Norfolk County Council

Norfolk Minerals and Waste Local Plan

Draft Habitats Regulations Assessment –

Test of Likely Significant Effects

Regulation 105 of the Conservation of Habitats and Species Regulations 2017

July 2019

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ACRONYMS AND ABBREVIATIONS

AA	Appropriate Assessment
BMV	Best and Most Versatile
M&WLP	Minerals and Waste Local Plan
LSE	Likely Significant Effect
NLSE	No Likely Significant Effect
SAC	Special Area of Conservation
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
TOLS	Test of Likely Significance
ZoI	Zone of Influence

Summary

Background

The Minerals and Waste Local Plan covers the period to the end of 2036. The 'Preferred Options' document on the M&WLP includes a vision and strategic objectives for minerals and waste development over the plan period. It includes a forecast of the quantities of minerals and waste to be planned for over the period to the end of 2036 and a spatial strategy for the location of new minerals extraction and waste management developments. It also includes proposed policies to be used in the determination of planning applications for minerals extraction and associated development and for waste management facilities. The M&WLP includes proposed criteria-based policies for the location of waste management facilities. All of the proposed policies contained in the 'Preferred Options' document are subject to this HRA Task 1 screening process.

The M&WLP will also allocate sites and areas for future mineral extraction during the plan period. 37 specific sites for future sand and gravel extraction, one site for carstone extraction and three sites for silica sand extraction have been proposed by landowners and mineral extraction companies. In addition, Norfolk County Council has defined four areas of search for future silica sand extraction. The proposed specific sites and areas for mineral extraction have been assessed against environmental, transport, landscape, historic environment and amenity constrains. The result of this assessment is a conclusion, by planning officers at Norfolk County Council, on the suitability of sites for future mineral extraction during the plan period. Only the 26 sites and areas considered suitable for extraction in the conclusions contained in the 'Preferred Options' document are subject to this HRA Task 1 screening process.

The Conservation of Habitats and Species Regulations 2017 came into force on 30 November 2017 and consolidated the Conservation of Habitats and Species Regulations 2010 with subsequent amendments. These Regulations transpose Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive), into national law. Under this legislation assessment is required where a land use plan not directly connected with or necessary to the management of the European site is likely to have a significant effect upon a European site (either alone or in combination with other plans or projects).

Regulation 105 (4) states that "In the light of the conclusions of the assessment, and subject to regulation 107 (considerations of overriding public interest), the plan-making authority must give effect to the land use plan only after having ascertained that it will not adversely affect the integrity of the European site".

The objective of this report is to act as a Task 1 screening exercise to identify any likely significant effects upon the Special Protection Areas (SPA), Special Areas for Conservation (SAC) and Ramsar designated sites.

The screening exercise is a high-level review of the potential impacts arising from the implementation of the Norfolk Minerals and Waste Local Plan. Only mineral sites within 5km of a European and/or Ramsar designated site are included in the screening matrix table and assessed because the potential impacts of mineral extraction on designated sites are not expected to occur over a distance greater than 5km and the Impact Risk Zones defined by Natural England for the SSSIs that form part of the European sites do not extend further than 5km from the boundary of any European site.

Summary and Recommendations for Task 2

Following the review of the proposed policies within the Preferred Options consultation document of the M&WLP, there were no policies identified which could result in likely significant effects on a European designated site.

Following the review of the mineral extraction sites within the Preferred Options consultation document where the conclusion is that the sites are suitable to allocate for future extraction, all the designated sites are considered sufficiently distant from the proposed mineral extraction sites that likely impacts are not considered significant.

Developers wanting to extract mineral from specific sites or land within a preferred area or area of search contained in the Norfolk Minerals and Waste Local Plan will still need to apply for and be granted planning permission before mineral extraction can take place. Planning permissions are often granted subject to conditions to mitigate potential adverse impacts from site operations.

1. Introduction

1.1 Norfolk Minerals and Waste Local Plan

The Minerals and Waste Local Plan covers the period to the end of 2036. The Preferred Options document on the M&WLP includes a vision and strategic objectives for minerals and waste development over the plan period. It includes a forecast of the quantities of minerals and waste to be planned for over the period to the end of 2036 and a spatial strategy for the location of new minerals extraction and waste management developments. It also includes policies to be used in the determination of planning applications for minerals extraction and associated development and for waste management facilities.

The M&WLP includes criteria-based policies for the location of waste management facilities. Waste management facilities include facilities for the transfer and treatment of inert, non-hazardous and hazardous wastes; household waste recycling centres, composting, anaerobic digestion, recycling, residual waste treatment, landfill, and water recycling centres. All of the policies contained in the 'Preferred Options' document are subject to this HRA Task 1 screening process.

The M&WLP will also allocate sites and areas for future mineral extraction during the plan period. Minerals sites produce the aggregates and raw materials used mainly by the construction industry. Primary aggregates are comprised of naturally occurring materials such as sand and gravel, which are the main product to be extracted from most of the proposed sites. 37 specific sites for future sand and gravel extraction, one site for carstone extraction and three sites for silica sand extraction have been proposed by landowners and mineral extraction companies. In addition, Norfolk County Council has defined four areas of search for future silica sand extraction. The proposed specific sites and areas for mineral extraction have been assessed against environmental, transport, landscape, historic environment and amenity constrains. The result of this assessment is a conclusion, by planning officers at Norfolk County Council, on the suitability of sites for future mineral extraction during the plan period. Only the 26 sites and areas considered suitable for extraction in the conclusions contained in the 'Preferred Options' document are subject to this HRA Task 1 screening process.

The Norfolk Minerals and Waste Local Plan is planned to be adopted by the end of 2021 and will operate until the end of 2036, with the purpose to plan for mineral extraction and associated development, and waste management facilities in the most sustainable way, that minimise potential adverse impacts.

1.2 Legislative Framework

The Conservation of Habitats and Species Regulations 2017 came into force on 30 November 2017 and consolidated the Conservation of Habitats and Species Regulations 2010 with subsequent amendments. These Regulations transpose Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive), into national law. Under this legislation assessment is required where a land use plan not directly connected with or necessary to the management of the European site is likely to have a significant effect upon a European site (either alone or in combination with other plans or projects).

Regulation 105 (4) states that "In the light of the conclusions of the assessment, and subject to regulation 107 (considerations of overriding public interest), the plan-making authority must give effect to the land use plan only after having ascertained that it will not adversely affect the integrity of the European site".

European designated sites, include Special Protection Areas and Special Areas for Conservation. Special Protection Areas (SPAs) are sites classified in accordance with Article 4 of the EC Directive on the conservation of wild birds (2009/147/EC) (the codified version of Council Directive 79/409/EEC as amended), more commonly known as the Birds Directive. They are classified for rare and vulnerable birds, listed in Annex I of the Birds Directive, and for regularly occurring migratory species. Regulation 10 of the 2017 Regulations requires local authorities to exercise their functions (including town and country planning functions) to comply with the Birds Directive.

Special Areas for Conservation (SACs) are classified in accordance with EC Directive 92/43/EEC on the Conservation of Natural Habitats of Wild Flora and Fauna (the Habitats Directive). Article 3 of this Directive requires the establishment of a European network of important high-quality conversation sites that will make a significant contribution to conserving the 189 habitat types and 788 species identified in Annexes I and II of the Directive.

Ramsar sites are sites qualifying under the International Convention on Wetlands of International Importance, 1971, known as the Ramsar Convention (amended by the Paris Protocol, 1992). Ramsar sites are not protected in UK law by the Birds and Habitats Directives; however parliament has decreed that, unless otherwise specified, procedures relating to SPAs and SACs will also apply to Ramsar sites. This was reiterated in the National Planning Policy Framework (MHCLG, 2019).

In assessing whether a plan may affect a Nature 2000 site, it is important to recognise that the assessment should be appropriate to the likely scale, importance and impact of the development. A key outcome of the Appropriate Assessment is to identify whether the integrity of the European designated site may be affected by the plans, and whether the conservation status of the primary interest features of the site could be impacted. An adverse effect on the integrity of the site is one that prevents the site from maintaining the same contribution to favourable status for the relevant feature or features, as it did when the site was qualifying. Only where a plan or project can be determined by the plan-making authority as not having an adverse effect on site integrity can it be allowed to proceed. The favourable conservation status of the site is defined through the site's conservation objectives and it is against these objectives that the effects of the plan or project must be assessed.

When plans and projects are being formulated, it is not always clear whether an Appropriate Assessment is required or not. Rather than undertaking a detailed Appropriate Assessment a "Task 1 Appropriate Assessment: Test of Likely Significance" can be undertaken to identify whether or not an Appropriate Assessment is required (see Figure 1.1 for the different stages in the Appropriate Assessment process). A Test of Likely Significance also identifies whether the plan or project has the potential to impact on a European designated site.

1.3 Scope of the Work

The purpose of this report is to provide the plan-making authority with the necessary information to assess the potential for the Norfolk Minerals and Waste Local Plan to affect the European designated sites within or adjacent to the planning area. This assessment considers all the policies that are contained in the Preferred Options document on the Minerals and Waste Local Plan. Only the 26 sites and areas considered suitable for extraction in the conclusions contained in the 'Preferred Options' document are subject to this HRA Task 1 screening process. The other sites proposed for sand and gravel extraction that are concluded to be unsuitable for extraction in the 'Preferred Options' document have not been included in this assessment.

The objectives of this report are:

1. To act as a Task 1 screening exercise to identify any likely significant impacts upon the SAC, SPA and Ramsar designated sites. If the proposed policy or site for mineral extraction is considered likely to have the potential to affect the designated sites, then a more detailed Task 2 Appropriate Assessment is required to consider what the impacts may be, and whether they are likely to affect the condition and integrity of each designated site. This screening is a high-level review because details regarding specific site operations at this stage are limited.

Developers wanting to extract mineral from specific sites or land within a preferred area or area of search contained within the Norfolk Minerals and Waste Local Plan will still need to apply for and be granted planning permission before mineral extraction can take place. Planning permissions are often granted subject to conditions to mitigate potential adverse impacts from site operations.

1.4 Methodology

The Habitats Regulations Assessment is undertaken in a series of Tasks that correspond with the Article 6 Assessments prescribed by the Habitats Directive. The outcome of each task determines whether further stages in the process are required. There are four key stages in the HRA process. These are set out in Table 1.1 below:

Table 1.1 Summary of the stages of the HRA process

Task One –Screening	This identifies there will any potential effects on the European Designated sites and considers whether or not the effects are likely to be significant.
Task Two – Appropriate Assessment	This stage considers the impact on the integrity of a European site/s of the project or plan, either alone or in-combination with other projects or plans, with respect to the site's structure and function and its conservation objectives.
Task Three –Assessment of Alternative Solutions	If the mitigation measures prescribed at Stage 2 cannot avoid adverse impacts on the integrity of a European site, this process examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the European site.
Task Four – Assessment where no alternative solutions exist and where adverse impacts remain	If no suitable alternatives are available, this stage requires an assessment of compensatory measures where, in the light of the assessment of Imperative Reasons or Overriding Public Interest (IROPI), it is deemed that the project or plan cannot go ahead.

The Task 1 Appropriate Assessment has been formulated using the following approach:

- A review of all of the European designated sites and Ramsar sites, their qualifying features and the vulnerability of the qualifying features to disturbance within the Zone of Influence of the Local Plan;
- A review of the Minerals and Waste Local Plan and the likely effects of the Minerals and Waste Local Plan on the designated sites and their qualifying features;
- The identification and mapping of sites and areas of search near to European designated sites and Ramsar sites within which any development could have the potential to affect designated sites;
- The production of a screening matric in accordance with Appropriate Assessment procedural guidelines to identify potential significant effect, and;
- Where applicable, make recommendations for Task 2 Appropriate Assessment and determine if further information is required to assess potential likely effects.

Tables that summarise the test of likely significance process, in accordance with EU guidance, are presented in Section 3.

At the Task 1 Habitats Regulations Assessment stage it was only reasonably practical to present the potential effects at the proposed site – qualifying feature level (see Section 2). However, both attributes and targets were considered when reviewing the potential effects and in formulating the screening matrix.

Definitions for the conservations status, integrity and significance used in this report are in accordance with EU guidance (see Table 1.2).

1.5 Zone of Influence

Plans and/or projects have the potential to impact on designated sites beyond the confines of the individual sites themselves. Potential impacts should be investigated which occur within the zone of influence (ZoI) which arises during the whole lifespan of the proposed development or plan. The potential zone of influence is defined as:

• Areas directly within the land take for the proposed development or plans;
• Areas which will be temporarily affected;
• Areas likely to be impacted by hydrological disruption, and;
• Areas where there is a risk of pollution and noise disturbance.

The Zone of Influence considered in the Task 1 'Test of Likely Significant Effects' for the Norfolk Minerals and Waste Local Plan is the area within 5km of Norfolk. To assess in-combination impacts, the Local Plans of all planning authorities win which the potentially affected designated sites are located, have been assessed.

Table 1.2: Conservation status, integrity and significance

Status	Description
Favourable conservation status – species	When the population is maintaining itself on a long-term basis as a viable component of its natural habitat, the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and there is and will probably continue to be a sufficiently large habitat to maintain its population on a long-term basis.
Favourable conservation status – habitats	When its natural range and area it covers within that range are stable or increasing, and the species structure and function which are necessary for its long-term maintenance exist and likely to continue to exist for the foreseeable future, and the conservation status of its typical species is favourable.
Integrity of a site	The integrity of a site is the coherence of its ecological structure and function, across its whole area that enables it to sustain the habitat, complex of habitat and/or the levels of population of the species for which it is classified.
Significant effect	A significant effect is defined when a plan or project is likely to undermine the site's conservation objectives. Note that a significant effect cannot be excluded on the basis of objective information. A significant effect on a bird population is defined when a plan or project is likely to undermine at least 1% or more of the relevant population (biogeographical, national, SAC/ SPA/ Ramsar site).

1.6 Designated sites within the Zone of Influence

Sites to be includes in this assessment are located within 5km of Norfolk and include:

Breckland SPA/SAC
Breydon Water SPA/Ramsar
Broadland SPA/Ramsar
North Norfolk Coast SPA/SAC/Ramsar
Great Yarmouth North Denes SPA
Ouse Washes SPA/SAC/Ramsar
The Wash SPA/Ramsar
Norfolk Valley Fens SAC
Overstrand Cliffs SAC
Paston Great Barn SAC
River Wensum SAC
The Broads SAC
Ouse Washes SPA/SAC/Ramsar
Roydon Common and Dersingham Bog SAC
The Wash and North Norfolk Coast SAC
Waveney and Little Ouse Valley Fens SAC
Winterton – Horsey Dunes SAC
Haisborough, Hammond and Winterton SAC
Outer Thames Estuary SPA

Redgrave and South Lopham Fens Ramsar
Roydon Common Ramsar
Dersingham Bog Ramsar

Designated sites locations are shown in Appendix A

1.7 Consultation

Consultation with stakeholders is a key component of the Appropriate Assessment process. Under the AA guidance consultation with Natural England, where there is the potential for a project or plan to potentially impact on a European designated site, is mandatory. Natural England was therefore formally consulted on the Task 1 TOLS in 2018, in addition to other statutory and non-statutory consultees, such as the Environment Agency.

In response to the July 2018 consultation, the following comments were raised regarding the Habitats Regulations Assessment on the draft policies and proposed sites considered suitable to allocate in the Initial Consultation document. These comments have been taken into account during the production of the 'Preferred Options' document and this revised Habitats Regulations Assessment of the Preferred Options version of the Norfolk Minerals and Waste Local Plan.

Table 1.3 Consultation responses to the 2018 Habitats Regulations Assessment

Consultee comments	Norfolk County Council Planning Officer's response
(**Comment**) Representation ID: 93218 Respondent: **Natural England (Ms Louise Oliver) [1874]** A recent judgment from the Court of Justice of the European Union (Case C-323/17 People Over Wind v Coillte Teoranta) has provided authoritative interpretation relating to the use of mitigation measures at the screening stage of a Habitats Regulations Assessment (HRA). The judgment concluded that it is not appropriate, at the screening stage, to take account of measures intended to avoid or reduce the harmful effects of the plan or project on a European site. However, when determining whether the plan or project will have an adverse effect on the integrity of the European site at appropriate assessment, a competent authority may take account of those avoidance and mitigation measures.	Noted
The Local Planning Authority, as competent authority for the Minerals and Waste Local Plan, should consider this judgment when undertaking the HRA screening under the Conservation of Habitats and Species Regulations 2017 and may wish to take its own legal advice on the implications of the judgment.	Noted
This means that for any sites where avoidance and mitigation measures have been identified to	Noted. There are six sites concluded to be suitable to allocate at the Preferred Options

protect designated Natura 2000 sites such as Special Areas of Conservation (SACs), Special Areas of Protection (SPAs) or Ramsar sites, the sites should not be screened out for likely significant effect but carried forward to Appropriate Assessment, at which point any mitigation measures, eg not de-watering, conditions to control dust or lighting etc, can be assessed in detail and taken into account.	stage where we had previously referred to mitigation measures in terms of planning conditions to control noise and dust. These sites are: MIN 96, MIN 25, MIN 69, MIN 207, MIN 202 and MIN 65. These sites have been reassessed in the HRA and it is concluded that they are all sufficiently distant from the relevant designated sites that there would not be adverse noise or dust impacts anyway and therefore specific mitigation measures are not required. They have therefore all been screened out at the Task 1 TOLS stage both in the 2018 HRA and this revised 2019 HRA.
Our specific comments on various individual allocations included in the initial consultation are intended to reflect this ruling. That is, where measures have been identified specifically to protect a Natura 2000 site, then these allocations should be screened in to Appropriate Assessment. At this stage the effectiveness of any proposed avoidance and mitigation measures and all the evidence should be examined to reach a conclusion of likely significant effect, either alone or in combination with other plans or projects, and to ascertain whether an adverse effect on the integrity of the site can be ruled out.	Noted. The comments made by Natural England regarding specific sites have been included in the main Feedback Report on the Initial Consultation. However, of particular relevance to the HRA are the following sites where specific comments were made by Natural England: MIN 71 at Holt is concluded to be not suitable to allocate in the Preferred Options document. MIN 204 at Feltwell is concluded to be not suitable to allocate in the Preferred Options document. MIN 65 at Stanninghall is located in a different hydrological catchment to Crostwick Marsh SSSI and therefore would not adversely affect the hydrology of the SSSI. Due to the distance of the site from the SSSI (1.43km), there would be no adverse effects from dust deposition. MIN 40 at East Winch is outside the Impact Risk Zone for the Norfolk Valley Fens SAC and therefore the conclusion of the 2018 HRA was correct and the site assessment in the Preferred Options has been corrected.
Note that any proposal which may affect a Natura 2000 designated site must go through a project-level HRA in addition to this strategic plan-level HRA. This should be identified for each relevant allocation and reflected in the policy wording, including what avoidance and mitigation measures would be necessary. This can be at a 'high' level, e.g. work would take place outside the bird	Noted. We do not consider that there are any sites now concluded suitable to allocate in the Preferred Options document where a project level HRA would be required.

breeding season to avoid disturbance to nesting birds. However, more detail would be expected in the HRA at planning application stage. The future conclusions and recommendations of the HRA will need to be incorporated into later revisions of the Sustainability Appraisal (SA) report, and be reflected in the allocations and policies of the M&WLPR.	Noted. The Sustainability Appraisal and M&WLP have been revised where necessary.

2. Task 1 Screening

2.1 HRA Task 1 Screening of Minerals and Waste Planning Policies

The screening exercise is a high-level review of the potential impacts arising from the implementation of the Norfolk Minerals and Waste Local Plan. This assessment considers all the policies that are contained in the Preferred Options document on the Minerals and Waste Local Plan.

The following screening matrix of the minerals and waste planning policies refers to Policies MW2 and MW5, therefore the proposed wording for Policy MW2 and MW5 are detailed below for information:

Wording for Policy MW2: Development Management Criteria

Proposals for minerals development and/or waste management development will be permitted where sufficient information is submitted to demonstrate that the development would not have an unacceptable impact (including cumulative impact in combination with other existing or permitted development) on:
a. Local amenity and health (including noise levels, odour, air quality, dust, litter, light pollution and vibration);
b. The quantity of water for resource purposes within water bodies, and the quality of surface waterbodies and groundwater, with particular regard to preventing the deterioration of their existing status, and their associated ecosystems that may be affected by water quantity and quality;
c. The capacity of existing drainage systems;
d. Flood risk on site or an increase in flood risk elsewhere, as demonstrated by a Flood Risk Assessment (where required by the National Planning Policy Framework) and making an allowance for climate change;
e. The best and most versatile agricultural land;
f. Aircraft safety due to the risk of bird strike and/or building height and position;
g. The safety and capacity of the road and any other transport network;
h. The appearance, quality and character of the landscape, countryside and visual environment and any local features that contribute to its local distinctiveness;
i. Public Open Space, the definitive Public Rights of Way network and outdoor recreation facilities;
j. Land stability;
k. The natural and geological environment (including internationally, nationally or locally designated sites and irreplaceable habitats);
l. The historic environment (as identified through a Heritage and Archaeology Statement), including heritage and archaeological assets and their settings; and
m. The character and quality of the area, in which the development is situated, through poor design.
Where appropriate, enhancement of the environment will be sought, including the enhancement of the Public Rights of Way Network, creation of recreation opportunities, reduction of flood risk elsewhere through betterment, and enhancement of the natural, historic and built environment and surrounding landscapes.

Proposed wording for Policy MW5: The Brecks Protected Habitats and Species

The Council will require suitable information to be provided to enable it to undertake a Habitats Regulations Assessment of all proposals for development that are likely to have a significant effect on the Breckland Special Protection Area (SPA), which is classified for its populations of Stone Curlew, Woodlark and Nightjar, and/or Breckland Special Area of Conservation (SAC) which is designated for its heathland habitats. Development will only be permitted where it can be demonstrated that the proposal will not adversely affect the integrity of the SPA or SAC.

Stone Curlew

A buffer zone has been defined (indicated in red hatching on Map 2) that extends 1,500m from the edge of those parts of the SPA that support or are capable of supporting Stone Curlew, where new built development would be likely to significantly affect the SPA population.

A buffer zone has also been defined (indicated in orange hatching on Map 2) that extends 1,500 metres around areas that have a functional link to the SPA, because they support Stone Curlew outside, but in close proximity to the SPA boundary, within which new built development would be likely to significantly affect the SPA population.

Built development (including plant and processing sites) within the SPA boundary, or located less than 1,500m away from the SPA boundary or identified areas that have a functional link (see Map 2) will not normally be permitted, unless a project level HRA is able to demonstrate that adverse effects can be ruled out.

Where a proposed building is outside the SPA but within 1,500m of the SPA boundary or identified areas that have a functional link, including those precautionary areas where there is currently a lack of data (see Map 2) there may be circumstances where a project level Habitats Regulations Assessment is able to demonstrate that the proposal will not adversely affect the integrity of the SPA.

Circumstances where the proposal is able to conclusively demonstrate that it will not result in an adverse effect on the Breckland SPA may include where the proposal is:

- More than 1,500m away from potential stone curlew nesting sites inside the SPA (these are those parts of the SPA that are also designated as Breckland Farmland SSSI);
- A new building that will be completely masked from the SPA by existing built development;
- A proposed re-development of an existing building that would not alter its footprint or increase its potential impact.

Woodlark and Nightjar

Built development (including plant and processing sites) within 400m of the SPA that support or are capable of supporting Woodlark and/or Nightjar will not normally be permitted.

The Council will consider the need for a Habitats Regulations Assessment to determine the implications of development on Nightjar and Woodlark on a case by case basis, depending on the location and nature of the proposal.

HRA Task 1 Test of Likely Significant Effects Screening Matrix of Minerals and Waste Planning Policies

Key:
No LSE – No Likely Significant Effect
LSE – Likely Significant Effect on the site's conservation objectives requiring modification of policy, rejection of policy or undertake Task 2 Appropriate Assessment
Uncertain – cannot determine if NLSE or LSE (see above) so may require modification of policy, rejection or policy or undertake a Task 2 Appropriate Assessment

Policy	Description	Likely Significant Effect Alone or in-combination?
General Policies		
MW2: Development management criteria	A criteria-based policy that details the issues that will be taken into account when reaching a decision on a particular planning application to ensure that permitted sites represent sustainable development. The policy lists the issues that a development should not have an unacceptable adverse impact on.	No LSE – Policy does not promote growth in any particular location. The policy includes a requirement for it to be demonstrated that developments would not have an unacceptable impact (including cumulative impact) on the natural environment, including internationally designated sites.
MW3: Transport	Criteria for minerals and waste development to meet regarding transport impacts and assessments.	No LSE – Policy does not promote growth in any particular location. Policy requires development to not generate unacceptable impacts on air quality, to reduce car travel to site and to consider positively the potential for non-HGV transport of materials.
MW4: Climate change adaption and mitigation	Criteria for minerals and waste development to meet in their construction and operation, to minimise their potential contribution to climate change, incorporate energy and water efficient design strategies and be adaptable to future climatic conditions.	No LSE – Policy does not promote growth. The purpose of the policy is to reduce the contribution to climate change from minerals and waste development whilst also adapting to its potential effects and includes measures that developments should include.
MW5: The Brecks protected habitats and species	Protection of the Brecks protected habitats and species from inappropriate minerals and waste development.	No LSE – Policy does not promote growth. The purpose of the policy is to protect the Brecks from inappropriate minerals and waste development. New built development is not permitted within 1.5km of the edge of the Breckland SPA, or areas that have a functional link to the SPA, unless it can be demonstrated in an appropriate assessment that the development would not adversely affect the integrity of the SPA.

Policy	Description	Likely Significant Effect Alone or in-combination?
MW6: Agricultural soils	Protection of the Best and Most Versatile agricultural soils.	No LSE – Policy does not promote growth. The purpose of the policy is to protect BMV agricultural land.
Waste Management Specific Policies		
WP1: Waste management capacity to be provided	This policy contains the quantum of waste that is forecast to need to be managed over the Plan period to 2036: A maximum of 484,000 tonnes per annum of Local Authority Collected Waste. A maximum of 1,456,000 tpa of commercial and industrial waste. A maximum of 1,110,000 tpa of inert waste. A maximum of 46,000 tpa of hazardous waste.	No LSE – The policy does not promote growth in any particular location. The Policy contains the quantum of waste that is forecast to need to be managed over the Plan period. Any land use impacts would arise through the provision of new or enhanced waste management facilities to manage this waste. However, the policy states that sufficient capacity currently exists to meet the growth forecast in waste arisings. Any planning applications that come forward for new or enhanced waste management facilities will need to be determined in accordance with the Plan which includes compliance with Policy MW2. Any facilities proposed in proximity to the Breckland SPA would also need to be determined in accordance with Policy MW5.
WP2: Spatial Strategy for waste management facilities	This policy contains the spatial strategy for the location of new waste management facilities. Facilities should be located within 5 miles of one of Norfolk's urban areas or 3 miles of one of Norfolk's main towns and be accessible via appropriate transport infrastructure. A more flexible approach is taken to the location of agricultural waste treatment facilities, windrow composting facilities, community composting facilities, small scale local facilities, water recycling centres and pumping stations.	No LSE – The policy requires waste management facilities to be located within 5 miles of one of Norfolk's urban areas or three miles of one of Norfolk's main towns, which are: Norwich, King's Lynn, Thetford, Attleborough, Great Yarmouth, Gorleston-on-Sea, Aylsham, Cromer, Dereham, Diss, Downham Market, Fakenham, Harleston, Holt, Hunstanton, North Walsham, Swaffham, Watton, Wymondham. Therefore, there is the potential that a waste management facility located in accordance with this policy could be within the Impact Risk Zone of a SSSI which is also designated as a SPA, SAC or Ramsar site. Waste management facilities could potentially have adverse impacts on designated sites in terms of noise, dust, air quality, lighting and water pollution. However, these impacts could be mitigated through the design and operation of sites and all planning applications for waste management facilities must also comply with Policy MW2. Any proposals in proximity to the Breckland SPA will also need to be determined in accordance with Policy MW5.

Policy	Description	Likely Significant Effect Alone or in-combination?
WP3: Land potentially suitable for waste management facilities	This policy details the types of land that are considered suitable in principle for waste management facilities, including existing waste management facilities, land in or allocated for B8 or B2 use classes, previously-developed land and land within or adjacent to agriculture and forestry buildings.	No LSE – Policy does not promote growth in any particular location. Criteria-based policy only. Requires compliance with Policy MW2.
WP4: Recycling or transfer of inert CD&E waste	Criteria-based policy for the location of facilities for the recycling or transfer of inert CD&E waste.	No LSE – Policy does not promote growth in any particular location. Criteria-based policy only. Requires compliance with Policy MW2.
WP5: Waste Transfer stations, materials recycling facilities, ELV facilities and WEEE recovery facilities	Criteria-based policy for the location of waste transfer stations, MRFs, ELV and WEEE facilities.	No LSE – Policy does not promote growth in any particular location. Criteria-based policy only. Requires compliance with Policy MW2.
WP6: Transfer, storage, processing and treatment of hazardous waste	Criteria-based policy for the location of facilities for the transfer, storage processing and treatment of hazardous waste	No LSE – Policy does not promote growth in any particular location. Criteria-based policy only. Requires compliance with Policy MW2.
WP7: Household waste recycling centres	Criteria-based policy for the location of household waste recycling centres.	No LSE – Policy does not promote growth in any particular location. Criteria-based policy only. Requires compliance with Policy MW2.
WP8: Composting	Criteria-based policy for the location of composting facilities.	No LSE – Policy does not promote growth in any particular location. Criteria-based policy only. Requires compliance with Policy MW2
WP9: Anaerobic digestion	Criteria-based policy for the location of anaerobic digestion facilities.	No LSE – Policy does not promote growth in any particular location. Criteria-based policy only. Requires compliance with Policy MW2.
WP10: Residual waste treatment facilities	Criteria-based policy for the location of residual waste treatment facilities.	No LSE – Policy does not promote growth in any particular location. Criteria-based policy only. Requires compliance with Policy MW2.
WP11: Disposal of inert waste by landfill	Criteria-based policy for the location of sites for the disposal of inert waste by landfill.	No LSE – Policy does not promote growth in any particular location. Criteria-based policy only. Requires compliance with Policy MW2. No LSE
WP12: Non-hazardous and hazardous waste landfills	Criteria-based policy for the location of sites for non-hazardous and hazardous waste landfills.	No LSE – Policy does not promote growth in any particular location. Criteria-based policy only. Requires compliance with Policy MW2.
WP13: Landfill mining and reclamation	Criteria-based policy for determining proposals for landfill mining or excavation.	No LSE – Policy does not promote landfill mining or excavation in any particular location. Criteria-based policy only. Requires compliance with Policy MW2.
WP14: Water Recycling Centres	Criteria-based policy for the location of sites for water recycling centres.	No LSE – Policy does not promote growth in any particular location. Criteria-based policy only. Requires compliance with Policy MW2.

Policy	Description	Likely Significant Effect Alone or in-combination?
WP15: Whitlingham Water Recycling Centre	Criteria-based policy requiring Anglian Water to develop and agree a a longer-term masterplan for Whitlingham WRC and to ensure development proposals will not have adverse amenity, traffic, landscape or flood risk impacts.	No LSE – Policy is regarding the approach to future development at an existing water recycling centre. Policy WP14 above would also apply to any proposed development at Whitlingham WTC. Policy WP14 requires compliance with Policy MW2.
WP16: Design of waste management facilities	Criteria for waste management facilities to meet in their design, including measures to protect, preserve and where practicable enhance the natural environment.	No LSE – Policy does not promote growth in any particular location. Criteria-based policy only. Encourages facilities to incorporate measures to protect, preserve and where practicable enhance the natural environment.
WP17: Safeguarding of waste management facilities	Policy to safeguard existing waste management facilities and water recycling centres from incompatible development.	No LSE – Policy is safeguarding existing facilities and does not promote growth.
Minerals Specific Policies		
MP1: Minerals extraction	The policy contains the quantum of mineral resources to be allocated as specific sites or areas: to deliver 20,313,300 tonnes of sand and gravel, 340,200 tonnes of carstone, and 10,500,000 tonnes of silica sand over the Plan period to 2036.	No LSE – The policy promotes growth, but not in any particular location. The mineral resource includes areas within the Impact Risk Zone for SSSIs which are also designated as SPAs, SACs or Ramsar sites. Mineral extraction could potentially have adverse impacts on designated sites due to noise, dust, air quality, lighting, habitat loss, habitat damage, impacts to water quality and water resources. However, some of these impacts could be mitigated through the design and operation of sites and all planning applications for mineral extraction sites will be determined in accordance with the relevant policies of the plan, which includes Policy MW2. Proposed sites located in proximity to the Breckland SPA will also need to comply with Policy MW5. The individual sites proposed to be allocated for mineral extraction during the plan period have also been subject to a Test of Likely Significant Effects.
MP2: Spatial strategy for minerals extraction	The policy contains the spatial strategy for mineral extraction within the resource areas for sand and gravel, carstone and silica sand. Sand and gravel and carstone sites should be located within five miles of one of Norfolk's urban areas or three miles of one of Norfolk's main towns and /or be	No LSE – The policy requires mineral extraction sites to be located within five miles of one of Norfolk's urban areas or three miles of one of Norfolk's main towns which are: Norwich, King's Lynn, Thetford, Attleborough, Great Yarmouth, Gorleston-on-Sea, Aylsham, Cromer, Dereham, Diss, Downham Market, Fakenham, Harleston,

Policy	Description	Likely Significant Effect Alone or in-combination?
	well-related to one of these urban areas or main towns via appropriate transport infrastructure. The methodology for defining areas of search for silica sand extraction is defined.	Holt, Hunstanton, North Walsham, Swaffham, Watton, Wymondham. Therefore, there is the potential that a mineral extraction site located in accordance with this policy could be within an Impact Risk Zone for a SSSI that is also designated as a SPA, SAC or Ramsar site. Mineral extraction could have impacts on designated sites due to noise, dust, air quality, lighting, habitat loss, habitat damage, impacts to water quality and water resources. However, some of these impacts could be mitigated through the design and operation of sites and all planning applications for mineral extraction sites will be determined in accordance with the relevant policies of the plan, which includes Policy MW2. Proposed sites located in proximity to the Breckland SPA will also need to comply with Policy MW5. The approach to designating areas of search for silica sand extraction excludes the hydrological catchment for Roydon Common and Dersingham Bog and excludes land within 1km of The Wash SSSI. Therefore, there will be no LSE on Roydon Common and Dersingham Bog or The Wash from the implementation of this policy. A Test of Likely Significant Effects has also been carried out for each of the areas of search proposed to be allocated for silica sand extraction which concluded that mineral extraction within the areas of search would have No LSE.
MP3: Borrow pits	Criteria based policy for applications for borrow pits to adhere to.	No LSE – Policy does not promote growth in any particular location. Criteria based policy only. Policy requires extraction from the site to cause less environmental damage than would result from using material from an established source of supply. Requires compliance with Policy MW2.
MP4: Agricultural or potable water reservoirs	Criteria based policy for applications for water reservoirs with incidental mineral extraction involving off-site removal of minerals to adhere to.	No LSE – Policy does not promote growth in any particular location. Criteria-based policy only. Requires compliance with Policy MW2.
MP5: Core River Valleys	Protection of defined core river valleys from inappropriate mineral development.	No LSE – Policy does not promote growth. Policy requires mineral extraction within a core river valley to enhance the biodiversity

Policy	Description	Likely Significant Effect Alone or in-combination?
		of the river valley, either immediately or on restoration.
MP6: Cumulative impacts and phasing of workings	The policy details how cumulative impacts of mineral workings may be considered acceptable if phased or adequately mitigated.	No LSE – The policy does not promote growth in any particular location, but details how cumulative impacts of mineral workings may be considered acceptable if phased or adequately mitigated. This would be assessed on a case by case basis at the planning application stage.
MP7: Progressive working, restoration and after-use	The policy requires proposals for mineral workings to be accompanied by a scheme for the phased and progressive working and restoration of the site, with a preference for restoration enhancing Norfolk's biodiversity, contributing to Green Infrastructure corridors and/or ecological networks and creating high-quality landscapes. It also includes a preference for restoration to reinstate BMV agricultural land where it occurs.	No LSE – Policy does not promote growth. The purpose of the policy is to ensure that proposals for mineral workings are accompanied by a scheme for the phased and progressive working and restoration of the site.
MP8: Aftercare	Measures requiring an aftercare strategy and annual management report for proposed restoration to agriculture, forestry, amenity or ecology after-uses following mineral extraction.	No LSE – Policy does not promote growth. The policy is to ensure that restoration of mineral workings is carried out to the required standard for the proposed afteruse.
MP9: Concrete batching and asphalt plants	Criteria based policy for the location of concrete batching and asphalt plants.	No LSE – Policy does not promote growth in any particular location. Criteria based policy only. Requires compliance with Policy MW2.
MP10: Safeguarding of port and rail facilities, and facilities for the manufacture of concrete, asphalt and recycled materials	Policy to safeguard rail heads, rail links to quarries, wharfage and associated facilities for the storage, handling and processing facilities for the bulk transport of minerals and to safeguard sites for concrete batching, manufacture of coated materials, other concrete products, and the handling, processing and distribution of other aggregates from incompatible development.	No LSE – Policy is safeguarding facilities and does not promote growth in any particular location.
MP11: Mineral Safeguarding Areas and Mineral Consultation Areas	Policy to safeguard existing and allocated mineral extraction sites from incompatible development and to safeguard mineral resources from inappropriate development	No LSE – Policy is safeguarding existing facilities and the mineral resource from inappropriate development. The inclusion of land within a Mineral Safeguarding Area does not necessarily mean that planning permission would be granted for mineral

Policy	Description	Likely Significant Effect Alone or in-combination?
	proposals that may sterilise the mineral resource.	extraction. Any application for mineral extraction within a MSA would be determined in accordance with the relevant policies, including MW2.
MP12: Energy minerals	Criteria based policy for applications for conventional and unconventional oil and gas development to adhere to.	No LSE - Policy does not promote growth in any particular location. Criteria based policy only. Requires development to not generate unacceptable adverse impacts on the environment. There are currently no PEDL licences in Norfolk, which would be required before any oil or gas exploration could take place.

2.2 HRA Task 1 Screening of proposed mineral extraction sites and areas of search

The screening exercise is a high-level review of the potential impacts arising from the implementation of the Norfolk Minerals and Waste Local Plan. Only mineral sites within 5km of a European and/or Ramsar designated site are included in the screening matrix table and assessed because the potential impacts of mineral extraction on designated sites are not expected to occur over a distance greater than 5km and the Impact Risk Zones defined by Natural England for the SSSIs that form part of the European sites do not extend further than 5km from the boundary of any European site.

Potential impacts that might occur to European designated sites and features from potential mineral sites are listed below:

- Habitat loss
- Disturbance (including light and noise) from site activities and traffic from heavy vehicles to and from the sites
- Vibration resulting from heavy vehicles
- Dust emissions
- Water runoff from site and from access roads to the site
- Lowering of groundwater and surface water levels due to dewatering

A total of 37 specific sites for future sand and gravel extraction, one site for carstone extraction and three sites for silica sand extraction have been proposed by landowners and mineral extraction companies. In addition, Norfolk County Council has defined four areas of search for future silica sand extraction. The proposed specific sites and areas for mineral extraction have been assessed against environmental, transport, landscape, historic environment and amenity constrains. The result of this assessment is a conclusion on the suitability of sites for future mineral extraction during the plan period to 2036. Only the 26 sites and areas considered suitable for extraction in the conclusions contained in the 'Preferred Options' document are subject to this HRA Task 1 screening process and contained in the following tables.

Distance between proposed mineral extraction sites and areas and the designated sites

Site	Distance to designated site	Designated site affected
Breckland sites		
MIN 12 Beetley	3.47 km	River Wensum SAC
MIN 13 Beetley *	4.54 km	River Wensum SAC
MIN 51 Beetley *	4.59 km	River Wensum SAC
MIN 200 Carbrooke	4.47 km	Norfolk Valley Fens SAC
Broadland sites		
MIN 37 Frettenham & Buxton with Lammas	4.23 km	The Broads SAC Broadland SPA / Ramsar
MIN 64 Horstead with Stanninghall	3.39 km	Broadland SPA / Ramsar The Broads SAC
MIN 96 Spixworth, Horsham St Faith & Newton St Faith	2.22 km	The Broads SAC Broadland SPA /Ramsar
	4.76 km	River Wensum SAC
MIN 65 Stanninghall	1.43 km	Broadland SPA / Ramsar The Broads SAC
MIN 202 Attlebridge	1.14 km	River Wensum SAC
	4.93 km	Norfolk Valley Fens SAC

Site	Distance to designated site	Designated site affected
MIN 213 Stratton Strawless	2.6 km	Norfolk Valley Fens SAC
King's Lynn and West Norfolk sites		
MIN 6 Middleton	More than 5km from all designated sites	-
MIN 40 East Winch	3.79 km	Norfolk Valley Fens SAC
SIL01 Bawsey	2.74km	Roydon Common Ramsar, Roydon Common and Dersingham Bog SAC
MIN 206 Tottenhill	More than 5km from all designated sites	-
AOS E Wormegay, Shouldham, Marham, Shouldham Thorpe	More than 5km from all designated sites	-
AOS F Runcton Holme, Stow Bardolph	More than 5km from all designated sites	-
AOS I Runcton Holme, Shouldham Thorpe, Tottenhill	More than 5km from all designated sites	-
AOS J Tottenhill, Wormegay	More than 5km from all designated sites	-
North Norfolk sites		
MIN 69 Aylmerton	0.65 km	Norfolk Valley Fens SAC
MIN 115 North Walsham	More than 5km from all designated sites	-
MIN 207 Edgefield	2.57 km	Norfolk Valley Fens SAC
MIN 208 East Beckham	1.45 km	Norfolk Valley Fens SAC
South Norfolk sites		
MIN 209 Earsham	More than 5km from all designated sites	-
MIN 210 Earsham	More than 5km from all designated sites	-
MIN 211 Earsham	More than 5km from all designated sites	-
MIN 212 Mundham	3.67 km	The Broads SAC Broadland SPA/Ramsar
MIN 25 Haddiscoe	3.84 km (approx.)	The Broads SAC Broadland SPA/Ramsar
	4.36 km (approx.)	Breydon Water SPA / Ramsar

*sites MIN 13 and MIN 51 at Beetley are assessed as one site in the 'Preferred Options' document.

Task 1 Test of Likely Significant Effects Screening Matrix for sites concluded to be suitable for future mineral extraction

Key:
No LSE – No Likely Significant Effect
LSE – Likely Significant Effect on the site's conservation objectives requiring modification of development proposal, rejection of site or undertake Task 2 Appropriate Assessment
Uncertain – cannot determine if NLSE or LSE (see above) so may require modification of development proposal, rejection or policy or undertake a Task 2 Appropriate Assessment

Designated site	Qualifying feature	Impacts	Likely significant effect alone?	Likely significant effect in combination?
Breckland SPA (2km IRZ)	Stone-curlew Nightjar Woodlark	There are no specific sites or areas of search within the Impact Risk Zone for mineral development (which extends 2km from the designated site). Therefore, NLSE are expected.	NLSE	NLSE
Breydon Water SPA (5km IRZ)	Bewick's swan Pied avocet European golden plover Northern lapwing Ruff Common tern Waterbird assemblage	**MIN 25 Haddiscoe** This site is proposed for the extraction of sand and gravel and is located 4.36 km from Halvergate Marshes SSSI which forms part of the SPA. This is within the 5km Impact Risk Zone for mineral development. The site is located in a different hydrological catchment to the SSSI and therefore would not adversely affect the hydrology of the SSSI. Due to the distance of the site from the SPA on-site lighting would not disturb the birds on the SPA. Due to the distance of the site from the SPA, noise would not disturb the birds on the SPA. Therefore, no likely significant effects are anticipated.	NLSE	NLSE due to the distance of the site from the SPA.
Broadland SPA (3km IRZ)	Great bittern Bewick's Swan Whooper swan	**MIN 37 Frettenham & Buxton with Lammas** The site is proposed for the extraction of sand and gravel and is located 4.23 km from the SPA. Due to	NLSE	NLSE due to the distance of the site from the SPA.

Designated site	Qualifying feature	Impacts	Likely significant effect alone?	Likely significant effect in combination?
	Eurasian wigeon Gadwall Northern shoveler Eurasian marsh harrier Hen harrier Ruff	this distance, outside the Impact Risk Zone for mineral development, no likely significant effects are anticipated.		
		MIN 96 Spixworth, Horsham St Faith & Newton St Faith The site is proposed for the extraction of sand and gravel and is located 2.22 km from Crostwick Marsh SSSI, which forms part of the SPA. It is within the SPA's 3km Impact Risk Zone for mineral development. The site is proposed as an extension to the existing mineral working. The site is located up-gradient of the SSSI and therefore would not adversely affect the hydrology of the SSSI. Due to the distance of the site from the SSSI on-site lighting would not disturb the birds on the SPA. Extraction is expected to take place at the same rate as the existing mineral working so that there would not be an increase in traffic movements. Due to the distance of the site from the SPA, noise would not disturb the birds on the SPA. Therefore, no likely significant effects are anticipated.	NLSE	NLSE due to the distance of the site from the SPA.
		MIN 64 Horstead with Stanninghall This site is proposed for the extraction of sand and gravel and is located 3.39 km from Crostwick Marsh SSSI, which forms part of the SPA. Due to this distance, outside the SPA's 3km Impact Risk Zone for mineral development, no likely significant effects are anticipated.	NLSE	NLSE due to the distance of the site from the SPA.
		MIN 65 Horstead with Stanninghall This site is proposed for the extraction of sand and gravel and is located 1.43 km from Crostwick Marsh	NLSE	NLSE due to the distance of the site from the SPA.

Designated site	Qualifying feature	Impacts	Likely significant effect alone?	Likely significant effect in combination?
		SSSI, which forms part of the SPA. This is within the SPA's 3km Impact Risk Zone for mineral development. The site is proposed as an extension to the existing mineral working. The site is located in a different hydrological catchment to the SSSI and therefore would not adversely affect the hydrology of the SSSI. Extraction is expected to take place at the same rate as the existing mineral working so that there would not be an increase in traffic movements. Due to the distance of the site from the SPA, noise would not disturb the birds on the SPA. Therefore, no likely significant effects are anticipated.		
		MIN 25 Haddiscoe This site is proposed for the extraction of sand and gravel and is located 3.84 km from the SPA. Due to this distance, outside the SPA's 3km Impact Risk Zone for mineral development, no likely significant effects are anticipated.	NLSE	NLSE due to the distance of the site from the SPA.
		MIN 212 Mundham This site is proposed for the extraction of sand and gravel and is located 3.67 km from the SPA. Due to this distance, outside the SPA's 3km Impact Risk Zone for mineral development, no likely significant effects are anticipated.	NLSE	NLSE due to the distance of the site from the SPA.
North Norfolk Coast SPA (5km IRZ)	Great bittern Pink-footed goose Dark-bellied brent goose Eurasian wigeon Eurasian marsh harrier Montagu's harrier	There are no specific sites or areas of search within the Impact Risk Zone for mineral development (which extends 5km from the designated site). Therefore, NLSE are expected.	NLSE	NLSE

Designated site	Qualifying feature	Impacts	Likely significant effect alone?	Likely significant effect in combination?
	Pied avocet Red knot Little tern Sandwich tern Common tern			
Great Yarmouth North Denes SPA (3km IRZ)	Little tern	There are no specific sites or areas of search within the Impact Risk Zone (which extends 3km from the designated site). Therefore, NLSE are expected.	NLSE	NLSE
Ouse Washes SPA (5km IRZ)	Bewick's swan Whooper swan Eurasian Wigeon Gadwall Eurasian Teal Mallard Northern pintail Gardaney Northern shoveler Hen harrier Ruff Black-tailed godwit Waterbird assemblage Breeding bird assemblage	There are no specific sites or areas of search within the Impact Risk Zone for mineral development (which extends 5km from the designated site). Therefore, NLSE are expected.	NLSE	NLSE
The Wash SPA (5km IRZ)	Bewick's swan Pink-footed goose Dark-bellied brent goose Common shelduck Eurasian wigeon Gadwall Northern pintail Black (common) scoter	There are no specific sites or areas of search within the Impact Risk Zone for mineral development (which extends 5km from the designated site). Therefore, NLSE are expected.	NLSE	NLSE

Designated site	Qualifying feature	Impacts	Likely significant effect alone?	Likely significant effect in combination?
	Common goldeneye Eurasian oystercatcher Grey plover Red knot Sanderling Dunlin Black-tailed godwit Bar-tailed godwit Eurasian curlew Common redshank Ruddy turnstone Common tern Little tern Waterbird assemblage			
Breckland SAC (2km IRZ)	Inland dunes with open *Corynephorus* and *Agrostis* grasslands; Open grassland with grey-hair grass and common bent grass of inland dunes Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition*-type vegetation; Naturally nutrient-rich lakes or lochs which are often dominated by pondweed European dry heaths Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-*	There are no specific sites or areas of search within the Impact Risk Zone for mineral development (which extends 2km from the designated site). Therefore, NLSE are expected.	NLSE	NLSE

Designated site	Qualifying feature	Impacts	Likely significant effect alone?	Likely significant effect in combination?
	Brometalia); Dry grasslands and scrublands on chalk or limestone Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*); Alder woodland on floodplains Great crested newt			
North Norfolk Coast SAC (5km IRZ)	Coastal lagoons Perennial vegetation of stony banks; Coastal Shingle vegetation outside the reach of waves Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*); Mediterranean saltmarsh scrub Embryonic shifting dunes Shifting dunes along the shoreline with *Ammophila arenaria* ('white dunes'); Shifting dunes with marram Fixed dunes with herbaceous vegetation ('grey dunes'); dune grassland Humid dune slacks Otter Petalwort	There are no specific sites or areas of search within the Impact Risk Zone for mineral development (which extends 5km from the designated site). Therefore, NLSE are expected.	NLSE	NLSE

Designated site	Qualifying feature	Impacts	Likely significant effect alone?	Likely significant effect in combination?
Norfolk Valley Fens SAC (3km IRZ)	Alkaline fens; Calcium-rich spring-fed fens Northern Atlantic wet heaths with *Erica tetralix;* wet heathland with cross-leaved heath European dry heaths Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*); Dry grasslands and scrublands on chalk and limestone *Molinia* meadows on calcareous, peaty or clayey-silt laden soils (*Molinion caeruleae*); Purple moor-grass meadows Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae; calcium rich fens dominated by great fen sedge (saw sedge)* Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae);* Alder woodland on floodplains	**MIN 40 East Winch** This site is proposed for the extraction of silica sand and is located 3.79 km from East Walton and Adcock's Common SSSI, which forms part of Norfolk Valley Fens SAC. Due to this distance, outside the SAC's 3km Impact Risk Zone for mineral development, no likely significant effects are anticipated.	NLSE	NLSE due to the distance of the site from the SAC
		MIN 69 Aylmerton This site is proposed for the extraction of sand and gravel and is located 0.65 km from Sheringham and Beeston Regis Commons SSSI which forms part of Norfolk Valley Fens SAC. This is within the SAC's 3km Impact Risk Zone for mineral development. However, the site would be worked dry (above the water table) and therefore the hydrology of the SAC would not be affected. The site is also in a different hydrological catchment to the SAC. A dry working would also result in little or no run-off. Due to the distance of the site from the SAC, there would be no adverse effects from dust deposition. Therefore, no likely significant effects are anticipated.	NLSE	NLSE
		MIN 200 Carbrooke This site is proposed for the extraction of sand and gravel and is located 4.47 km from 'Thompson Water, Carr and Common SSSI' which forms part of Norfolk Valley Fens SAC. Due to this distance, outside the SAC's 3km Impact Risk Zone for mineral development, no likely significant effects are anticipated.	NLSE	NLSE due to the distance of the site from the SAC

Designated site	Qualifying feature	Impacts	Likely significant effect alone?	Likely significant effect in combination?
	Narrow-mouthed whorl snail Desmoulin's whorl snail	**MIN 202 Attlebridge** This site is proposed for the extraction of sand and gravel and is located 4.93 km from Buxton Heath SSSI which forms part of Norfolk Valley Fens SAC. Due to this distance, outside the SAC's 3km Impact Risk Zone for mineral development, no likely significant effects are anticipated.	NLSE	NLSE due to the distance of the site from the SAC
		MIN 213 Stratton Strawless The site is proposed for the extraction of sand and gravel and is located 2.6km from Buxton Heath SSSI which forms part of the Norfolk Valley Fens SAC. This is within the SAC's 3km Impact Risk Zone for mineral development, however, the site is in a different hydrological catchment to the SAC. Due to the distance of the site from the SAC, there would be no adverse effects from dust deposition. Therefore, no likely significant effects are anticipated.	NLSE	NLSE
		MIN 207 Edgefield This site is proposed for the extraction of sand and gravel and is located 2.57 km from Holt Lowes SSSI which forms part of Norfolk Valley Fens SAC. This is within the SAC's 3km Impact Risk Zone for mineral development. However, the site would be worked dry (above the water table) and therefore the hydrology of the SAC would not be affected. A dry working would also result in little or no run-off. Due to the distance of the site from the SAC, there would be no adverse effects from dust deposition. Therefore, no likely significant effects are anticipated.	NLSE	NLSE
		MIN 208 East Beckham	NLSE	NLSE

Designated site	Qualifying feature	Impacts	Likely significant effect alone?	Likely significant effect in combination?
		This site is proposed for the extraction of sand and gravel and is located 1.45 km from Sheringham and Beeston Regis Commons SSSI which forms part of Norfolk Valley Fens SAC. This is within the SAC's 3km Impact Risk Zone for mineral development. However, the site would be worked dry (above the water table) and therefore the hydrology of the SAC would not be affected. The site is also in a different hydrological catchment to the SSSI. A dry working would also result in little or no run-off. Due to the distance from the SAC dust emissions could be satisfactorily controlled by planning conditions to ensure that the SAC is not adversely affected by dust deposition. Therefore, no likely significant effects are anticipated.		
Overstrand Cliffs SAC (200m IRZ)	Vegetated sea cliffs of the Atlantic and Baltic coasts	There are no specific sites or areas of search within the Impact Risk Zone for mineral development (which extends 200 metres from the designated site). Therefore, NLSE are expected.	NLSE	NLSE
Paston Great Barn SAC	Barbastelle bats	There are no specific sites or areas of search within the Impact Risk Zone for all development (which extends 50 metres from the designated site). Therefore, NLSE are expected.	NLSE	NLSE
River Wensum SAC (3km IRZ)	Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation; Rivers with floating vegetation often dominated by water-crowfoot	**MIN 12 Beetley** This site is proposed for sand and gravel extraction and is located 3.47 km from the River Wensum SAC. Due to this distance, outside the SAC's 3km Impact Risk Zone for mineral development, no likely significant effects are anticipated.	NLSE	NLSE
		MIN 51 Beetley	NLSE	NLSE

Designated site	Qualifying feature	Impacts	Likely significant effect alone?	Likely significant effect in combination?
	Desmoulin`s whorl snail White-clawed (or Atlantic stream) crayfish Brook lamprey Bullhead	This site is proposed for sand and gravel extraction and is located 4.59 km from the River Wensum SAC. Due to this distance, outside the SAC's 3km Impact Risk Zone for mineral development, no likely significant effects are anticipated.		
		MIN 13 Beetley This site is proposed for sand and gravel extraction and is located 4.54 km from the River Wensum SAC. Due to this distance, outside the SAC's 3km Impact Risk Zone for mineral development, no likely significant effects are anticipated.	NLSE	NLSE
		MIN 202 Attlebridge This site is proposed for sand and gravel extraction and is located 1.14 km from the River Wensum SAC. This is within the SAC's 3km Impact Risk Zone for mineral development. However, the site would be worked dry (above the water table) and therefore the hydrology of the SAC would not be affected. A dry working would also result in little or no run-off. Due to the distance of the site from the SAC, there would be no adverse effects from dust deposition. Therefore, no likely significant effects are anticipated.	NLSE	NLSE
		MIN 96 Spixworth, Horsham St Faith & Newton St Faith This site is proposed for sand and gravel extraction and is located 4.76 km from the River Wensum SAC. Due to this distance, outside the SAC's 3km Impact Risk Zone for mineral development, no likely significant effects are anticipated.	NLSE	NLSE

Designated site	Qualifying feature	Impacts	Likely significant effect alone?	Likely significant effect in combination?
The Broads SAC (3km IRZ)	Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.; Calcium-rich nutrient-poor lakes, lochs and pools Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition*-type vegetation; Naturally nutrient-rich lakes or lochs which are often dominated by pondweed *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*); Purple moor-grass meadows Transition mires and quaking bogs; Very wet mires often identified by an unstable `quaking` surface Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*; Calcium-rich fen dominated by great fen sedge (saw sedge) Alkaline fens; Calcium-rich springwater-fed fens Alluvial forests with *Alnus glutinosa* and *Fraxinus*	**MIN 64 Horstead with Stanninghall** This site is proposed for the extraction of sand and gravel and is located 3.39 km from Crostwick Marsh SSSI, which forms part of the SAC. Due to this distance, outside the SAC's 3km Impact Risk Zone for mineral development, no likely significant effects are anticipated.	NLSE	NLSE due to the distance of the site from the SAC.
		MIN 96 Spixworth, Horsham St Faith & Newton St Faith This site is proposed for sand and gravel extraction and is located 2.22 km from Crostwick Marsh SSSI, which forms part of The Broads SAC. This is within the SAC's 3km Impact Risk Zone for mineral development. The site is proposed as an extension to the existing mineral working. The site is located up-gradient of the SSSI and therefore would not adversely affect the hydrology of the SSSI. Extraction is expected to take place at the same rate as the existing mineral working so that there would not be an increase in traffic movements. Due to the distance of the site from the SAC, there would be no adverse effects from dust deposition. Therefore, no likely significant effects are anticipated.	NLSE	NLSE due to distance of the site from the SAC
		MIN 37 Frettenham & Buxton with Lammas This site is proposed for the extraction of sand and gravel and is located 4.23 km from the SAC. Due to this distance, outside the SAC's 3km Impact Risk Zone for mineral development, no likely significant effects are anticipated.	NLSE	NLSE due to the distance of the site from the SAC.

Designated site	Qualifying feature	Impacts	Likely significant effect alone?	Likely significant effect in combination?
	excelsior (*Alno-Padion, Alnion incanae, Salicion albae*); Alder woodland on floodplains Desmoulin`s whorl snail Otter Fen orchid Little whorlpool ram's-horn snail	**MIN 65 Horstead with Stanninghall** The site is proposed for the extraction of sand and gravel and is located 1.43 km from Crostwick Marsh SSSI, which forms part of the SAC. This is within the SAC's 3km Impact Risk Zone for mineral development. The site is proposed as an extension to the existing mineral working. The site is located in a different hydrological catchment to the SSSI and therefore would not adversely affect the hydrology of the SSSI. Extraction is expected to take place at the same rate as the existing mineral working so that there would not be an increase in traffic movements. Due to the distance of the site from the SAC, there would be no adverse effects from dust deposition. Therefore, no likely significant effects are anticipated.	NLSE	NLSE due to distance of the site from the SAC.
		MIN 25 Haddiscoe This site is proposed for the extraction of sand and gravel and is located 3.84 km from the SAC. Due to this distance, outside the SAC's 3km Impact Risk Zone for mineral development, no likely significant effects are anticipated.	NLSE	NLSE due to the distance of the site from the SAC.
		MIN 212 Mundham This site is proposed for the extraction of sand and gravel and is located 3.67 km from the SAC. Due to this distance, outside the SAC's 3km Impact Risk Zone for mineral development, no likely significant effects are anticipated.	NLSE	NLSE due to the distance of the site from the SAC.
Ouse Washes SAC (5km IRZ)	Spined loach	There are no specific sites or areas of search within the Impact Risk Zone for mineral development (which	NLSE	NLSE

Designated site	Qualifying feature	Impacts	Likely significant effect alone?	Likely significant effect in combination?
		extends 5km from the designated site). Therefore, NLSE are expected.		
Roydon Common and Dersingham Bog SAC (5km IRZ)	Depressions on peat substrates of the *Rhynchosporion* Northern Atlantic wet heaths with *Erica tetralix;* Wet heathland with cross-leaved heath European dry heaths	**SIL 01 Bawsey** This site is proposed for the extraction of 1.2 million tonnes of silica sand. The site is 2.74 km from Roydon Common SSSI, which forms part of the Roydon Common and Dersingham Bog SAC. The site is within the Impact Risk Zone of Roydon Common SSSI to mineral development (which extends 3km from the designated site). A small part of this site is within the hydrological catchment for Roydon Common SSSI. However, the flow gradient to Roydon Common is from the north and site SIL01 is located to the south. In addition, Bawsey Lakes are located between SIL 01 and Roydon Common. Therefore, no likely significant effects are expected.	NLSE	NLSE Site MIN 40 at East Winch is located just over 5km from Roydon Common and outside both the Impact Risk Zone and hydrological catchment for Roydon Common.
The Wash and North Norfolk Coast SAC (5km IRZ)	Sandbanks which are slightly covered by sea water all the time; subtidal sandbanks Mudflats and sandflats not covered by seawater at low tide; intertidal mudflats and sandflats Large shallow inlets and bays Reefs *Salicornia* and other annuals colonising mud and sand; Glasswort and other annuals colonising mud and sand	There are no specific sites or areas of search within the Impact Risk Zone (which extends 5km from the designated site). Therefore, NLSE are expected.	NLSE	NLSE

Designated site	Qualifying feature	Impacts	Likely significant effect alone?	Likely significant effect in combination?
	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*); Mediterranean saltmarsh scrub Coastal lagoons Common seal Otter			
Waveney and Little Ouse Valley Fens SAC (3km IRZ)	*Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*); Purple moor-grass meadows Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*; Calcium-rich fen dominated by great fen sedge (saw sedge) Desmoulin`s whorl snail	There are no specific sites or areas of search within the Impact Risk Zone for mineral development (which extends 3km from the designated site). Therefore, NLSE are expected.	NLSE	NLSE
Winterton – Horsey Dunes SAC (3km IRZ)	Embryonic shifting dunes Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes"); Shifting dunes with marram Atlantic decalcified fixed dunes (*Calluno-Ulicetea*)* Humid dune slacks	There are no specific sites or areas of search within the Impact Risk Zone for mineral development (which extends 3km from the designated site). Therefore, NLSE are expected.	NLSE	NLSE

Designated site	Qualifying feature	Impacts	Likely significant effect alone?	Likely significant effect in combination?
Haisborough, Hammond and Winterton SAC	Sandbanks which are slightly covered by seawater all the time Sabellaria spinulosa reef.	Due to the location of the SAC off the coast, and the vulnerabilities of the SAC (there is no Impact Risk Zone, for on shore mineral development), no likely significant effect is expected from the proposed mineral site allocations.	NLSE	NLSE
Outer Thames Estuary SPA	Red-throated diver Additional qualifying features: Common tern Little tern	Due to the location of the SPA off the coast, and the vulnerabilities of the SPA, no likely significant effect is expected from the proposed mineral site allocations.	NLSE	NLSE
Breydon Water Ramsar (5km IRZ)	**Criterion 5** Waterfowl assemblage **Criterion 6** Bewick's swan Lapwing	**MIN 25 Haddiscoe** This site is proposed for the extraction of sand and gravel and is located 4.36 km from Halvergate Marshes SSSI which forms part of the Ramsar site. This is within the 5km Impact Risk Zone for mineral development. The site is located in a different hydrological catchment to the SSSI and therefore would not adversely affect the hydrology of the SSSI. Due to the distance of the site from the Ramsar, on-site lighting would not disturb the birds on the Ramsar site. Due to the distance of the site from the Ramsar, noise would not disturb the birds on the Ramsar site. Therefore, no likely significant effects are anticipated.	NLSE	NLSE due to the distance of the site from the Ramsar
Broadland Ramsar (3km IRZ)	**Criterion 2** Calcareous fens with *Cladium mariscus* and *Caricion davallianae* Calcium-rich fen dominated by great fen sedge Alkaline fens Alluvial forests	**MIN 37 Frettenham & Buxton with Lammas** This site is proposed for the extraction of sand and gravel and is located 4.23 km from the Ramsar. Due to this distance, outside the Impact Risk Zone for mineral development, no likely significant effects are anticipated.	NLSE	NLSE due to the distance of the site from the Ramsar.
		MIN 96 Spixworth, Horsham St Faith & Newton St Faith	NLSE	NLSE

Designated site	Qualifying feature	Impacts	Likely significant effect alone?	Likely significant effect in combination?
	Desmolin's whorl snail Otter Fen Orchid	This site is proposed for the extraction of sand and gravel and is located 2.22 km from Crostwick Marsh SSSI, which forms part of the Ramsar. It is within the 3km Impact Risk Zone for mineral development. The site is proposed as an extension to the existing mineral working. The site is located up-gradient of the SSSI and therefore would not adversely affect the hydrology of the SSSI. Extraction is expected to take place at the same rate as the existing mineral working so that there would not be an increase in traffic movements. Due to the distance of the site from the SSSI, there would be no adverse effects from dust deposition on the Ramsar site. Due to the distance of the site from the SSSI on-site lighting would not disturb the birds on the Ramsar site. Due to the distance of the site from the SSSI, noise would not disturb the birds on the Ramsar site. Therefore, no likely significant effects are anticipated.		
		MIN 64 Horstead with Stanninghall This site is proposed for the extraction of sand and gravel and is located 3.39 km from Crostwick Marsh SSSI, which forms part of the Ramsar. Due to this distance, outside the Impact Risk Zone for mineral development, no likely significant effects are anticipated.	NLSE	NLSE due to the distance of the site from the Ramsar.
	Criterion 6 Bewick's Swan Wigeon Gadwall Shoveler	**MIN 65 Horstead with Stanninghall** This site is proposed for the extraction of sand and gravel and is located 1.43 km from Crostwick Marsh SSSI which forms part of the Ramsar. It is within the 3km Impact Risk Zone for mineral development. The	NLSE	NLSE due to the distance of the site from the Ramsar

Designated site	Qualifying feature	Impacts	Likely significant effect alone?	Likely significant effect in combination?
		site is proposed as an extension to the existing mineral working. The site is located in a different hydrological catchment to the SSSI and therefore would not adversely affect the hydrology of the SSSI. Extraction is expected to take place at the same rate as the existing mineral working so that there would not be an increase in traffic movements. Due to the distance of the site from the SSSI, there would be no adverse effects from dust deposition on the Ramsar site. Due to the distance of the site from the SSSSI, on-site lighting would not disturb the birds on the Ramsar site. Due to the distance of the site from the SSSI, noise would not disturb the birds on the Ramsar site. Therefore, no likely significant effects are anticipated.		
		MIN 25 Haddiscoe This site is proposed for the extraction of sand and gravel and is located 3.84 km from the Ramsar. Due to this distance, outside the Impact Risk Zone for mineral development, no likely significant effects are anticipated.	NLSE	NLSE due to the distance of the site from the Ramsar.
		MIN 212 Mundham This site is proposed for the extraction of sand and gravel and is located 3.67 km from the Ramsar. Due to this distance, outside the Impact Risk Zone for mineral development, no likely significant effects are anticipated.	NLSE	NLSE due to the distance of the site from the Ramsar.

Designated site	Qualifying feature	Impacts	Likely significant effect alone?	Likely significant effect in combination?
North Norfolk Coast Ramsar	**Criterion 1** Long expanse of undeveloped coastal habitat. It is a good example of marshland coast, saltmarshes, shingle banks and sand dunes. Brackish water lagoons and freshwater grazing marsh and reed beds.	There are no specific sites or areas of search within the Impact Risk Zone for mineral development (which extends 5km from the designated site). Therefore, NLSE are expected.	NLSE	NLSE
	Criterion 2 Supports at least three Red Data Book and nine nationally scarce vascular plants, one Red Data Book lichens and 38 Red Data Book invertebrates.			
	Criterion 5 Waterfowl assemblages of international importance			
	Criterion 6 Pink-footed goose Brent goose Wigeon Pintail Knot Little tern Sandwick tern Common tern			

Designated site	Qualifying feature	Impacts	Likely significant effect alone?	Likely significant effect in combination?
Ouse Washes Ramsar	**Criterion 1** One of the most extensive areas of seasonally-flooded washland of its type in Britain.	There are no specific sites or areas of search within the Impact Risk Zone for mineral development (which extends 5km from the designated site). Therefore, NLSE are expected.	NLSE	NLSE
	Criterion 2 The site supports several nationally scarce plants and relict fenland fauna, including the British Red Data Book species 'The Scarce Chaser' dragonfly *Libellula fulva* and the riffle beetle *Oulimnius major*. The site also supports a diverse assemblage of nationally rare breeding waterfowl			
	Criterion 5 Assemblage of waterfowl of international importance			
	Criterion 6 Bewick's Swan Whooper Swan Wigeon Pintail Teal Gadwell Shoveler			

Designated site	Qualifying feature	Impacts	Likely significant effect alone?	Likely significant effect in combination?
Redgrave and South Lopham Fens Ramsar (3km IRZ)	**Criterion 1** The site is an extensive example of spring-fed lowland base-rich valley, remarkable for its lack of fragmentation.	There are no specific sites or areas of search within the Impact Risk Zone for mineral development (which extends 3km from the designated site). Therefore, NLSE are expected.	NLSE	NLSE
	Criterion 2 Supports many rare and scarce invertebrates including the fen raft spider *Dolomedes plantarius*			
	Criterion 3 Supports many rare and scarce invertebrates including the fen raft spider *Dolomedes plantarius*, important for maintaining the biological diversity of the region.			
Roydon Common Ramsar (5km IRZ)	**Criterion 1** Extensive example of valley mire-heathland biotope within East Anglia – It is a mixed valley mire holding vegetation communities which reflect the influence of both base-poor and base-rich water.	**SIL01 Bawsey** This site is proposed for the extraction of silica sand and is located 2.74 km from Roydon Common Ramsar. This is within the 5km Impact Risk Zone for mineral development. A small part of this site is within the hydrological catchment for Roydon Common SSSI. However, the flow gradient to Roydon Common is from the north and site SIL 01 is located to the south.	NLSE	NLSE

Designated site	Qualifying feature	Impacts	Likely significant effect alone?	Likely significant effect in combination?
	Criterion 3 The vegetation communities have a restricted distribution within Britain. – It also supports a number of acidophilic invertebrates outside their normal geographic range and six British Red data book invertebrates.	In addition, Bawsey Lakes are located between SIL 01 and Roydon Common. Therefore, no likely significant effects are expected.		
The Wash Ramsar (5km IRZ)	**Criterion 1** The Wash comprises very extensive saltmarshes, major intertidal banks of sand and mud, shallow water and deep channels.	There are no specific sites or areas of search within the Impact Risk Zone for mineral development (which extends 5km from the designated site). Therefore, NLSE are expected.	NLSE	NLSE
	Criterion 3 The site is important for the inter-relationships between its various components including saltmarshes, intertidal sand and mudflats and the estuarine waters. The saltmarshes and the plankton in the estuarine water provide a primary source of organic material which, together with organic matter, forms the basis for the high productivity of the estuary			

Designated site	Qualifying feature	Impacts	Likely significant effect alone?	Likely significant effect in combination?
	Criterion 5 Waterfowl assemblages of international importance. **Criterion 6** Pink-footed goose Brent goose Wigeon Pintail Knot Oystercatcher Grey plover Sanderling Dunlin Curlew Bar-tailed godwit Redshank Turnstone			
Dersingham Bog Ramsar (5km IRZ)	**Criterion 2** Supports an important assemblage of invertebrates - nine British Red Data Book species have been recorded.	There are no specific sites or areas of search within the Impact Risk Zone for mineral development (which extends 5km from the designated site). Therefore, NLSE are expected.	NLSE	NLSE

3. Summary and Recommendations for Task 2

Summary of Task 1 Assessment results for proposed minerals and waste planning policies

Following the review of the policies within the Preferred Options document of the M&WLPR, there were no policies identified which could result in likely significant effects on a European designated site (see section 2.1).

Summary of Task 1 Assessment results for sites with a conclusion of 'suitable for future mineral extraction'

Site reference	Parish	Estimated mineral resource (tonnes)	Mineral type	Task 1 assessment		Designated sites affected
				alone	in-combination	
MIN 12	Beetley	1,175,000	Sand & gravel	NLSE	NLSE	-
MIN 51	Beetley	620,000	Sand & gravel	NLSE	NLSE	-
MIN 13	Beetley	500,000	Sand & gravel	NLSE	NLSE	-
MIN 200	Carbrooke	300,000	Sand & gravel	NLSE	NLSE	-
MIN 202	Attlebridge	1,000,000	Sand & gravel	NLSE	NLSE	-
MIN 37	Frettenham, Buxton with Lammas	1,450,000	Sand & gravel	NLSE	NLSE	-
MIN 64	Horstead with Stanninghall	650,000	Sand & gravel	NLSE	NLSE	-
MIN 65	Stanninghall	4,500,000	Sand & gravel	NLSE	NLSE	-
MIN 96	Spixworth, Horsham St Faith & Newton St Faith	1,600,000	Sand & gravel	NLSE	NLSE	-
MIN 213	Stratton Strawless	1,000,000	Sand & gravel	NLSE	NLSE	-
MIN 6	Middleton	1,416,000	Carstone	NLSE	NLSE	-
MIN 40	East Winch	3,000,000	Silica sand	NLSE	NLSE	-
SIL 01	Bawsey	1,200,000	Silica sand	NLSE	NLSE	-
MIN 206	Tottenhill	780,000	Sand & gravel	NLSE	NLSE	-
MIN 69	Aylmerton	2,000,000	Sand & gravel	NLSE	NLSE	-
MIN 115	North Walsham	1,100,000	Sand & gravel	NLSE	NLSE	-
MIN 207	Edgefield	400,000	Sand & gravel	NLSE	NLSE	-
MIN 208	East Beckham	1,320,000	Sand & gravel	NLSE	NLSE	-
MIN 209	Earsham	435,000	Sand & gravel	NLSE	NLSE	-
MIN 210	Earsham	750,000	Sand & gravel	NLSE	NLSE	-

Site reference	Parish	Estimated mineral resource (tonnes)	Mineral type	Task 1 assessment		Designated sites affected
				alone	in-combination	
MIN 211	Earsham	485,000	Sand & gravel	NLSE	NLSE	-
MIN 25	Haddiscoe	1,300,000	Sand & gravel	NLSE	NLSE	-
MIN 212	Mundham	325,000	Sand & gravel	NLSE	NLSE	-

Areas of Search reference	Parish	Estimated mineral resource (tonnes)	Mineral type	Task 1 assessment		Designated sites affected
				alone	in-combination	
AOS E	Wormegay, Shouldham, Marham, Shouldham Thorpe	Unknown	Silica sand	NLSE	NLSE	-
AOS F	Runcton Holme, Stow Bardolph	Unknown	Silica sand	NLSE	NLSE	-
AOS I	Runcton Holme, Shouldham Thorpe, Tottenhill	Unknown	Silica sand	NLSE	NLSE	-
AOS J	Tottenhill, Wormegay	Unknown	Silica sand	NLSE	NLSE	-

Habitats Directive Matrix with Findings of No Significant Effects

Plan Background	
Name of the plan	Norfolk Minerals and Waste Local Plan
Name of the European designated site	Breckland SAC / Breckland SPA Paston Great Barn SAC Overstrand Cliffs SAC North Norfolk Coast SAC Haisborough, Hammond and Winterton SAC Winterton – Horsey Dunes SAC Waveney and Little Ouse Washes SAC River Wensum SAC Roydon Common and Dersingham Bog SAC Ouse Washes SAC / Ouse Washes SPA Norfolk Valley Fens SAC The Broads SAC / The Broads SPA The Wash and North Norfolk Coast SAC Breydon Water SPA The Wash SPA / The Wash Ramsar Great Yarmouth North Denes SPA North Norfolk Coast SPA Outer Thames Estuary SPA Breydon Water Ramsar Broadland Ramsar Dersingham Bog Ramsar Roydon Common Ramsar Redgrave and South Lopham Fens Ramsar Ouse Washes Ramsar North Norfolk Coast Ramsar
Description of the plan	The Minerals and Waste Local Plan covers the period to the end of 2036. It includes a vision and strategic objectives for minerals and waste development over the plan period. It includes policies to be used in the determination of planning applications for minerals extraction and associated development and for waste management facilities. It includes criteria-based policies for the location of waste management facilities. It also allocates sites and areas for future mineral extraction during the plan period. Specific sites for future mineral extraction have been proposed by landowners and mineral extraction companies. The proposed specific sites and areas for mineral extraction have been assessed against environmental, transport, landscape, historic environment and amenity constrains. The result of this assessment is a conclusion on the suitability of sites for future mineral extraction during the plan period.
Is the plan directly connected with or necessary to the management of the site (provide details)?	No

The Assessment of Significance of Effects	
Describe how the plan (alone or in combination) is likely to affect the European designated site	Waste management facilities might result in significant impacts to European designated sites in terms of noise, dust, air quality, lighting and water pollution. Mineral extraction sites and associated facilities might result in significant impacts to European designated sites due to noise, dust, air quality, lighting, habitat loss, habitat damage, impacts to water quality and water resources.
Explain why these effects are not considered significant	**Minerals and Waste Planning Policies** The majority of policies do not promote growth in any particular location and are criteria-based policies. The relevant policies require compliance with Policy MW2. All planning applications will need to be determined in accordance with Policy MW2 which includes a requirement for sufficient information to be submitted to demonstrate that developments would not have an unacceptable impact (including cumulative impact) on the natural environment, including internationally designated sites. Any proposals in proximity to the Breckland SPA will also need to be determined in accordance with Policy MW5. Potential impacts from waste management facilities could be mitigated through the design and operation of sites and all planning applications for waste management facilities will need to be determined in accordance with the plan which includes compliance with Policy MW2. Any proposals in proximity to the Breckland SPA will also need to be determined in accordance with Policy MW5. Potential impacts from mineral extraction could be mitigated through the design and operation of sites and all planning applications for mineral extraction sites will be determined in accordance with the relevant policies of the plan, which includes Policy MW2. Proposed sites located in proximity to the Breckland SPA will also need to comply with Policy MW5. **Specific sites and areas for mineral extraction** The designated sites list in the table on the previous page are considered sufficiently distant from the proposed mineral extraction sites that likely impacts are not considered significant.

Data collected to carry out the assessment			
Who carried out the assessment?	**Sources of data**	**Level of assessment completed**	**Where can the assessment be accessed and viewed?**
Norfolk County Council	Natural England JNCC	Task 1	Norfolk County Council

Habitats Directive Matrix with Findings of Significant Effects

Plan Background	
Name of project or plan	Norfolk Minerals and Waste Local Plan
Name of the European designated site	None
Description of the project or plan	The Minerals and Waste Local Plan covers the period to the end of 2036. It includes a vision and strategic objectives for minerals and waste development over the plan period. It includes policies to be used in the determination of planning applications for minerals extraction and associated development and for waste management facilities. It includes criteria-based policies for the location of waste management facilities. It also allocates sites and areas for future mineral extraction during the plan period. Specific sites for future mineral extraction have been proposed by landowner and mineral extraction companies. The proposed specific sites and areas for mineral extraction have been assessed against environmental, transport, landscape, historic environment and amenity constrains. The result of this assessment was a conclusion on the suitability of sites for future mineral extraction during the plan period.
Is the project or plan directly connected with or necessary to the management of the site (provide details)?	No

The Assessment of Significance of Effects	
Describe how the project or plan (alone or in-combination) is likely to affect the European designated site.	N/A - No likely significant effect on any European designated site.
Explain why these effects are considered significant	N/A

Appendix A - Designated sites and qualifying features

As required by the European Directive, 'Conservation Objectives' have been established by Natural England, which should define the required ecologically robust state for each European site interest feature. All sites should be meeting their conservation objectives. When being fully met, each site will be adequately contributing to the overall favourable conservation status of the species or habitat interest features across its natural range. Where conservation features are not being met at a site level, and the interest feature is therefore not contributing to overall favourable conservation status of the species or habitat, plans should be in place for adequate restoration.

In 2012, Natural England issued a set of generic European site Conservation Objectives, which should be applied to each interest feature of each European site. These generic objectives were the first stage in Natural England's project to renew conservation objectives, and the second stage, which is to provide more detailed and site specific information for each site to support the generic objectives is now underway. The site specific information is referred to as 'Supplementary Advice'.

The new list of generic Conservation Objectives for each European site includes an overarching objective, followed by a list of attributes that are essential for the achievement of the overarching objective. Whilst the generic objectives currently issued are standardised, they are to be applied to each interest feature of each European site, and the application and achievement of those objectives will therefore be site specific and dependant on the nature and characteristics of the site. The second stage, providing the Supplementary Advice will underpin these generic objectives with much more site-specific information.

For SPAs, the conservation objectives are:

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

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.

For SACs, the conservation objectives are:

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

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;

- The extent and distribution of qualifying natural habitats and habitats of qualifying species
- The structure and function (including typical species) of qualifying natural habitats
- The structure and function of the habitats of qualifying species
- The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- The populations of qualifying species, and,
- The distribution of qualifying species within the site.

Further detailed description of each interest feature in terms of its characteristics within the individual European site is provided on the JNCC website. The four figure reference numbers are the EU reference numbers given to each habitat and species listed within the Annexes of the European Directives**.**

Breckland SPA - Qualifying Features

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

Breydon Water SPA - Qualifying Features

A037 *Cygnus columbianus bewickii*; Bewick's swan (Non-breeding)
A132 *Recurvirostra avosetta*; Pied avocet (Non-breeding)
A140 *Pluvialis apricaria*; European golden plover (Non-breeding)
A142 *Vanellus vanellus*; Northern lapwing (Non-breeding)
A151 *Philomachus pugnax*; Ruff (Non-breeding)
A193 *Sterna hirundo*; Common tern (Breeding)
Waterbird assemblage

Broadland SPA - Qualifying Features

A021 *Botaurus stellaris*; Great bittern (Breeding)
A037 *Cygnus columbianus bewickii*; Bewick's swan (Non-breeding)
A038 *Cygnus cygnus*; Whooper swan (Non-breeding)
A050 *Anas penelope*; Eurasian wigeon (Non-breeding)
A051 *Anas strepera*; Gadwall (Non-breeding)
A056 *Anas clypeata*; Northern shoveler (Non-breeding)
A081 *Circus aeruginosus*; Eurasian marsh harrier (Breeding)
A082 *Circus cyaneus*; Hen harrier (Non-breeding)
A151 *Philomachus pugnax*; Ruff (Non-breeding)

North Norfolk Coast SPA - Qualifying Features

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

Great Yarmouth North Denes SPA - Qualifying Features

A195 *Sterna albifrons*; Little tern (Breeding)

Ouse Washes SPA - Qualifying Features

A037 *Cygnus columbianus bewickii*; Bewick's swan (Non-breeding)
A038 *Cygnus cygnus*; Whooper swan (Non-breeding)
A050 *Anas penelope*; Eurasian wigeon (Non-breeding)
A051 *Anas strepera*; Gadwall (Breeding)
A052 *Anas crecca*; Eurasian teal (Non-breeding)
A053 *Anas platyrhynchos*; Mallard (Breeding)
A054 *Anas acuta*; Northern pintail (Non-breeding)
A055 *Anas querquedula*; Garganey (Breeding)
A056 *Anas clypeata*; Northern shoveler (Non-breeding)
A056 *Anas clypeata*; Northern shoveler (Breeding)
A082 *Circus cyaneus*; Hen harrier (Non-breeding)
A151 *Philomachus pugnax*; Ruff (Breeding)
A156a *Limosa limosa limosa*; Black-tailed godwit (Breeding)
Waterbird assemblage
Breeding bird assemblage

The Wash SPA - Qualifying Features

A037 *Cygnus columbianus bewickii*; Bewick's swan (Non-breeding)
A040 *Anser brachyrhynchus*; Pink-footed goose (Non-breeding)
A046a *Branta bernicla bernicla*; Dark-bellied brent goose (Non-breeding)
A048 *Tadorna tadorna*; Common shelduck (Non-breeding)
A050 *Anas penelope*; Eurasian wigeon (Non-breeding)
A051 *Anas strepera*; Gadwall (Non-breeding)
A054 *Anas acuta*; Northern pintail (Non-breeding)
A065 *Melanitta nigra*; Black (common) scoter (Non-breeding)
A067 *Bucephala clangula*; Common goldeneye (Non-breeding)
A130 *Haematopus ostralegus*; Eurasian oystercatcher (Non-breeding)
A141 *Pluvialis squatarola*; Grey plover (Non-breeding)
A143 *Calidris canutus*; Red knot (Non-breeding)
A144 *Calidris alba*; Sanderling (Non-breeding)
A149 *Calidris alpina alpina*; Dunlin (Non-breeding)
A156 *Limosa limosa islandica*; Black-tailed godwit (Non-breeding)
A157 *Limosa lapponica*; Bar-tailed godwit (Non-breeding)
A160 *Numenius arquata*; Eurasian curlew (Non-breeding)
A162 *Tringa totanus*; Common redshank (Non-breeding)
A169 *Arenaria interpres*; Ruddy turnstone (Non-breeding)
A193 *Sterna hirundo*; Common tern (Breeding)
A195 *Sterna albifrons*; Little tern (Breeding)
Waterbird assemblage

Breckland SAC - Qualifying Features

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

North Norfolk Coast SAC - Qualifying Features

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

Norfolk Valley Fens SAC - Qualifying Features

H4010. Northern Atlantic wet heaths with *Erica tetralix*; Wet heathland with cross-leaved heath
H4030. European dry heaths
H6210. Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*); Dry grasslands and scrublands on chalk or limestone
H6410. *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*); Purple moor-grass meadows
H7210. Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*; Calcium-rich fen dominated by great fen sedge (saw sedge)
H7230. Alkaline fens; Calcium-rich springwater-fed fens
H91E0. Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*); Alder woodland on floodplains
S1014. *Vertigo angustior*; Narrow-mouthed whorl snail
S1016. *Vertigo moulinsiana*; Desmoulin`s whorl snail

Overstrand Cliffs SAC - Qualifying Features

H1230. Vegetated sea cliffs of the Atlantic and Baltic coasts

Paston Great Barn SAC - Qualifying Features

S1308. *Barbastella barbastellus*; Barbastelle bat

River Wensum SAC - Qualifying Features

H3260. Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation; Rivers with floating vegetation often dominated by water-crowfoot
S1016. *Vertigo moulinsiana*; Desmoulin`s whorl snail
S1092. *Austropotamobius pallipes*; White-clawed (or Atlantic stream) crayfish
S1096. *Lampetra planeri*; Brook lamprey
S1163. *Cottus gobio*; Bullhead

The Broads SAC - Qualifying Features

H3140. Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.; Calcium-rich nutrient-poor lakes, lochs and pools
H3150. Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition*-type vegetation; Naturally nutrient-rich lakes or lochs which are often dominated by pondweed
H6410. *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*); Purple moor-grass meadows
H7140. Transition mires and quaking bogs; Very wet mires often identified by an unstable `quaking` surface
H7210. Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*; Calcium-rich fen dominated by great fen sedge (saw sedge)
H7230. Alkaline fens; Calcium-rich springwater-fed fens
H91E0. Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*); Alder woodland on floodplains*
S1016. *Vertigo moulinsiana*; Desmoulin`s whorl snail
S1355. *Lutra lutra*; Otter
S1903. *Liparis loeselii*; Fen orchid
S4056. *Anisus vorticulus*; Little whorlpool ram's-horn snail

Ouse Washes SAC - Qualifying Features

S1149. *Cobitis taenia*; Spined loach

Roydon Common and Dersingham Bog SAC – Qualifying Features

H4010. Northern Atlantic wet heaths with *Erica tetralix*; Wet heathland with cross-leaved heath
H4030. European dry heaths
H7150. Depressions on peat substrates of the *Rhynchosporion*

Haisborough, Hammond and Winterton SAC - Qualifying Features

H1110. Sandbanks which are slightly covered by sea water all the time; subtidal sandbanks
H1170. Reefs

The Wash and North Norfolk Coast SAC - Qualifying Features

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

Waveney and Little Ouse Valley Fens SAC - Qualifying Features

H6410. *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*); Purple moor-grass meadows
H7210. Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*
S1016. *Vertigo moulinsiana*; Desmoulin's whorl snail

Winterton – Horsey Dunes SAC - Qualifying Features

H2150. Atlantic decalcified fixed dunes (*Calluno-Ulicetea*)*
H2190. Humid dune slacks
H2110. Embryonic shifting dunes
H2120. Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes") (shifting dunes with marram).

Outer Thames Estuary SPA - Qualifying Features

A001. *Gavia stellata;* Red-throated Diver
A195. *Sterna albifrons;* Little tern
A193. *Sterna hirundo;* Common tern

Breydon Water Ramsar - criteria for designation

Criterion 5: The site is internationally important waterfowl assemblage.
Criterion 6: Over winter, the site regularly supports internationally important numbers of: Bewick's swan and lapwing (see Table below)

Breydon Water Ramsar Qualifying Features

Criterion 6	**Breeding**	**Over winter**	**Passage**
Bewick's Swan *Cygnus columbianus*		x	
Lawping *Vanellus vanellus*		x	
Noteworthy: White-fronted Goose, Teal, Pintail, Avocet, Ruff, Whimbrel, Greenshank, Common Tern.			

Broadland Ramsar - criteria for designation

Criterion 2: The site supports a number of rare species and habitats within the biogeographical zone context, including the following Habitats Directive Annex I features:

- H7210 Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae;*
- Calcium-rich fen dominated by great fen sedge (saw sedge);
- H7230 Alkaline fens Calcium-rich springwater-fed fens;
- H91E0 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnionincanae*, *Salicion albae*) and Alder woodland on floodplains.

It includes also the Annex II species: S1016 *Vertigo moulinsiana* Desmoulin`s whorl snail; S1355 *Lutra lutra* Otter; S1903 *Liparis loeselii* Fen orchid. The site supports outstanding assemblages of rare plants and invertebrates including nine British Red Data Book plants and 136 British Red Data Book invertebrates.

Criterion 6: The site supports species/populations at levels of international importance (see Table below).

Broadland Ramsar Qualifying Features

Criterion 6	**Breeding**	**Over winter**	**Passage**
Bewick's Swan *Cygnus columbianus*		x	
Wigeon *Anas penelope*		x	
Gadwall *Anas strepera*		x	
Shoveler *Anas clypeata*		x	
Noteworthy: Bean Goose (*fabalis*), White-fronted Goose (*albifrons*), Teal, Pochard, Smew, Cormorant (*carbo*), Bittern, Marsh Harrier, Hen Harrier, Water Rail, Coot, Ruff.			

Ouse Washes Ramsar - criteria for designation

Criterion 1: The site is one of the most extensive areas of seasonally-flooded washland of its type in Britain.

Criterion 2: The site supports several nationally scarce plants and relict fenland fauna, including the British Red Data Book species The Scarce Chaser dragonfly *Libellula fulva* and the riffle beetle *Oulimnius major*. The site also supports a diverse assemblage of nationally rare breeding waterfowl associated with seasonally-flooding wet grassland.

Criterion 5: assemblages of waterfowl of international importance.

Criterion 6: The site supports species/populations at levels of international importance (see Table below).

Ouse Washes Ramsar Qualifying Features

Criterion 6	**Breeding**	**Over winter**	**Passage**
Bewick's Swan *Cygnus columbianus bewickii*		x	
Whooper Swan *Cygnus cygnus*		x	
Wigeon *Anas penelope*		x	
Pintail *Anas acuta*		x	
Teal Anas crecca			
Gadwall *Anas strepera*			
Shoveler *Anas clypeata*			
Noteworthy: Mute Swan, Pochard and the Black-tailed Godwit.			

North Norfolk Coast Ramsar - criteria for designation

Criterion 1: The site is one of the largest expanses of undeveloped coastal habitat of its type in Europe. It is a particularly good example of a marshland coast with intertidal sand and mud, saltmarshes, shingle banks and sand dunes. There are a series of brackish-water lagoons and extensive areas of freshwater grazing marsh and reed beds.

Criterion 2: Supports at least three British Red Data Book and nine nationally scarce vascular plants, one British Red Data Book lichen and 38 British Red Data Book invertebrates.

Criterion 5: The site supports waterfowl assemblages of international importance**.**

Criterion 6: The site supports species/populations at levels of international importance (see Table below).

North Norfolk Coast Ramsar Qualifying Features

Criterion 6	**Breeding**	**Over winter**	**Passage**
Pink-footed Goose *Anser brachyrhynchus*		x	
Brent Goose (*bernicla*) *Branta bernicla*		x	
Wigeon *Anas penelope*		x	
Pintail *Anas acuta*		x	
Knot (*islandica*) *Calidris canuta*			x
Little Tern *Sternula albifrons*	x		
Sandwich Tern *Sterna sandvicensis*	x		
Common Tern *Sterna hirundo*	x		

Noteworthy:
White-fronted Goose (*albifrons*), Shelduck, Gadwall, Teal, Shoveler, Common Scoter (*nigra*), Velvet Scoter, Red-breasted Merganser, Cormorant (*carbo*), Bittern, Little Egret, Marsh Harrier, Water Rail, Oystercatcher, Golden Plover (*apricaria/altifrons*), Grey Plover, Ruff, Black-tailed Godwit (*islandica*), Whimbrel, Curlew, Spotted Redshank, Redshank, Greenshank, Turnstone, Black-headed Gull, Mediterranean Gull, Roseate Tern.

The Wash Ramsar - criteria for designation

Criterion 1: The Wash comprises very extensive saltmarshes, major intertidal banks of sand and mud, shallow water and deep channels.

Criterion 3: The site is important for the inter-relationship between its various components including saltmarshes, intertidal sand and mud flats and the estuarine waters. The saltmarshes and the plankton in the estuarine water provide a primary source of organic material which, together with other organic matter, forms the basis for the high productivity of the estuary.

Criterion 5: The site classifies under this criterium due to the waterfowl assemblages of international importance.

Criterion 6: The site is important for the presence of several bird species/populations occurring at levels of international importance**.** This includes the species**:** oystercatcher, *Haematopus ostralegus ostralegus*; grey plover, *Pluvialis squatarola;* knot, *Calidris canutus islandica*; sanderling, *Calidris alba*; curlew, *Numenius arquata arquata;* redshank, *Tringa totanus totanus*; pink-footed goose, *Anser brachyrhynchus*; dark-bellied brent goose, *Branta bernicla bernicla*; shelduck, *Tadorna tadorna*; pintail, *Anas acuta*; dunlin, *Calidris alpina alpine*, and the bar-tailed godwit, *Limosa lapponica lapponica.*

Redgrave and South Lopham Fens Ramsar - criteria for designation

Criterion 1: The site is an extensive example of spring-fed lowland base-rich valley, remarkable for its lack of fragmentation.

Criterion 2: The site supports many rare and scarce invertebrates, including a population of the fen raft spider *Dolomedes plantarius*.

Criterion 3: The site supports many rare and scarce invertebrates, including a population of the fen raft spider *Dolomedes plantarius*. The diversity of the site is due to the lateral and longitudinal zonation of the vegetation types characteristic of valley mires.

Roydon Common Ramsar - criteria for designation

Criterion 1: The site is the most extensive example of valley mire-heathland biotope within East Anglia. It is a mixed valley mire holding vegetation communities which reflect the influence of both base-poor and base-rich water.

Criterion 3: the vegetation communities in this area have restricted distribution within Britain. The site also supports a number of acidophililc invertebrates outside their normal geographic range and six British Red data Book invertebrates.

Dersingham Bog Ramsar - criteria for designation

Criterion 2: Supports an important assemblage of invertebrates, nine British Red Data Book species have been recorded.