing | Likely significant effect arising from cumulative road traffic increases in turn leading to air pollution impacts |
| GMA14 Broadbent Moss | Mixed | Likely significant effect arising from cumulative road traffic increases in turn leading to air pollution impacts |
| GMA12 Beal Valley | Housing | Likely significant effect arising from cumulative road traffic increases in turn leading to air pollution impacts |
| Rochdale | | |
| GMA2 Stakehill | Mixed | Large allocation close to (within 150m) the Rochdale Canal SAC; proximity to the motorway network may lead to potential impacts from cumulative air pollution caused by increased traffic generation, water pollution and shading. |

| | | |
|--|----------------|---|
| GMA26 Trows Farm | Housing | Allocation close to (within 150m) the Rochdale Canal SAC; proximity to the motorway network may lead to potential impacts from cumulative air pollution caused by increased traffic generation and water pollution |
| GMA21 Castleton Sidings | Housing | Allocation close to (within 150m) the Rochdale Canal SAC, potential water pollution effects and air pollution effects |
| GMA1.2 Simister/Bowlee (Northern Gateway) | Mixed | Large allocation on the M62 – potential impacts on the South Pennine Moors from cumulative air pollution caused by increased traffic generation |
| GMA24 Newhey Quarry | Housing | Within 3km of the South Pennine Moors; possible recreational impacts |
| GMA23 Land North of Smithy Bridge | Housing | Immediately adjacent to the Rochdale Canal SAC and within 3km of the South Pennine Moors, potential water pollution, shading and recreation effects. Site may act be Functionally Linked to the SPA |
| GMA25 Roch Valley | Housing | Within 300m of the Rochdale Canal SAC and within 3km of the South Pennine Moors, potential water pollution impacts on the Canal and recreational impacts on the Moors. Site may act as Functionally linked to the SPA |
| GMA20 Bamford / Norden | Housing | Likely significant effect arising from cumulative road traffic increases in turn leading to air pollution impacts |
| GMA22 Crimble Mill | Housing | Likely significant effect arising from cumulative road traffic increases in turn leading to air pollution impacts |
| GMA1.1 Heywood/Pilsworth Northern Gateway | Mixed | Very large mixed allocation close to motorway network; potential for cumulative effects from air pollution and recreational impacts from population uplift on the South Pennine Moors |

| Bury | | |
|--|-------------------|---|
| GMA1.1 Heywood/Pilsworth (Northern Gateway) | Mixed | Very large mixed allocation close to motorway network; potential for cumulative effects from air pollution and recreational impacts from population uplift on the South Pennine Moors |
| GMA7 Elton Reservoir Area | Housing | Likely significant effect arising from cumulative road traffic increases in turn leading to air pollution impacts |
| GMA9 Walshaw | Housing | Likely significant effect arising from cumulative road traffic increases in turn leading to air pollution impacts |
| GMA8 Seedfield | Employment | Likely significant effect arising from cumulative road traffic increases in turn leading to air pollution impacts |
| Bolton | | |
| GMA6 West of Wingates | Employment | Likely significant effect arising from cumulative road traffic increases in turn leading to air pollution impacts |
| GMA4 Bewshill Farm | Employment | Likely significant effect arising from cumulative road traffic increases in turn leading to air pollution impacts |
| GMA5 Chequerbent North | Employment | Likely significant effect arising from cumulative road traffic increases in turn leading to air pollution impacts |

Table 5.3

Summary of Air Quality Screening

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6 In-Combination Assessment

As previously stated in the case of a high-level, very large scale Plan such as the Places for Everyone a very large number of other plans, strategies and projects could act in combination with the Places for Everyone and result in a likely significant effect on European sites where the plan operating in isolation would not.

At all stages of this Assessment potential cumulative impacts have been considered for the

In particular a precautionary approach which *assumes that in-combination effects will occur has been taken in relation to the Assessment of –*

- Air Pollution Effects
- Recreational Impacts
- Water Pollution effects

And mitigation has been recommended which would address in-combination effects in addition to the effects of the plan alone.

7 APPROPRIATE ASSESSMENT WITH DISCUSSION OF AVAILABLE AVOIDANCE AND MITIGATION MEASURES

This section takes the developments and policies of The Plan as identified as possible effects (amber) within Tables 5.1 and 5.2 above and considers the LSEs in more depth and the measures that might avoid or mitigate these impacts so that a conclusion can be reached of no adverse effect on integrity of the European sites.

Consideration is given to how the measures can be secured as proposals progress down the planning hierarchy to Local Plans and ultimately individual planning applications.

7.1 Air Pollution

As previously discussed, the full Appropriate Assessment of air pollution effects arising from increases in traffic flows in the Plan area will be prepared and presented in a separate Appendix to this document.

Notwithstanding this more complete Assessment, what follows is a brief high-level initial Assessment.

The HRA Stage 1 Screening results indicate that further analysis, in the form of an HRA Stage 2 Appropriate Assessment, is required for each of the following European sites for at least one of the three cases described above:

- Rochdale Canal (SAC)
- Manchester Mosses (SAC)
- South Pennine Moors (SAC) and the overlapping sites Peak District Moors (South Pennine Moors Phase 1 (SPA) and South Pennine Moors Phase 2 (SPA)

The most likely source of nitrate pollution which could arise from the implementation of Places for Everyone would be from traffic pollution resulting from increased traffic movements. Natural England advise that once it has been confirmed that a European site is sensitive to air quality the first step would be to determine whether any increases in pollutant concentrations due to the operation of the Plan would exceed 1% of the critical level set for the notable

habitats within the European site. Below the 1% threshold any change is considered to have a *de minimis* effect, although In Combination effects still need to be taken into account.

A strategic plan with ambitions to improve important habitats must consider not just the harm that increased air pollution will cause but should aim to reduce air pollution below current levels. For the European sites concerned in this HRA some are known to already exceed critical nitrate loads and are suffering harm as a result. If these sites are to be improved so as to reach favourable condition the aim should be to reduce air pollution to below the critical load for harm so as to contribute to the recovery of these sites.

Places for Everyone includes high-level Policies which aim at improving air quality and improving the natural environment, notably –

- Policies within the Greener Places Chapter of the Plan
- Policy JP-S6 Clean Air

There are also plans (complementary to Places for Everyone) for reducing air pollution and improving air quality across Greater Manchester which take into account the levels of growth planned for in Places for Everyone, most notably the Clean Air Action Plan and Clean Air Zones. The Transport for Greater Manchester Delivery Plan aims to have all journeys in Greater Manchester to be made by walking, cycling and public transport by 2040.

In addition, there are national Plans in place to reduce the emission of greenhouse gases and improve air quality, notably to move the fleet to electric clean air technologies.

7.1.1 Greater Manchester's Clean Air Zone

Greater Manchester is planning to introduce a Clean Air Zone (CAZ) as part of the Clean Air Action Plan (CAP) in 2022 across the whole of Greater Manchester. The CAZ will be consulted on alongside the GMSF consultation and is seen as an important part of overall Strategic Planning for Greater Manchester. The CAZ would cover all local roads, but not motorways or main trunk roads. It would apply to non-compliant buses, coaches and heavy

goods vehicles, taxis and private hire vehicles, and to non-compliant light goods vehicles from 2023.

To summarise the CAZ, the 10 Greater Manchester local authorities have been directed to bring about compliance with the legal limit for Nitrogen Dioxide of 30ugm³ at the roadside, by the introduction of a Clean Air Zone (CAZ) Class C, in the shortest possible time. The 10 Greater Manchester Local Authorities have worked together to consider a wide range of interventions and extensive research has determined that the most appropriate approach is to implement a CAZ across the whole of the Greater Manchester Conurbation, with supporting measures to help owners upgrade to less polluting vehicles, which are contained within the Greater Manchester Clean Air Plan (the CAP). Although not all areas with GM suffer from elevated levels of nitrogen dioxide, above the legal limit, it has been determined that the extensive GM wide CAZ is the most appropriate solution to ensure that affected areas do not merely relocate to adjacent areas under a scenario where individual locations of exceedance are targeted.

It would seem reasonable to suggest that the CAZ will lead to improvements in air quality on local roads located within 200 metres of the designated sites, if there is a reduction in the number of more polluting vehicles on these roads. However, because the quantitative impact of the CAZ on reducing air pollution effects on European sites is uncertain, the CAZ cannot be considered as true mitigation, but it is considered material to the overall Assessment.

7.1.2 Design Manual for Roads and Bridges Volume 11 (Environmental Assessment)

The above document states –

“The general reduction of emissions per vehicle with time is of great importance in the appraisal of air quality impacts. The numbers of ‘low-emission’ vehicles in the fleet and the total numbers of vehicles on the road are likely to be more important determinants of emission and pollution levels than factors relating to the design and management of the road network”

The above statement has implications for any mitigation measures proposed for air pollution effects, i.e. road design and management of the road network, which may be factors in the control of the Plan, are less important than the numbers of low-emission vehicles in the fleet, which is difficult for a land-use planning strategy alone to control.

7.1.3 **Covid-19**

Measures taken to control the spread of Covid-19 in 2020 and 2021 led to very significant falls in road transport across Greater Manchester. A much higher proportion of people have been working from home, and business and commuting travel has been much reduced. It remains to be seen whether these trends will continue, but there are early indications that remote working and remote business networking will become long-term trends.

If this does happen air quality will very likely improve.

7.1.4 Taken together, higher-tier Policies, Plans and Strategies would be expected to result in a considerable net improvement in air quality in Greater Manchester over the Plan period and beyond, even allowing for growth in population, employment and wealth in the same time period.

Notwithstanding the above there is also the need at a lower tier of the plan hierarchy to ensure that project-level analysis of potential air quality impacts (and, if necessary, project-level mitigation) is undertaken for significant sources of additional traffic generation which may affect European sites.

7.1.5 **Air Pollution Impacts on the Rochdale Canal SAC**

The traffic modelling has identified a number of potential sites on the road network where nitrate pollution could increase to a level which could potentially cause harm to the special nature conservation interest of the Rochdale Canal SAC as a result of the operation of the Plan.

The Rochdale Canal SAC is designated for the presence of a single feature, the specially protected plant species Floating water plantain, *Luronium natans*



Luronium natans

Luronium natans occurs in a range of freshwater situations, including nutrient-poor lakes in the uplands and slowly-flowing lowland rivers, pools, ditches and canals that are moderately nutrient-rich. The Rochdale Canal has predominantly mesotrophic water. Populations can fluctuate from year-to-year.

Luronium populations are present across a wide range of habitats with a corresponding range of water chemistry. This suggests that its tolerances to most water chemistry parameters are not especially demanding and that it may not be particularly sensitive to changes in water chemistry. It is also notable that *Luronium natans* populations have remained stable in the Canal over the last twenty years (*source* – Canal and River Trust annual monitoring), a period in which traffic has certainly increased on routes close to the Canal.

Nitrogen Critical Loads presented by Apis (which gives a maximum of 24 kg N/ha/yr and a critical load of between 3-10 kg N/ha/yr) are not based on any species-specific studies but are rather based on generic nitrogen loads for the habitat type. There are no studies available which have assessed the impacts of increased nitrate deposition from air pollution specifically on *Luronium natans*. However, the average existing critical load is currently estimated at 19.3 kg N/ha/yr, so already well above the critical load for the habitat type,

although the total nitrogen deposition in the area has shown significant falls in recent years (*source* – Apis).

Luronium natans is known to be susceptible to nutrient enrichment from water-borne pollution, probably because increased nutrient enrichment favours other plant species resulting in increased competition rather than because the plant is directly harmed by the increased pollution levels, although limited research has been carried out on this subject. It seems likely that the Canal waters are phosphate-limited rather than nitrogen-limited, as are most lowland freshwater bodies. This means that to control eutrophication it is more important to control phosphate inputs (which come from agriculture but not atmosphere) rather than nitrogen inputs. Places for Everyone does not control farming activities in the Plan area.

When the ecology of *Luronium natans* and freshwater plant communities in general, and the available evidence of the stability of the *Luronium* population in the Canal, are considered it seems likely that increased traffic movements in the vicinity of the Canal **will not** have a harmful effect on the special interest of the Canal – that is, no likely significant effects will arise.

But this conclusion is uncertain because the response of *Luronium natans* to air pollution levels has not been studied and is therefore not well understood.

A precautionary approach to this potential impact is therefore recommended.

Currently available Mitigation –

The Plan includes Policies to improve air quality, notably Policy JP-S6

7.1.6 Air Pollution Impacts on the Manchester Mosses and the South Pennines – Mitigation

[Placeholder – to be completed by others]

7.2 Functionally Linked Land

Only 4 potential strategic allocations have been Screened in as potentially being functionally linked to the Peak District Moors / South Pennine Moors SPA. No other allocation areas were considered to have a high degree of landscape connectivity with European sites such that important species were considered likely to make use of the areas on a regular basis

These are -

- Chew Valley (Robert Fletchers)
- Land North of Smithy Bridge
- Roch Valley
- Newhey Quarry

7.2.1 Chew Brook Valley (Robert Fletchers) (Oldham)

Chew Brook Valley (Robert Fletchers) is within 1km of the Peak District Moors (South Pennine Moors Phase 1) SPA which is designated for its breeding Short-eared Owls, Merlins and Golden Plovers.

Most of this site is occupied by buildings surrounded by woodland and with areas of open water. These habitats are unsuitable for all three of the above species even outside of the breeding season.

The fields to the south of the allocation have some (limited) potential to be used for hunting by Short-eared Owl and Merlin and also for feeding by Golden Plover both during and outside of the breeding season. However, given that it is a relatively narrow strip of land, only 100-200m wide, and therefore the carrying capacity of the land is relatively low, it would be unlikely to support significant numbers of these bird species on a regular basis.

Bird records for the site (held by the Greater Manchester Bird Recording Group and the GM Local Biological Records Centre) do not support the idea that the area is functionally linked to the SPA.

Conclusion – This allocation is not functionally linked to the SPA.

7.2.2 Land North of Smithy Bridge (Rochdale)

This area, within 2km of the South Pennines, has recently been surveyed by professional ecologists (*Tyler-Grange 2018, Rochdale pre-application reference PREAPP/00054/19*) in relation to proposals to develop the land.

These surveys have shown that habitats present are not generally suitable for supporting important bird species associated with the South Pennines SPA and that during wintering bird surveys no important species associated with the SPA were recorded.

Other bird data for the area held by the GM Local Records Centre do not include records of any significant numbers of important bird species.

Conclusion - This allocation is not functionally linked to the SPA.

7.2.3 Roch Valley (Rochdale)

This area is within 2.5km of the SPA

The area has recently been surveyed by professional ecologists in relation to proposals to develop the land (*Ref. TEP surveys 2019, Rochdale planning application reference 19/00881/FUL*).

These surveys have shown that -

- Habitats present (improved agricultural grassland) are not generally suitable for supporting important bird species associated with the South Pennines SPA
- The area does not support significant numbers of any important bird species associated with the South Pennines SPA.

Conclusion - This allocation is not functionally linked to the SPA.

7.2.4 Newhey Quarry (Rochdale)

This area (within 3km of the South Pennines) has recently been surveyed by ecological consultants working on behalf of site promoters (*ref. Middlewood Ecology March 2020*). Although a single pair of breeding Peregrines were recorded in the Quarry, otherwise the site did not support significant numbers of important bird species associated with the SPA.

Habitats present were not generally suitable for important bird species associated with the SPA.

Conclusion - This allocation is not functionally linked to the SPA.

7.3 Recreational Disturbance

Population increases in areas close to European Protected Sites may lead to increased disturbance to habitats and species arising from recreational use, especially (in the case of birds) from dog walking, but also from fires, trampling, tipping and littering, boating, fishing and other activities.

7.3.1 Recreational Disturbance – Rochdale Canal SAC

Increased development in areas close to the Rochdale Canal have the potential to cause increased disturbance of the Canal by increasing pleasure boat traffic on the Canal. Excessive boat traffic will harm *Luronium natans*.

The Rochdale Canal SAC is closely monitored by the Canal and River Trust and there is a visitor management strategy in place for the Canal. Boat movements are monitored and controlled and there is a threshold of boat movements above which it is considered that harm may be caused to *Luronium natans*.

This threshold has not been reached since monitoring began when the Canal reopened following restoration in 2002. The Trust is able to limit boat movements at levels below the threshold. However, this safeguarding mechanism is not in the control of the Plan being Assessed. It is therefore recommended that further mitigation for this impact is included in the Plan.

Recommendation – developments of more than 50 housing units within the following allocations in the Plan should be required to carry to site-level HRA, to include assessment of the potential for increased recreational disturbance on the Canal.

Allocations –

- Stakehill

Since the control of boat movements on the Canal is a straightforward mitigation measure, for recreational disturbance it is considered that providing the above recommendation is accepted and incorporated into the Plan, no likely significant effects from this source will arise.

7.3.2 Recreational Disturbance - Rixton Claypits SAC

Rixton Claypits is a site of specialist interest only (for great crested newts) and is not currently subject to high visitor pressures. Visitors to the site tend to be very local (*source – Warrington BC*). There is a comprehensive management plan in place for the site which includes the management of visitor access, and the site is actively managed for visitors by Warrington Council.

Conclusion - there are sufficient safeguards in place to ensure that the Places for Everyone will not cause harm to Rixton Claypits through increases in recreational disturbance.

7.3.3 Recreational disturbance – Manchester Mosses SAC

None of the component parts of the Manchester Mosses SAC are currently a visitor destination. Infrastructure for access is poor and any visitors are considered to be from the local area. Nevertheless, the special interest of the site does suffer from disturbance caused by fires and illegal tipping (both of which are activities which the Plan cannot control) and it is recognised that increases in the local population may lead to increases in these impacts.

In their response to the draft of this HRA Natural England in September 2020 commented that –

“We are not concerned about an increase of recreational pressure on these sites as there is a lack of public access. The HRA does not need to try and assess the impacts of possible increased illegal activity”.

7.3.4 Recreational Recreational Disturbance – Peak District Moors (South Pennines Phase 1) and South Pennine Moors (Phase 2) SPA/SAC

The open moorlands of the South Pennine Moors SACs and SPAs are accessible and attractive for recreational use. The Site Improvement Plan for the South Pennine Moors SPA identifies public access/disturbance as one of the priority issues for the site which needs to be addressed, and the impacts of wildfire/arson as another, and recognises that these impacts could affect the habitats supporting the SPA.

The South Pennine Moors Integrated Management Strategy and Conservation Action Programme lists popular types of recreation activities on the South Pennine Moors as including walking, horse-riding, cycling/mountain biking, hang gliding, rock climbing, model aircraft flying, orienteering, fell running, off-road driving (including 4x4 and scrambling), grouse shooting and angling. Effects on important habitats and important breeding birds are most likely to result from disturbance from uncontrolled dogs, orienteering, large walking events, model aircraft, hang gliders and uncontrolled fires.

The limited visitor surveys which have been undertaken in the South Pennines indicate that the most popular recreation activity in the area by some way is dog walking. Recent research in other SPA's (*Footprint Ecology 2019*) indicate that dogs on leads do not pose a particular disturbance risk to birds, but dogs off leads do. A simple but effective mitigation measure for this source of disturbance would therefore be to require/encourage dog walkers within the SPA to keep their dogs on leads.

The creation of new and enhanced green infrastructure closer to new developments in Greater Manchester may encourage dog walking closer to home and deter them from visiting the Moors, but the open space provided through allocations for local and urban green space are unlikely to be comparable in character to the South Pennine Moors and would not provide locations for many of the other activities enjoyed by visitors to the moors such as rock climbing or hang gliding. The effectiveness of this possible mitigation measure is therefore questionable.

The South Pennines SPA/SAC (Phases 1 and 2) cover a very large area and attract visitors from a very wide area of Northern England. But the designated sites are only a part of the total area which could be described as the 'South Pennines'. There is very limited information available concerning the numbers of visitors to the South Pennine Moors SAC/SPA, where these visitors travel from or how they use the area.

The most up to date information available for the whole of the South Pennines area (and not just the SAC/SPA) is work undertaken by Natural England between 2009 and 2012, released in 2014 [ref. NERC150 Report 2014]. This work looked at the manner in which people engage with the whole of the South Pennines, from local authority areas bounding the South Pennines as well as from further afield. There is no other more locally relevant up-to-date information which can be used as a data source for this assessment. This study did indicate that 46% of visitors originate from further afield [than the immediate catchment] with large volumes from cities such as Leeds and Manchester. However, the figures quoted for Greater Manchester are rather biased by significant numbers of people visiting from Bolton (4% of total visits); it is assumed that visitors from Bolton predominantly use areas in the western parts of the South Pennines and not the SPA/SAC in the east, because elsewhere in the report it is concluded that the majority of visitors travel less than 8 miles (and particularly people walking dogs) to get to the Moors.

There are a wide range of access points to the South Pennine Moors SPA/SAC and the road and footpath network extends to more than 140 km. Whilst this means on the one hand that there is the opportunity for significant disturbance within the SPA/SAC, on the other hand the wide range of alternative routes means that the disturbance can be more spread out, resulting in potentially lower overall impacts in any one location. Notably, the core areas of the SPA/SAC site and the most important areas of blanket bog habitat generally do not have foot paths across them (because they are very wet), thus reducing potential impacts on habitats from trampling in those locations.

The distribution of important breeding and wintering bird populations is not understood in great detail because bird records are often taken at large geographic scales (e.g. 1km grid squares), because populations of breeding curlew, dunlin, golden plover and red grouse are often widely dispersed (low density) and because birds can move breeding sites in different years. This means that targeting mitigation measures at particular locations is difficult, more so because most of the SPA is open access land and restricting access to particular locations would not be straightforward.

The lack of empirical data about where people travel from to reach the Moors and lack of evidence about the level of harm which recreational impacts cause requires that a precautionary approach is taken to this potential effect.

As indicated in the Natural England monitoring report around 68% of visitors to the South Pennines are “walking with a dog”, by far the most popular recreational activity. The survey also identified that people walking with a dog travelled no more than 8 km to reach their dog walking location.

For the purposes of this assessment, 7km has therefore been taken to be the threshold distance at which development within allocated areas could result in impacts upon the SPA/SAC. This distance threshold has been used in HRAs prepared to inform the Bradford Core Strategy and has been reaffirmed in the HRA supporting the Kirklees Local Plan (March 2017), the Burnley Local Plan (2018), and the Calderdale Local Plan (2019). It is the distance that encompasses most of the trips made to the South Pennines identified in the Natural England NERC150 Report 2014.

This distance threshold would include the following allocations within Tameside, Oldham and Rochdale –

- Godley Green
- Roch Valley
- Newhey Quarry
- Broadbent Moss
- Chew Brook Valley (Robert Fletchers)
- Land North of Smithy Bridge

Given the overall numbers of visitors to the South Pennines (20 million + visits per year) and the fact that most visitors do not visit the core areas of the European site it is considered unlikely that significant increases in adverse effects on the European sites will arise simply from local population increases arising from these allocations in isolation, or indeed in combination with one another, although it is accepted that accurately predicting the number of visits to the SPA/SAC which may arise from residential development within these allocations is impossible.

However, when considered cumulatively with all allocations for new housing in places within 7km of the SPA/SAC (including local allocations within GM and allocations in neighbouring authorities) it would be reasonable to assume that a cumulative impact arising from disturbance may arise.

Available Mitigation and Recommendations

There are specific Policies in the Plan aimed at improving local Green Infrastructure protecting and improving designated nature conservation sites and upland habitats and a specific Policy addressing the need to avoid harm to European designated sites from the operation of the Plan (Policies JP-G1, JP-G2, JP-G3, JP-G5, JP-G6).

These Policies will act to mitigate for any 'diffuse' recreational impacts.

In addition, it is **recommended** that as additional mitigation –

- That developments of more than 50 housing units within the above allocations are required to provide local, high quality and meaningful green infrastructure for public recreation in order to deter people from using the Moors for recreation.
- That residents of new houses in developments of more than 50 units within the above allocations are required to be supplied with information concerning the importance of the South Pennine Moors and of the need to protect the special interest of the Moors

- That the Greater Manchester Combined Authority contribute to the development of a regional (cross-boundary) Nature Recovery Network including the South Pennines, to be completed within three years of the adoption of the Plan. This work has begun.
- That as part of the above Nature Recovery Network a visitor management strategy is developed for the South Pennines, in partnership with surrounding relevant authorities, to be completed within three years of the adoption of the Plan.

7.4 Water Pollution

7.4.1 Mersey Estuary

Diffuse water pollution arising from sources in Greater Manchester could potentially have an effect on the Mersey Estuary SPA/Ramsar, since most of the major rivers in Greater Manchester (e.g. Irwell, Medlock & Irk) are all effectively tributaries of the River Mersey (via the Manchester Ship Canal) and eventually discharges into the Estuary; water flows in Greater Manchester are primarily from the east and north towards the south and west. The most important source of increased water pollution would be an increase in the discharge of untreated and partially treated sewage into water courses resulting from population increases. Given that a very large area of Greater Manchester eventually drains into the Mersey potentially *all* of the allocations under consideration in this Plan could contribute to increased water pollution.

But prior to discharging into the Estuary the watercourses pass through large areas of Greater Manchester and other Metropolitan areas (Warrington and Greater Merseyside), and the Estuary itself is adjacent to the very large Merseyside conurbation and receives inputs from many disparate sources. It would therefore be very difficult to establish whether any water pollution arising from any particular development in Greater Manchester was responsible for a significant effect on pollution in the Estuary.

However, given the scale of development under consideration in this Plan, and the need to take a precautionary approach when preparing an HRA, the Mersey Estuary has been 'Screened In' to this assessment.

Individual allocation areas have not been specifically identified as being sources of water pollution, but an assumption is made that the Plan in total may contribute to diffuse water pollution in the Estuary.

Available Mitigation and Recommendations

Mitigation for any effects on the Mersey SPA relies on the application of general policies, plans and strategies for reducing water pollution from any/all developments, since it is practically impossible to measure the impact on pollution in the Estuary from any more specific measures that could be included in the Places for Everyone. Policy JP-S5 of the Plan refers specifically to the need to reduce water pollution and protect and enhance rivers and waterways.

In addition, the body responsible for the treatment of waste water in North West England is United Utilities and the regulating body for water pollution issues is the Environment Agency, and not in the control of the Plan.

As further mitigation for potential water pollution effects It is strongly recommended that the Councils concerned in the preparation of the Places for Everyone liaise with United Utilities (the local water service provider) to confirm that there is sufficient capacity in the existing discharge consent (or any changes to the consent that are already planned), in order to accommodate the growth planned for Greater Manchester over the entire Plan period. If United Utilities confirm any constraints, it may be necessary to introduce a more explicit statement into general Infrastructure Policies in the Plan which specify that the development trajectory (particularly for housing) needs to keep in line with the wastewater treatment infrastructure. If necessary, this may require a phased delivery of development.

In addition, large scale site allocation Policies in the Local Plan should include policy wording to state that developments will not be permitted if they would have an unacceptable effect on water quality or cause significant run-off and the requirement to demonstrate mitigation measures have been incorporated through a mitigation scheme

7.4.2 Rochdale Canal SAC

The aquatic plant *Luronium natans* which is the primary designating feature for the Rochdale Canal is known to be susceptible to water pollution.

Currently no direct hydrological connections between any of the allocations and the Rochdale Canal SAC have been identified, but detailed analysis of hydrological linkages are outside of the scope of the Plan and this Assessment, and there are allocations within a few hundred metres of the Canal (notably Stakehill, Castleton Sidings and Land North of Smithy Bridge).

Significant development has been permitted alongside the Canal in recent years and it has been conclusively demonstrated that water pollution prevention measures are readily available which effectively mitigate any risks of water pollution. Specific mitigation measures for particular developments need to be considered in detail at the planning application stage of the planning hierarchy, but is concluded that this risk can be mitigated.

It is **recommended** that applications for development of over 50 housing units* and 1,000m² of business or industrial use within the Stakehill, Castleton Sidings and Land North of Smithy Bridge allocation are required to prepare site-level HRAs which include an assessment of water pollution effects.

**figure derived from SSSI Impact Risk Zones prepared by Natural England*

7.5 Light Spillage and Shading

This impact only applies to developments very close (within 100m) of the Rochdale Canal SAC, because *Luronium natans* is sensitive to light levels. Whether or not the impacts will arise depend on the design details of particular schemes, best controlled at planning application stage.

Available Mitigation and Recommendations

It is recommended that developments within 100m of the Rochdale Canal within the following allocations should be subject to project-level HRA, to include an assessment of possible shading impacts.

- Stakehill
- Land north of Smithy Bridge

8 Conclusions

[This section awaits the results of the AQ assessment]

APPENDIX 1

The Nature Conservation Interests of the “Screened In” European Sites

The following details are derived from information available from Natural England and the Joint Nature Conservation Committee and from information held by GMEU.

Manchester Mosses SAC

Description of the Manchester Mosses SAC

Mossland formerly covered a very large part of low-lying Greater Manchester, Merseyside and southern Lancashire, and provided a severe obstacle to industrial and agricultural expansion. While most has been converted to agriculture or lost to development, several examples have survived as degraded raised bog, such as Astley & Bedford Mosses (Wigan), Risley Moss (Warrington) and Holcroft Moss (Warrington) on the Mersey floodplain. Their surfaces are now elevated above surrounding land due to shrinkage of the surrounding tilled land, and all except Holcroft Moss have been cut for peat at some time in the past. While past drainage has produced dominant purple moor grass (*Molinia caerulea*), bracken (*Pteridium aquilinum*) and birch (*Betula*) spp. scrub or woodland, wetter pockets have enabled the peat-forming species to survive. Recent rehabilitation management on all three sites has caused these to spread.

Primary Reason For Designation of the Manchester Mosses SAC

The site supports degraded bog still capable of natural regeneration (JNCC code 7120), which has the potential to be restored to active raised bog (JNCC code 7110).

SAC sites have been selected on a site-by-site basis and according to the *Interpretation manual of European habitats* (European Commission DG Environment 1999); “where the hydrology can be repaired and where, with appropriate rehabilitation management, there is a reasonable expectation of re-establishing vegetation with peat-forming capability within 30 years”.

Conservation Objective of the Manchester Mosses

The Conservation Objective for the Manchester Mosses SAC is to maintain the bog habitat, subject to natural change, in favourable condition (Natural England 2018).

On this site favourable condition requires the maintenance of the extent of each designated habitat type. Maintenance implies restoration if evidence from a condition assessment suggests a reduction in extent. A series of site-specific standards defining favourable condition has been produced by Natural England. However these relate to management of the habitats on the site and are not particularly applicable to assessing the effects of thematic policies in the Plan on the SAC. Therefore in order to consider these potential impacts the operations that may damage the special interest of the SAC have to be considered. These include:

- Cultivation
- Grazing
- Mowing or cutting
- Application of manure, fertilisers or lime
- Application of pesticides
- Burning
- Drainage, both within and outside the boundaries of the site
- Extraction of minerals including peat, topsoil and subsoil
- Construction or removal of roads, tracks, walls, fences, hardstands, banks, ditches or other earthworks or the laying or removal of pipelines and cables
- Erection of permanent structures
- Use of vehicles likely to damage the vegetation
- Pollution including atmospheric pollutants and NOx
- Recreational activities
- Diffuse water pollution
- Climate change

(Adapted from information available from Natural England)

Rixton Clay Pits SAC

Description of Rixton Clay Pits SAC

Situated east of Warrington town centre and to the west of Salford, this site comprises Parts of an extensive disused brickworks excavated in glacial boulder clay. The excavation has left a series of hollows, which have filled with water since workings ceased in the 1960s, leading to a variety of pond sizes. New ponds have also been created more recently for wildlife and amenity purposes. **Great crested newt *Triturus cristatus*** are known to occur in at least 20 ponds across the site. The site also supports species-rich grassland, scrub and mature secondary woodland.

Primary Reason for Designation of Rixton Clay Pits

The primary reason for the designation of Rixton Clay Pits is its population of great crested newts (*Triturus cristatus*). Sites are selected as SACs where there is evidence of a relatively large and robust population of great crested newts based on reliable recent survey data.

Conservation Objective for Rixton Clay Pits

The draft conservation objective for this site is to maintain the designated species, great crested newt, in favourable condition. On this site favourable condition requires the maintenance of the population of the newts and maintenance implies restoration if evidence from condition assessment suggests a reduction in size of the population (Natural England 2018).

The operations that may damage the special interest of the SAC which have to be considered include:

- Cultivation
- Grazing
- Mowing or cutting

- Application of manure, fertilisers or lime
- Application of pesticides
- Burning
- Drainage, both within and outside the boundaries of the site
- Extraction of minerals including peat, topsoil and subsoil
- Construction or removal of roads, tracks, walls, fences, hardstands, banks, ditches or other earthworks or the laying or removal of pipelines and cables
- Erection of permanent structures
- Use of vehicles likely to damage the vegetation
- Diffuse air pollution
- Diffuse water pollution
- Climate change

Rochdale Canal SAC

Description of the Rochdale Canal SAC

The Rochdale Canal SAC extends approximately 20 km from Littleborough at Ben Healey Bridge to Failsworth, passing through urban and industrialised parts of the Metropolitan Boroughs of Rochdale and Oldham and the intervening areas of agricultural land (mostly pasture). Water supplied to the Rochdale Canal in part arises from the Pennines. This water is acidic and relatively low in nutrients, while water from other sources is mostly high in nutrients. The aquatic flora of the canal is thus indicative of a mesotrophic waterbody (i.e. is moderately nutrient-rich) although there is evidence of some local enrichment. The canal continues through Failsworth and terminates at Castlefield in Manchester City, although this section of the canal is not included within the SAC.

Primary reason for designation of the Rochdale Canal as a European protected site

The Rochdale Canal supports a significant population of **floating water-plantain (*Luronium natans*)** in a botanically diverse waterplant community which also holds a wide range of pondweeds *Potamogeton* spp. The canal has predominantly mesotrophic water. This population of *Luronium* is representative of the formerly more widespread canal populations of north-west England, although the Rochdale Canal supports unusually dense populations of the plant.

The Site Conservation Objectives for the Rochdale Canal are to –

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

The main qualifying feature for the site is the presence of Floating water-plantain.

Floating water-plantain; description and ecological characteristics

Floating water-plantain (*Luronium natans*) occurs in a range of freshwater situations, including nutrient-poor lakes in the uplands (mainly referable to 3130 Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or of the *Isoëto-Nanojuncetea*) and slowly-flowing lowland rivers, pools, ditches and canals that are moderately nutrient-rich.

Luronium natans occurs as two forms: in shallow water with floating oval leaves, and in deep water with submerged rosettes of narrow leaves. The plant thrives best in open situations with a moderate degree of disturbance, where the growth of emergent vegetation is held in check. Populations fluctuate greatly in size, often increasing when water levels drop to expose the bottom of the water body. Populations fluctuate

from year to year, and at many sites records of *L. natans* have been infrequent, suggesting that only small populations occur, in some cases possibly as transitory colonists of the habitat. Populations tend to be more stable at natural sites than artificial ones, but approximately half of recent (post-1980) records are from canals and similar artificial habitats. Its habitat in rivers has been greatly reduced by channel-straightening, dredging and pollution, especially in lowland situations.

The operations that may damage the special interest of the SAC which have to be considered include:

- Application of pesticides
- Dredging
- Drainage, both within and outside the boundaries of the site
- Construction or removal of roads, tracks, walls, fences, hardstands, banks, ditches or other earthworks or the laying or removal of pipelines and cables
- Erection of permanent structures next to the Canal (shading)
- Diffuse air pollution
- Diffuse water pollution
- Increased boat movements (recreation)
- Climate change

South Pennine Moors SAC/SPA (Phases 1 and 2)

Description of the South Pennine Moors SAC

This very large site forms part of the Southern Pennines lying between Ilkley in the north and the Peak District National Park boundary in the south. The majority of the site is within West Yorkshire but it also covers areas of Lancashire, Greater Manchester and North Yorkshire. The largest moorland blocks are Ilkley Moor, the Haworth Moors, Rishworth Moor and Moss Moor. The underlying rock is Millstone Grit

which outcrops at Boulsworth Hill and on the northern boundary of Ilkley Moor. The moorlands are on a rolling dissected plateau between 300m and 450m AOD with a high point of 517m at Boulsworth Hill. The greater part of the gritstone is overlain by blanket peat with the coarse gravelly mineral soils occurring only on the lower slopes. The site is the largest area of unenclosed moorland within West Yorkshire and contains the most diverse and extensive examples of upland plant communities in the county. Extensive areas of blanket bog occur on the upland plateaux and are punctuated by species rich acidic flushes and mires. There are also wet and dry heaths and acid grasslands. Three habitat types which occur on the site are rare enough within Europe to be listed on Annex 1 of the EC habitats and Species Directive (92/43) EEC. These communities are typical of and represent the full range of upland vegetation classes found in the South Pennines.

This mosaic of habitats supports a moorland breeding bird assemblage which, because of the range of species and number of breeding birds it contains, is of regional and national importance. The large numbers of breeding merlin (*Falco columbarius*), golden plover (*Pluvialis apricaria*) and twite (*Carduelis flavirostris*) are of international importance.

Description of the South Pennine Moors SPAs

Special Protection Areas (SPAs) are strictly protected sites classified in accordance with Article 4 of the EC Directive on the conservation of wild birds, also known as the Birds Directive, which came into force in April 1979. They are classified for rare and vulnerable birds, listed in Annex I to the Birds Directive, and for regularly occurring migratory species. The South Pennine Moors SPA includes the major moorland blocks of the South Pennines from Ilkley in the north to Leek and Matlock in the south. It covers extensive tracts of semi-natural moorland habitats including upland heath and blanket mire. The site is of European importance for several upland breeding bird species including birds of prey and waders.

Primary reason for designation of the South Pennine Moors SAC

The site supports the following important habitats

European Dry Heath

The site is representative of upland dry heath at the southern end of the Pennine range, the habitat's most south-easterly upland location in the UK. Dry heath covers extensive areas, occupies the lower slopes of the moors on mineral soils or where peat is thin, and occurs in transitions to acid grassland, wet heath and blanket bogs. The upland heath of the South Pennines is strongly dominated by heather *Calluna vulgaris*. Its main NVC types are H9 *Calluna vulgaris* – *Deschampsia flexuosa* heath and H12 *Calluna vulgaris* – *Vaccinium myrtillus* heath. More rarely H8 *Calluna vulgaris* – *Ulex gallii* heath and H10 *Calluna vulgaris* – *Erica cinerea* heath are found. On the higher, more exposed ground H18 *Vaccinium myrtillus* – *Deschampsia flexuosa* heath becomes more prominent. In the cloughs, or valleys, which extend into the heather moorlands, a greater mix of dwarf shrubs can be found together with more lichens and mosses. The moors support a rich invertebrate fauna, especially moths, and important bird assemblages.

Blanket Bog

This site represents blanket bog in the south Pennines, the most south-easterly occurrence of the habitat in Europe. The bog vegetation communities are generally botanically poor. Hare's-tail cotton-grass *Eriophorum vaginatum* is often overwhelmingly dominant, although bog-building *Sphagnum* mosses are present. Where the blanket peats are slightly drier, heather *Calluna vulgaris*, crowberry *Empetrum nigrum* and bilberry *Vaccinium myrtillus* become more prominent. The uncommon cloudberry *Rubus chamaemorus* is locally abundant in bog vegetation. Bog pools provide diversity and are often characterised by common cotton-grass *E. angustifolium*. Substantial areas of the bog surface are eroding, and there are extensive areas of bare peat. In some areas erosion may be a natural process reflecting the great age (9000 years) of the south Pennine peats.

Old Sessile Oak Woods

Around the fringes of the upland heath and bog of the south Pennines are blocks of old sessile oak woods, usually on slopes. These tend to be dryer than those further north and west, such that the bryophyte communities are less developed (although

this lowered diversity may in some instances have been exaggerated by the effects of 19th century air pollution). Other components of the ground flora such as grasses, dwarf shrubs and ferns are common. Small areas of alder woodland along stream-sides add to the overall richness of the woods.

Primary reason for the designation of the South Pennine Moors SPAs

The site qualifies for the designation by supporting populations of European importance of the following species listed on Annex I of the Directive:

For Phase 1 during the breeding season:

- Golden plover (*Pluvialis apricaria*), at least 3.3% of the breeding population in Great Britain
- Merlin (*Falco columbarius*), at least 5.9% of the breeding population in Great Britain
- Peregrine (*Falco peregrinus*), at least 1.4% of the breeding population in Great Britain
- Short-eared owl (*Asio flammeus*), at least 2.5% of the breeding population in Great Britain

The SPA supports an internationally important assemblage of birds. During the breeding season the area regularly supports:

Common sandpiper (*Actitis hypoleucos*), Dunlin (*Calidris alpina schinzi*), Twite (*Carduelis flavirostris*), Snipe (*Gallinago gallinago*), Curlew (*Numenius arquata*), Wheatear (*Oenanthe oenanthe*), Redshank (*Tringa totanus*), Ring ouzel (*Turdus torquatus*), Lapwing (*Vanellus vanellus*)

For Phase 2 during the breeding season:

- Golden plover (*Pluvialis apricaria*), at least 1.9% of the breeding population in Great Britain

- Merlin (*Falco columbarius*), at least 2.3% of the breeding population in Great Britain
- Breeding Bird Assemblage

Conservation Objectives of the South Pennine Moors

Natural England lists the conservation objectives for the South Pennine Moors as follows:

To maintain*, in favourable condition, the habitats for the populations of Annex 1 species⁺ of European importance, with particular reference to:

- blanket mire
- dwarf shrub heath
- acid grassland
- gritstone edges

⁺ *golden plover, merlin, short-eared owl*

To maintain*, in favourable condition, the:

- blanket bog (active only)
- dry heaths
- Northern Atlantic wet heaths with *Erica tetralix*
- transition mires and quaking bogs
- old oak woods with *Ilex* and *Blechnum* in the British Isles

*maintenance implies restoration if the feature is not currently in favourable condition.

The operations that may damage the special interest of the SPA which have to be considered include:

- Cultivation
- Grazing
- Mowing or cutting

- Application of manure, fertilisers or lime
- Application of pesticides
- Burning
- Drainage, both within and outside the boundaries of the site
- Extraction of minerals including peat, topsoil and subsoil
- Construction or removal of roads, tracks, walls, fences, hardstands, banks, ditches or other earthworks or the laying or removal of pipelines and cables
- Erection of permanent structures
- Use of vehicles likely to damage the vegetation
- Diffuse air pollution
- Diffuse water pollution
- Climate change

The Mersey Estuary SPA/Ramsar

Description

The Mersey Estuary is located on the Irish Sea coast of north-west England. It is a large, sheltered estuary which comprises large areas of saltmarsh and extensive intertidal sand- and mud-flats, with limited areas of brackish marsh, rocky shoreline and boulder clay cliffs, within a rural and industrial environment. The intertidal flats and saltmarshes provide feeding and roosting sites for large populations of water birds. During the winter, the site is of major importance for ducks and waders. The site is also important during the spring and autumn migration periods, particularly for wader populations moving along the west coast of Britain.

Conservation Objectives for the Mersey Estuary SPA/Ramsar

To 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.

Primary reasons for designation of the Mersey Estuary SPA

Qualifying species

This site qualifies under **Article 4.1** of the Habitats Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive:

Over winter;

Golden Plover *Pluvialis apricaria*, 3,070 individuals representing at least 1.2% of the wintering population in Great Britain (5 year peak mean 1991/2 - 1995/6)

This site also qualifies under **Article 4.2** of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species:

On passage;

Redshank *Tringa totanus*, 3,516 individuals representing at least 2.0% of the Eastern Atlantic - wintering population (5 year peak mean, 1987-1991)

Ringed Plover *Charadrius hiaticula*, 1,453 individuals representing at least 2.9% of the Europe/Northern Africa - wintering population (Count, as at 1989)

Over winter;

Dunlin *Calidris alpina alpina*, 44,300 individuals representing at least 3.2% of the wintering Northern Siberia/Europe/Western Africa population (5 year peak mean 1991/2 - 1995/6)

Pintail *Anas acuta*, 2,744 individuals representing at least 4.6% of the wintering Northwestern Europe population (5 year peak mean 1991/2 - 1995/6)

Redshank *Tringa totanus*, 4,689 individuals representing at least 3.1% of the wintering Eastern Atlantic - wintering population (5 year peak mean 1991/2 - 1995/6)

Shelduck *Tadorna tadorna*, 5,039 individuals representing at least 1.7% of the wintering Northwestern Europe population (5 year peak mean 1991/2 - 1995/6)

Teal *Anas crecca*, 11,667 individuals representing at least 2.9% of the wintering Northwestern Europe population (5 year peak mean 1991/2 - 1995/6)

Assemblage qualification: A wetland of international importance.

The area qualifies under **Article 4.2** of the Directive (79/409/EEC) by regularly supporting at least 20,000 waterfowl

Over winter, the area regularly supports 99,467 individual waterfowl (5 year peak mean 1991/2 - 1995/6) including: Curlew *Numenius arquata*, Black-tailed Godwit *Limosa limosa islandica*, Lapwing *Vanellus vanellus*, Grey Plover *Pluvialis squatarola*, Wigeon *Anas penelope*, Great Crested Grebe *Podiceps cristatus*, Redshank *Tringa totanus*, Dunlin *Calidris alpina alpina*, Pintail *Anas acuta*, Teal *Anas crecca*, Shelduck *Tadorna tadorna*, Golden Plover *Pluvialis apricaria*.

Operations which may damage the special interest of the SPA include -

- Diffuse air pollution
- Diffuse water pollution
- Climate change
- Recreational disturbance

Rostherne Mere Ramsar / NNR

Rostherne Mere forms part of a series of open water peatland these include peat bog and marsh areas. It is one of the deepest and largest meres within the Cheshire area. Due to the depth of the mere there is little submerged vegetation, however, there is vegetation communities that fringe the circumference of the lake. Species that can be found here include Common reed *Phragmites australis*, with Lesser reedmace *Typha angustifolia* and sweet flag *Acorus calamus*. Features of European Interest

The Rostherne Mere Ramsar qualifies for its Annex II species. This includes:

- Great cormorant *Phalacrocorax carbo carbo* - 273 individuals, representing an average of 1.1% of the GB population;
- Great bittern *Botaurus stellaris stellaris* - 1 individuals, representing an average of 1% of the GB population; and
- Water rail *Rallus aquaticus* - 6 individuals, representing an average of 1.3% of the GB population.

Conservation objectives

At the time of writing the management plan for the Ramsar site is under preparation. As such, there are no clear conservation objectives that have been produced. However, there are current scientific research areas that are under investigation.

These include:

- Catchment management planning;
- Peatland restoration and monitoring;
- Fen rehabilitation;
- Limnology and hydrology;
- Water chemistry;
- Trophic status;
- Peat paleo-ecology; and
- Impacts of fish.

Historic trends and pressures

The site is vulnerable to air pollution and water quality issues via eutrophication and the introduction of non-native plant species

