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# **Stage 1 Appropriate Assessment**

## **Test of Likely Significance for the Merseyside Supplementary Planning Document: Ensuring Choice of Travel**

**In accordance with Regulation  
48 of the Habitats  
Regulations 1994**

**April 2007**

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### Issue and Revision Record

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## Glossary of Terms

**Appropriate Assessment:** An assessment required under the Habitats Directive where a plan or project not directly connected with or necessary to the management of the site may give rise to significant effects upon a European or internationally designated site of nature conservation importance.

**Consultation Body:** An authority which because of its environmental responsibilities is likely to be concerned by the effects of implementing plans and programmes and must be consulted under the SEA Directive. The Consultation Bodies, designated in the SEA Regulations are the Countryside Agency and English Nature (now Natural England), English Heritage and the Environment Agency.

**Development Plan Documents (DPD):** A type of Local Development Document with statutory status. DPDs include the core strategy, development control policies and site-specific allocations.

**Local Development Document (LDD):** There are two types of Local Development Document: Development Plan Documents and Supplementary Planning Documents.

**Local Development Framework (LDF):** Sets out, in the form of a 'portfolio', the Local Development Documents which collectively deliver the spatial planning strategy for the area in question. The LDF also includes the Statement of Community Involvement, the Local Development Scheme and the Annual Monitoring Report.

**Indicator:** A measure of variables over time, often used to measure achievement of objectives.

**Natura 2000:** In May 1992 European Union governments adopted legislation designed to protect the most seriously threatened habitats and species across Europe. This legislation is called the Habitats Directive and complements the Birds Directive adopted in 1979. At the heart of both these Directives is the creation of a network of sites called Natura 2000. The Birds Directive requires the establishment of Special Protection Areas (SPAs) for birds. The Habitats Directive similarly requires Special Areas of Conservation (SACs) to be designated for other species, and for habitats. Together, SPAs and SACs make up the Natura 2000 series.

**Objective:** A statement of what is intended, specifying the desired direction of change in trends.

**Scoping:** The process of deciding the scope and level of detail of an SA, including the sustainability effects and options which need to be considered, the assessment methods to be used, and the structure and contents of the SA Report.

**SEA Directive:** European Directive 2001/42/EC 'on the assessment of the effects of certain plans and programmes on the environment'. Transposed into UK law via The Environmental Assessment of Plans and Programmes Regulations 2004.

**Strategic Environmental Assessment:** Generic term used internationally to describe environmental assessment as applied to policies, plans and programmes. In this report, 'SEA' is used to refer to the type of environmental assessment required under the SEA Directive.

**Sustainability Appraisal:** Generic term used to describe the form of assessment that considers social, environmental and economic effects, which fully incorporates the requirements of the SEA Directive.

**Sustainability Appraisal Report:** Term used to describe a document required to be produced as part of the SA process to describe and appraise the likely significant effects on sustainability of implementing a plan, which also meets the requirement for the Environmental Report under the SEA Directive.

**Supplementary Planning Document:** A Supplementary Planning Document is a Local Development Document that may cover a range of issues, thematic or site specific, and provides further detail of policies and proposals in a 'parent' Development Plan Document.

## Abbreviations

Acronyms and other abbreviations used in this report are listed below.

<b>AA</b>	Appropriate Assessment
<b>DCLG</b>	Department of Communities and Local Government
<b>DfT</b>	Department for Transport
<b>DPD</b>	Development Plan Document
<b>EU</b>	European Union
<b>LDD</b>	Local Development Document
<b>LDF</b>	Local Development Framework
<b>LPA</b>	Local Planning Authority
<b>LTP</b>	Local Transport Plan
<b>ODPM</b>	Office of the Deputy Prime Minister (now DCLG)
<b>PPG</b>	Planning Policy Guidance
<b>PPS</b>	Planning Policy Statement, previously PPG
<b>RIG</b>	Regionally Important Geological/Geomorphological
<b>SA</b>	Sustainability Appraisal
<b>SAC</b>	Special Area of Conservation
<b>SEA</b>	Strategic Environmental Assessment
<b>SPA</b>	Special Protection Area
<b>SPD</b>	Supplementary Planning Document
<b>SSSI</b>	Site of Special Scientific Interest
<b>UDP</b>	Unitary Development Plan





## Summary

### S1 Background

This Stage 1 Appropriate Assessment *Test of Likely Significance* is to assess the potential for the proposed Merseyside Supplementary Planning Document (SPD): Ensuring Choice of Travel (January 2007) to have a significant impact on European and international designated sites of nature conservation importance (Natura 2000 and Ramsar sites). The aim of the Merseyside SPD for Transport is to ensure a reasonable choice of access by all modes to new developments.

### S2 Appropriate Assessment Requirements and Approach

In accordance with Article 6 paragraphs (3) of the Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive) and Regulation 48 of the Habitats Regulations 1994, this Stage 1 Appropriate Assessment has been undertaken to ascertain any likely significant affects of the SPD on Natura 2000 sites and all Ramsar sites within the Merseyside area.

This Appropriate Assessment follows the DFLG *Planning for the Protection of European Sites: Appropriate Assessment* (August 2006) guidance, and the methodology and reporting follows the *Assessment of plans and projects significantly affecting Natura 2000 sites. Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*. Brussels, November 2001.

The Stage 1 Appropriate Assessment has been undertaken in conjunction with a Sustainability Appraisal for the SPD in compliance with EC 2001/42/EC Strategic Environmental Assessment (SEA) Directive and with the Office of the Deputy Prime Minister (ODPM) (now DCLG) Guidance '*Sustainability Appraisal of Regional Spatial Strategies and Local Development Documents*' (November 2005).

### S3 Scope of the Appropriate Assessment

The objective of this Stage 1 Appropriate Assessment: *Test of Likely Significance* is to act as a screening exercise to identify the likely impacts upon the Natura 2000 & Ramsar sites and to provide the competent authority with the necessary information to undertaken the Appropriate Assessment. The key component of the Stage 1 Appropriate Assessment is to consider whether the impacts of the SPD plan are likely to be significant. If these impacts are likely to be considered significant, then a more detailed Stage 2 Appropriate Assessment will be required.

### S4 Likely Significance of the Merseyside SDP

The proposed Merseyside Supplementary Planning Document (SPD): Ensuring Choice of Travel (January 2007) is highly unlikely to have any significant ecological impact on the Natura 2000 and Ramsar designated sites.

There are potential beneficial effects of the SPD, notably through long-term improvements in air quality which are likely to result from improved and more sustainable travel options across Merseyside. Poor air quality has been identified by Natural England as an environmental issue which could be restricting some qualifying features of designated sites (notably Manchester Mosses Special Area of Conservation) achieving a favourable conservation status.

There is the possibility that the SPD could have indirect cumulative and in-combination impacts on designated sites within the area. This negative impact is likely to be no worse than slight adverse. This possible negative impact is based on a potential increase in urbanisation which could result from improved transport facilities.

It is possible that in the long-term, any beneficial impacts could be neutralised by the possible adverse in-direct and cumulative impacts, as well as environmental changes which may result from climate change. Hence, the overall long-term impact of the SPD on Natura 2000 and Ramsar sites within Merseyside is therefore likely to be neutral.

In accordance with Regulation 48 of the Habitats Regulations 1994 the Stage 1 Test of Likely Significance has indicated that the Merseyside SPD is unlikely to have direct effects on Merseyside Natura 2000 and Ramsar sites. It has therefore been concluded that a Stage 2 Appropriate Assessment will not be required at this high level for the Merseyside area. In addition, in taking the SPD forward at the local level it is considered unlikely that AA would be required or appropriate, unless there are significant changes to the proposed SPD or significant changes in views of the statutory consultees. Within the context of AA, some screening of these issues in relation to potential changes is recommended at the local level at this later stage.

However, there could be potential cumulative and in-combination impacts as a result of other development plans and programmes. It is recommended that when each of the five Merseyside Local Authorities develops and adopts its own SPD, further investigation of the identified potential indirect cumulative effects associated with other plans and programmes should be carried out at the local level as part of the Stage 2 Appropriate Assessments being undertaken for other Development Plan Documents for example housing.

# 1 Introduction

## 1.1 Background

This Stage 1 Appropriate Assessment *Test of Likely Significance* is to assess the potential for the proposed Merseyside Supplementary Planning Document (SPD): Ensuring Choice of Travel (January 2007) to have a significant impact on European and international designates sites of nature conservation importance (Natura 2000 and Ramsar sites). The aim of the Merseyside SPD for Transport is to ensure a reasonable choice of access by all modes to new developments.

This Stage 1 Appropriate Assessment has been undertaken in conjunction with a Sustainability Appraisal for the SPD in compliance with EC 2001/42/EC Strategic Environmental Assessment (SEA) Directive and with the Office of the Deputy Prime Minister (ODPM) (now DCLG) Guidance '*Sustainability Appraisal of Regional Spatial Strategies and Local Development Documents*' (November 2005).

More detailed information on the environmental baseline conditions and the wider environmental impacts of the Merseyside SPD is presented in the Sustainability Appraisal Report (Mott MacDonald, 2007).

## 1.2 The Scope of the Appropriate Assessment

In accordance with Article 6 paragraphs (3) of the Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive), assessments are required where a plan or project not directly connected with or necessary to the management of the site may give rise to significant effects upon a Natura 2000<sup>7</sup> and Ramsar sites. The competent national authority shall then agree to the plan or project only after having ascertained that the plan or project will not adversely affect the integrity of the site concerned.

The objective of this Stage 1 Appropriate Assessment: *Test of Likely Significance* is to act as a screening exercise to identify the likely impacts upon the Natura 2000 & Ramsar sites and to provide the competent authority with the necessary information to undertake the Appropriate Assessment. The key component of the Stage 1 Appropriate Assessment is to consider whether the impacts of the SPD are likely to be significant. If these impacts are likely to be considered significant, then a more detailed Stage 2 Appropriate Assessment will be required.

The SPD is a generic plan covering the entire Merseyside area, and it is impossible to predict how the SPD will result in localised development changes. It is therefore impossible to assess the potential localised impacts of the SPD on individual designated sites, this can only be assessed at the project level. The intention of this Stage 1 Appropriate Assessment is to investigate the impacts of the SPD on the Natura 2000 & Ramsar designated sites within the Merseyside area as an entirety, rather than investigating specific impacts on the individual designated sites.

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<sup>7</sup> Natura 2000 sites consist of Special Areas of Conservation (SACs), designated under the EC Habitats Directive, and Special Protection Areas (SPAs) which are designated under the EC Birds Directive. Owing to the international importance of Ramsar sites, Defra request that, as good practice, Appropriate Assessments should not be explicitly limited to Natura 2000 sites.

### 1.3 Methodology

The Stage 1 Appropriate Assessment was undertaken in accordance with the *Assessment of plans and projects significantly affecting Natura 2000 sites. Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*. Brussels, November 2001, the *Natural England Habitats Regulation Guidance Note HRGN 1* (May 1997), and the *DFLG Planning for the Protection of European Sites: Appropriate Assessment* (August 2006). The structure of this report follows this EC methodological guidance.

Information regarding the ecological importance of each of the Natura 2000 and Ramsar designated sites which could be impacted by the plan was obtained from JNCC and Natural England. Desk-based assessments were then undertaken to ascertain whether the plan could potentially impact on the integrity of each of the designated sites, and impact on the conservation status (favourable or unfavourable status) of the qualifying interest features of the designated site (see table 1.1 for definitions).

**Table 1.1: Conservation Status & Integrity**

Status	Description
Favourable - 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 - habitat	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 was classified.

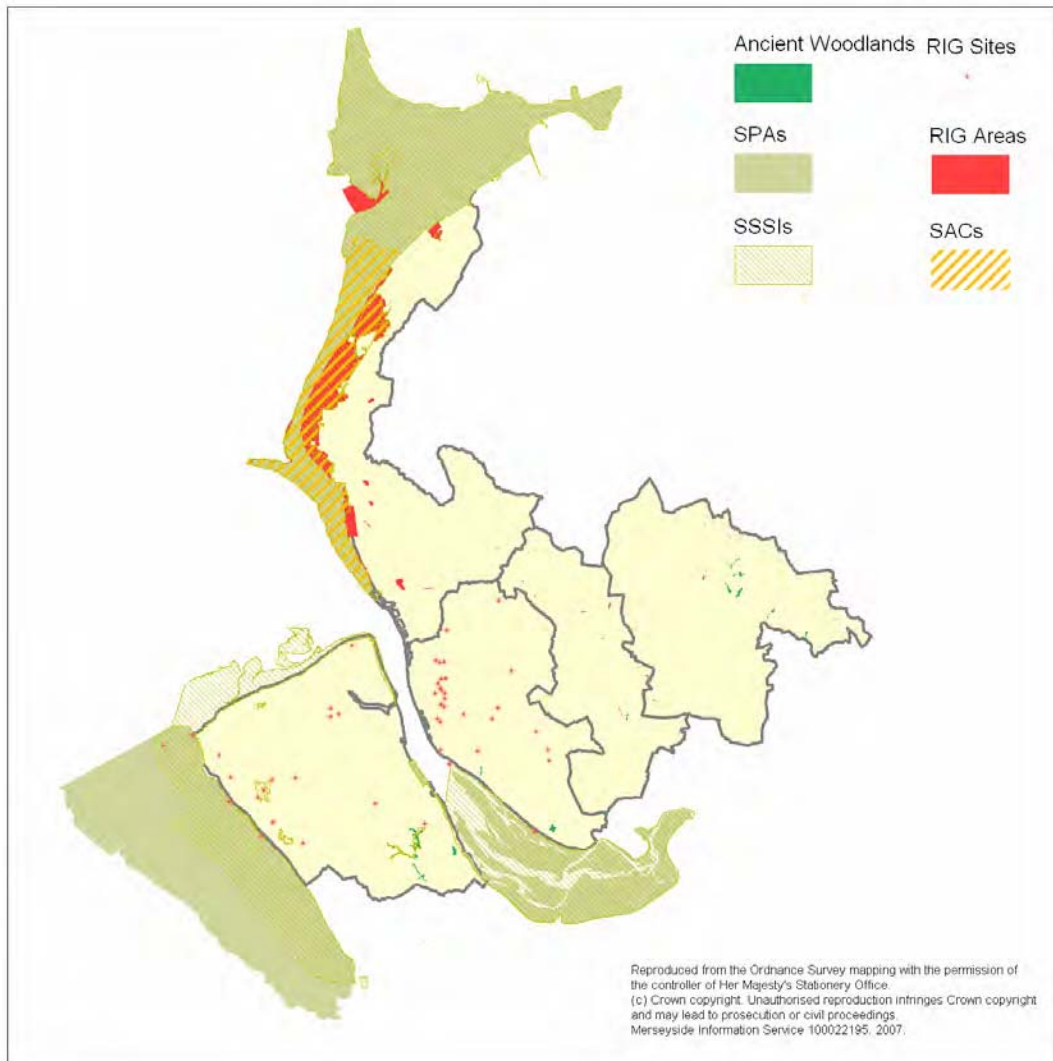
### 1.4 Consultation

The Merseyside SPD for Transport SA/SEA Scoping Report (March 2007) was produced by Mott MacDonald in conjunction with Merseyside LTP Support Unit, Merseytravel and the five Merseyside Local Authorities. The Scoping Report covered Stage A of the SA/SEA process and the Stage 1 Appropriate Assessment Consultation. The Scoping Report was sent out for a formal five week consultation period to a number of organisations to obtain their views, including the Environment Agency, Natural England and English Heritage who are defined as organisations with environmental responsibilities within the ODPM Guidance entitled *Sustainability Appraisal of Regional Spatial Strategies and Local Development Documents* (November 2005).

The Scoping Report was published on the LTP website and a notification letter sent to each of the consultees. Responses received from the consultees and how these comments were taken on board were recorded, and are presented in detail in the Sustainability Appraisal Report.

Natural England did not reply to the consultation, and no comments regarding the Appropriate Assessment was made by any of the other stakeholders.

**Figure 1.1: Location Map**



(Source: Merseyside Local Authorities 2006)

## **2 Habitats Directive Screening Matrix - Test of Likely Significance**

### **2.1 Description of the Merseyside SPD**

#### **2.1.1 Background to the Merseyside SPD**

The Merseyside SPD has been developed by the five Merseyside local authorities and is being progressed through each of their Local Development Frameworks (LDF) to ensure a consistent approach across Merseyside to securing access to new development. Therefore, for example, new housing developments should adequately cater for and support new bus routes, incorporate new cycle routes and parking facilities, and cater for pedestrians.

The Merseyside SPD for Transport is referred to in the Merseyside Local Transport Plan (LTP2) as being a critical element of the plan. The Merseyside SPD is being produced as a framework at Merseyside level but will then be taken forward and adopted separately by each of the Merseyside Local Authorities: Knowsley; Liverpool; Sefton; St Helens; and Wirral.

It is recognised that although the aim is a consistent framework for assessing accessibility across Merseyside, the SPD cannot be adopted simultaneously, and it is intended that each Local Authority will take forward and adopt the Merseyside SPD separately to coincide with their LDF timetables.

The Merseyside SPD aims to set out clear and consistent standards for Local Planning Authority (LPAs) and developers to ensure that a transparent, fair and clearly understood system is in place to improve the integration of land use planning and transport and to ensure that new developments promote good access by all modes of transport and encourage sustainable travel.

#### **2.1.2 Aim and Objectives of the Merseyside SPD**

The aim of the Merseyside SPD for Transport is to ensure a reasonable choice of access by all modes to new development;

The objectives of the SPD are to;

- Reduce the environmental impact of travel choices (reduce pollution / improve the local environment visually & in terms of road safety);
- Ensure choice – to maximise the ability of people to access services and opportunities;
- Promote healthier lifestyles (Healthier workforces / residential locations where people choose to walk or cycle);
- Reduce the level of traffic growth and congestion on the local road network, and;
- Encourage opportunities to improve the quality of development proposals by better use of space through the provision of less car parking spaces where appropriate.

### 2.1.3 Sustainability Appraisal Objectives for the Merseyside SPD

The Sustainability Appraisal and Strategic Environmental Impact Assessments for the SPD have identified sustainability objectives to assess the performance of the SPD in terms of its contribution to sustainability:

Protect and where necessary improve air quality within Merseyside by aiming to reduce concentrations of NO<sub>2</sub> generated from surface based transport.

Mitigate and adapt to climate change through reducing greenhouse gas emissions (such as CO<sub>2</sub>) from surface based transport.

Preserve, enhance and manage Merseyside's rich diversity of cultural, historic and archaeological buildings, areas, sites and features during design and implementation of transport projects.

Protect, enhance and manage biodiversity, species, wildlife habitats and sites of geological importance within Merseyside.

Protect and enhance the character of Merseyside's rural and urban landscapes and townscapes.

Protect the quality of inland, estuarine and coastal waters, maintain existing flood risk through appropriate mitigation, and efficient use of water resources.

Improve the health and wellbeing of communities within Merseyside, reduce transport related crime and road traffic accidents.

Improve accessibility of communities to key services, goods and amenities, and reduce community severance.

Reduce the need to travel by car by increasing opportunities to use public transport, walking and cycling and making improvements for people with mobility difficulties.

### 2.1.4 Alternative Options

Stage B of the ODPM Guidance (November 2005) requires that LDPs must develop and assess alternative options. The three options for the SPD are:

- Option One – Business as Usual/Without SPD
- Option Two – With SPD and without Air Quality Option
- Option Three – With SPD and with added Air Quality Chapter.

Full details regarding each of these options are provided in the Sustainability Appraisal Report (Mott MacDonald, 2007), and summarised below.

*Option one* is the without SPD option ('Business as Usual' Option). This option involves implementing current schemes, policies and standards as set out in the RSS, PPG13 and the LTP2 without the addition of the proposed SPD described in section 2.1.1 and 2.1.2.

*Option two* is the 'With SPD' option. The proposed SPD contains the same standards relating to transport assessments for major schemes as outlined in the DfT guidance in Option one. The main

difference of implementing the SPD would be the use of the accessibility checklist by developers/applicants for planning permission, and more stringent travel plan and parking standards.

*Option three* is the SPD plus air quality option. This option has been included because air quality is an issue in Merseyside, especially in Liverpool where two Air Quality Management Areas (AQMA) have been designated due to NO<sub>x</sub> (primarily from transport emissions). Currently it is uncertain whether all five local authorities would adopt the air quality section of the SPD. It is proposed that the air quality section could be included in the Liverpool SPD and could be added to the other authorities SPDs at a later stage.

In compliance with Natural England guidance on Appropriate Assessment, this Stage 1 Appropriate Assessment considers all options when assessing the potential impact on the designated sites.

### **2.1.5 Impact of Options, Indicators and SPD Objectives**

Full details regarding the environmental issues and implications of the SPD on the wider Merseyside environment are detailed in the Sustainability Appraisal Report (Mott MacDonald, 2007). As part of the SA/SEA, the Sustainability Appraisal Report has identified the indicators on the effectiveness and impacts of the SPD. For biodiversity these are listed as:

- Progress against Biodiversity Action Plan targets
- Number of hectares of habitats created from transport infrastructure projects
- Number of trees planted as a result of transport infrastructure projects
- Number of mitigation measures which enhance biodiversity included in transport infrastructure projects
- Number of geologically important sites adversely affected by transport.

A summary of these assessments is provided in Appendix B of this report.

These are clearly not specific to the Natura 2000 and Ramsar designated site, hence the following could act as likely indicators:

- The number of units of the designated site in favourable conservation status.
- The number of Merseyside projects undergoing Stage 1 and Stage 2 Appropriate Assessments.

These indicators are related to the integrity and status of the designated sites which could be attributed to any number of possible causes of change to the designated sites:

Furthermore the Sustainability Appraisal Report has identified the potential of each of the three SPD options on the eleven SA/SEA objectives. These are presented in Appendix B, and the impacts of the three options on the Natura 2000 and Ramsar designated sites in relation to the Stage 1 Appropriate Assessment are presented in section 2.4.



## 2.2 Natura 2000 & Ramsar Sites

The area covered by SPD includes the districts of Liverpool, Knowsley, Wirral, St Helens, and Sefton. Eight international and European designated sites occur within 2 km of the area covered by the SPD (see Figure 1.1), and therefore need to be considered by this Appropriate Assessment. These are:

- Ribble & Alt Estuaries SPA & Ramsar Site;
- Martin Mere Ramsar Site;
- Sefton Coast SAC;
- Dee Estuary SPA & Ramsar Site;
- Mersey Estuary SPA & Ramsar Site;
- Midland Meres & Mosses Ramsar Site;
- Rixton Clay Pits SAC;
- Manchester Mosses SAC;
- Mersey Narrows and North Wirral Foreshore proposed SPA and Ramsar Site;
- Liverpool Bay proposed SPA;
- Dee Estuary proposed SAC.

A description of these designated sites is provided in the following sections.

### (i) Ribble and Alt Estuaries SPA & Ramsar Site

This site occupies a stretch of the coastline between Liverpool and Preston on the north-west coast of England. It lies between the Mersey Estuary and Morecambe Bay.

Ribble and Alt estuaries are formed by extensive sand and mudflats backed, in the north, by saltmarsh of the Ribble Estuary and, to the south, the sand dunes of the Sefton Coast. The tidal flats and saltmarsh support internationally important populations of waterfowl in winter. The sand dunes support vegetation communities and amphibian populations of international importance.

The Ribble and Alt Estuaries support a large number of bird species at levels of national importance, namely the black-headed gull *Larus ridibundus* and the common tern *Sterna hirundo* during the breeding season. The intertidal flats also support internationally important populations of waterfowl which feed on a rich invertebrate fauna and *Enteromorpha* beds.

A large population of the natterjack toads *Bufo calamita* (Habitats Directive, Annex IV species) is present in the site which constitutes up to 40% of the Great Britain population.

Of importance is the presence of the lower plant petalwort, *Petalophyllum ralfsii*, a European Red List species (conservation status: Vulnerable, Habitats Directive Annex II species).

The dune system is a candidate Special Area of Conservation for the following Annex I habitats: dunes with creeping willow; shifting dunes; humid dune slacks; shifting dunes with marram; petalwort *Petalophyllum ralfsii*; great crested newt *Triturus cristatus*; coastal dune heathland and dune grassland (“grey dunes”). The last two are priority habitat types under the EC Habitats Directive.

### (ii) Martin Mere SSSI & Ramsar Site

Martin Mere is a low-lying wetland complex of open water, marsh and grassland habitats overlying deep peat and occupies part of a former lake and mire. Martin Mere lies between Ormskirk and Southport, close to the village of Burscough.

This site is particularly important for the numbers of migrant birds which it supports during the winter months. The wildfowl numbers are regularly in excess of 10,000 and more than 100 different species occur in the site. Thus, Martin Mere is of exceptional value for the diversity of its avifauna.

Additional scientific interest is provided by the presence of two locally important plant species: water dropwort *Oenanthe fistulosa* (a regionally scarce species) and whorled caraway *Carum verticillatum*. (found here in abundance in their only Lancashire locality, and one of very few sites in the North of England).

### **(iii) Sefton Coast SSSI & SAC**

Sefton Coast SSSI & SAC extends for over 20 km between Southport and Crosby. The site is of special interest for the presence of an important diversity of habitats referred to in the Annex I of the Habitats Directive. Namely, embryonic shifting dunes, shifting dunes with *Ammophila arenaria* (“white dunes”), dunes with *Salix repens* ssp. *argentea*, humid dune slacks, fixed dunes with herbaceous vegetation (“grey dunes”) and Atlantic decalcified fixed dunes (*Calluno-Ulicetea*). The last two habitat types are classified as priority features. As a result of the diversity of habitats present at this site it has been classified as a Special Area of Conservation.

The presence of the nationally scarce liverwort *Petalophyllum ralfsii*, the nationally rare grey hair grass *Corynephorus canescens* and nationally rare moss *Bryum neodamense* adds to the scientific importance of this site.

Other reasons for notification include populations of internationally important wintering waterfowl and its nationally and internationally important populations of individual waders. The populations of sand lizard *Lacerta agilis*, natterjack toad *Bufo calamita* and great-crested newt *Triturus cristatus* are also of special interest, along with populations of the Red Data Book species, sandhill rustic moth *Luperina nickerlii gueneei*.

### **(iv) The Dee Estuary SPA & Ramsar Site**

The Dee Estuary lies between the Wirral peninsula, England, and the Flintshire coastline of north-east Wales. It is adjacent to the Mersey Estuary to the east and the Clwyd Estuary to the west. The Dee Estuary is one of the top five estuaries in the UK for twintering and passage waterfowl populations.

The site is classified as a Ramsar wetland for its extensive intertidal mud and sand flats with large expanses of saltmarsh towards the head of the estuary. Habitats Directive Annex I features present include: estuaries, mudflats and sandflats not covered by seawater at low tide, annual vegetation of drift lines, vegetated sea cliffs of the Atlantic and Baltic coasts, *Salicornia* and other annuals colonising mud and sand, Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*), embryonic shifting dunes, shifting dunes along the shoreline with *Ammophila arenaria* (“white dunes”), fixed dunes with herbaceous vegetation (“grey dunes”) and humid dune slacks.

Noteworthy flora at this site includes the nationally scarce rock sea-lavender *Limonium britannicum* and the Portland spurge *Euphorbia portlandica*.

The noteworthy fauna includes several Annex I bird species occurring at levels of international importance (e.g. common shelduck *Tadorna tadorna*, Eurasian oystercatcher *Haematopus ostralegus*, common redshank *Tringa totanus*, northern pintail *Anas acuta* and red knot *Calidris alpina alpina*). The site is also important for the presence of a number of bird species occurring at levels of national importance.

The sandhill rustic moth *Luperina nickerlii gueneei* (British Red Data Book) the river lamprey *Lampetra fluviatilis* and the sea lamprey *Petromyzon marinus* add to the conservation importance of the site.

#### **(v) Mersey Estuary SSSI, SPA, & Ramsar Site**

The Mersey Estuary is a large estuary which comprises extensive areas of saltmarsh and extensive intertidal sand and mudflats, with areas of brackish marsh, rocky shoreline and boulder clay cliffs. It is located in north-west England between the counties of Cheshire and Merseyside.

The site is internationally important for wildfowl. Important roosting sites for wildfowl and waders at high tide are present and supports large numbers of these birds during the winter. Other bird species of international importance are the common shelduck *Tadorna tadorna*, black-tailed godwit *Limosa limosa islandica*, common redshank *Tringa totanus*, Eurasian teal *Anas crecca*, northern pintail, *Anas acuta* and the dunlin *Calidris alpina alpina*.

The intertidal sediments are rich in invertebrates which provide valuable food resource for the birds are plants and seeds from the salt-marsh and adjacent agricultural land.

The north side of the estuary is partially formed by boulder clay cliffs where a number of unusual plant species occur, including the yellow-wort *Blackstonia perfoliata* and the bristly oxtongue *Picris echioides*.

Common flora species in the areas of salt-marsh are the glasswort *Salicornia* spp. and the sea grass *Puccinellia maritima*. The parts of the Mersey Estuary are not grazed by sheep or cattle present a more diverse flora.

#### **(vi) Midland Meres and Mosses Phase 2 Ramsar Site**

The Midland Meres and Mosses comprises of 18 lowland open water and peatland in the north-west Midlands of England and north-east Wales. These sites include open water bodies (meres) the majority of which are nutrient- rich with associated fringing habitats, reed swamp, fen, carr and damp pasture. In other cases peat accumulation has resulted in nutrient-poor peat bogs (mosses).

It is the wide range of lowland wetland types and successional stages that constitute the site's primary interest. This variety of habitats also supports nationally important flora and fauna, in particular both higher and lower plants and invertebrates.

A number of rare species of plants associated with wetlands are present including the nationally scarce cowbane *Cicuta virosa*, and the elongated sedge *Carex elongate*. The nationally scarce bryophytes *Dicranum affine* and *Sphagnum pulchrum* are also present.

The site also supports an important assemblage of invertebrates including several rare species. These include 16 species of British Red Data Book insects, including the endangered species: the moth *Glyphipteryx lathamella*, the caddisfly *Hagenella clathrata* and the sawfly *Trichiosoma vitellinae*.

#### **(vii) Rixton Clay Pits SAC**

Rixton Clay Pits, situated east of Warrington, is characterized by the presence of humid and mesophile grassland, scrub and mature secondary woodland. There are also a number of important ponds which resulted from the extraction of clay at different periods in the past. This has left a mosaic of water-filled hollows and clay banks which support a diversity of habitats of varying maturity.

Rixton Clay Pits is of importance for its calcareous grassland communities and for a large breeding population of great crested newts *Triturus cristatus*. This species is known to occur in at least 20 ponds across the site.

#### **(viii) Manchester Mosses SAC**

This site is mainly degraded raised bogs still capable of natural regeneration and is considered to be one of the best areas of its kind in the United Kingdom. The presence of this type of habitat is of primary interest as is one of the habitats referred in the Annex I of the Habitats Directive.

Part of Manchester Mosses is currently undergoing restoration. These sites have suffered from drainage in the past and are still affected by continued drainage from the boundary ditches. The adjacent land is mainly agricultural but heavy industry is also present close to these sites. This must be taken into account in the restoration process as re-wetting is one of the key requirements (with implications for agricultural fields) and industrial impacts on air quality may have implications on *Sphagnum* regeneration.

The recent rehabilitation management on the site has already lead to the spread of peat-forming species.

#### **(ix) Mersey Narrows and North Wirral Foreshore proposed SPA and Ramsar Site**

Mersey Narrows and North Wirral Foreshore is located on the North West coast of England at the mouths of the Mersey and Dee estuaries. The site comprises intertidal habitats at Egremont foreshore, man-made lagoons at Seaforth and the extensive intertidal flats at North Wirral Foreshore. Egremont is most important as a feeding habitat for waders at low tide whilst Seaforth is primarily a high tide roost site, as well as a nesting site for terns. North Wirral Foreshore supports large numbers of feeding waders at low tide and also includes important high tide roost sites. The most notable feature of the site is the exceptionally high density of wintering Turnstones. Mersey Narrows and North Wirral Foreshore has clear links in terms of bird movements with the nearby Dee Estuary SPA, Ribble and AIt Estuaries SPA, and (to a lesser extent) Mersey Estuary SPA.

**(x) Liverpool Bay proposed SPA**

Liverpool Bay is located in the south-eastern region of the northern part of the Irish Sea, bordering North West England and north Wales. The pSPA is a broad arc from Rossall Point near Fleetwood, Lancashire to Moelfre on the north-east coast of Anglesey. The sea bed consists of a wide range of mobile sediments. Large areas of muddy sand stretch from Rossall Point to the Ribble Estuary, and sand predominates in the remaining areas, with a concentrated area of gravelly sand off the Mersey Estuary and a number of prominent sandbanks off the English and Welsh coasts. The tidal currents throughout the Bay are generally weak, which combined with a relatively large tidal range facilitates the deposition of sediments. The seabed and waters of the site provide an important habitat in the non-breeding season for major concentrations of red-throated divers *Gavia stellata* and sea-ducks, notably common scoter *Melanitta nigra*, which visit the area to feed on the fish, mollusc, and crustacean populations. The area is also a feeding ground for breeding and passage terns.

**(xi) Dee Estuary proposed SAC**

The Dee Estuary is one of the largest estuaries in the UK, with an area of over 14,000 ha, (38,765 acres). At low water spring tides, over 90% of the estuary dries out. The extensive intertidal flats of the Dee Estuary form the fifth largest such area within an estuary in the UK. The intertidal area is currently dominated by mudflats and sandflats with the remainder being largely saltmarsh. The Dee Estuary includes approximately 2,480 ha of saltmarsh representing about 7% of the total area of saltmarsh in the UK (Dargie, 2001). The Dee Estuary forms part of the complex of estuaries, which provide habitats for migratory waterbirds along the shores of Liverpool Bay, which in turn form part of the chain of such sites along the western coast of the UK. The relatively mild winter weather conditions found here compared to continental Europe can be of additional importance to the survival of wintering waterbirds during periods of severe weather. The Dee Estuary ranks amongst the top ten British estuaries for the size of its wintering waterbird population (Musgrove *et. al.*, 2001). Outside of this period, the Dee Estuary is also of particular importance as a staging area for migratory waterbirds on autumn and spring passages it lies on the East Atlantic Flyway route.

**2.3 Natural Areas**

Merseyside encompasses two Natural Areas, the Liverpool Bay Natural Area and the Urban Merseyside Basin Natural Area.

The Urban Mersey Basin is one of the most densely populated parts of the country. Central to this area are the Rivers Mersey and Irwell with an associated network of canals, rivers and valleys, around which the major cities and industries have developed. The Urban Mersey Basin supports a varied assemblage of habitats and species, though many of the habitats have been modified and created by human activity.

The remaining peat mosslands have been affected by fragmentation, drainage and peat removal but a large number of raised bogs remain intact and are being restored. The most distinctive ancient woodlands of the Urban Mersey Basin are those associated with narrow valleys - the 'cloughs'. Significant areas of lowland heathland remain on the Wirral (Natural England webpages, 2007).

The hinterland of Liverpool Bay is also heavily developed with both industrial and residential areas prominent along the coastline. Despite the high level of development, intervening stretches of relatively unprotected coast are of international conservation value.

Estuaries are characteristic features and include the Dee, Mersey and Ribble. They are among the largest in Britain with extensive areas of mudflats, sandflats, saltmarsh and grazing marsh. The estuaries support very high numbers of wildfowl and waders and are not only internationally important for wintering species, but are also important staging posts for migrating birds during spring and autumn. Sand dunes dominate the Sefton Coast and there are smaller, though equally important, fragments of dunes on the Wirral and the Fylde.

The sea bed of Liverpool Bay contains few species but they occur in great abundance and are exploited by wintering seaduck and divers, and small numbers of porpoises and dolphins. Grey seals are also important, together with a number of fisheries, including those associated with cockles and shrimps.

## 2.4 Assessment Criteria

The following sections summarise the potential impacts of the SPD on the Natura 200 and Ramsar sites, in accordance with the EC methodological guidance for undertaking Appropriate Assessments.

<p><b>Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.</b></p>	<p>The Merseyside SPD plan sets out the need to assess and to take into consideration accessibility, cycle and car parking standards and transport assessments for new developments within the Merseyside district.</p>
<p><b>Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 site.</b></p>	<p><u>Overall Impact</u></p> <p>The overall impact of the SPD plan is likely to be positive, mainly because:</p> <ul style="list-style-type: none"> <li>• There are likely to be beneficial affects on air quality in terms of NO<sub>2</sub> and CO<sub>2</sub> reduction associated with surface based transport through increased transport options such as public transport, walking and cycling.</li> <li>• There could also be indirect benefits on biodiversity through sensitive landscaping and habitat creation as mitigation in transport developments.</li> </ul> <p>The SPD does not specifically promote new developments which could potentially impact on Natura 2000 &amp; Ramsar sites. However nor does the plan explicitly restrict any development which could impact on a site.</p> <p>The SPD encourages new developments to be accessible by a range of transport options. This will improve community accessibility to services, goods,</p>

	<p>amenities and jobs, and increase social inclusion.</p> <p>Improved accessibility could result in an expansion in urban development owing to improved transport systems. The Merseyside area is already heavily urbanised (as outlined in the Natural Areas description, section 2.3). Any plan which could potentially increase urbanisation could have the potential to have cumulative indirect impacts on the designated sites.</p> <p>Potential negative impacts should be avoided by ensuring that an Appropriate Assessment is undertaken on all planned development projects within the zone of influence of the individual designated sites.</p> <p>It is recommended that the potential cumulative and in-combination effects of the SPD are investigated in full in the Appropriate Assessment for the Merseyside Development Plan Documents.</p> <p><u>Impact of Options</u></p> <p>Option 1: Business as Usual</p> <p>Four of the eight designated sites in this Stage 1 Appropriate Assessment are also Sites of Special Scientific Interest. Condition assessments of SSSI's are regularly undertaken, and in Merseyside three out of four indicate that the SSSI's are in favourable conservation status, with no implication that urbanisation or air quality is having a current impact (The site which is largely in unfavourable condition is Sefton Coast, its condition is largely due to poor habitat management, and not urbanisation or air quality. However, at Manchester Mosses the ability of the qualifying features to recover would appear to be hindered by poor air quality.</p> <p>While there is no empirical evidence that 'business as usual' is having a significant impact on the designate site, there is no evidence to suggest business as usual is not having an impact. Air quality in the region is an issue and does not appear to be improving significantly. Climate change could also have further significant impacts on the conservation status of the designated site.</p> <p>Under the 'business as usual' scheme there are policies and strategies in the LTP for improving air</p>
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	<p>quality, option 1, could have the potential to result in a slight positive effect on the designated sites.</p> <p><b>Option 2: The SPD without Air Quality Chapter</b></p> <p>The addition of the SPD without the Air Quality chapter is unlikely to make a significantly different beneficial or adverse affects to that of Option 1. More stringent travel plans and parking standards could reduce the need to build new car parks or similar transport infrastructure which would have had a slight adverse impact on designated sites. Hence, the impact of Option 2 on designated sites is likely to be negligible to slight beneficial.</p> <p><b>Option 3: The SPD with the Air Quality Chapter</b></p> <p>Air quality is a significant environmental issue in Merseyside, and poor air quality does appear to be adversely affecting the ability of qualifying features to be fully restored to a favourable status, notably at the Manchester Mosses SAC.</p> <p>Option 3 which could potentially improve air quality is reasonably likely to have a slight to moderate beneficial affect on at least one designated site (Manchester Mosses) and have the potential to be beneficial at the other designated sites.</p>
<p><b>Describe any likely changes to the site arising as a result of:</b></p> <ul style="list-style-type: none"> <li>- <b>Reduction in habitat area</b></li> <li>- <b>Disturbance to key species</b></li> <li>- <b>Habitat or species fragmentation</b></li> <li>- <b>Reduction in species density</b></li> <li>- <b>Changes in key indicators of conservation value (water quality etc)</b></li> <li>- <b>Climate change</b></li> </ul>	<p>In the short to medium term the SPD will not directly cause any changes to those designated sites as listed in section 2.2. of this report.</p> <p>However, in the long-term there could be slight beneficial changes as the air quality is predicted to be improved. However, the positive effects from the SPD could potentially be neutralised by increased urban development within the region.</p> <p>The SPD (at the very least) should assist in compensating against future development and industrial growth within the region</p>
<p><b>Describe any likely impacts on the Natura 2000 site as a whole in terms of:</b></p> <ul style="list-style-type: none"> <li>- <b>Interference with the key</b></li> </ul>	<p>The SPD is highly unlikely to directly impact on any of the Natura 2000 &amp; Ramsar sites as a whole.</p>



<p><b>relationships that define the structure of the site</b></p> <ul style="list-style-type: none"> <li>- <b>Interference with key relationships that define the function of the site.</b></li> </ul>	
<p><b>Provide indicators of significance as a result of the identification of effects set out above in terms of:</b></p> <ul style="list-style-type: none"> <li>- <b>Loss;</b></li> <li>- <b>Fragmentation;</b></li> <li>- <b>Disruption</b></li> <li>- <b>Disturbance</b></li> <li>- <b>Change to key elements of the site</b></li> </ul>	<p>The SPD is high unlikely to cause any negative effect, such as habitat loss, fragmentation, disruption, disturbance, and is highly unlikely to change key elements of the sites.</p> <p>The current status of one of the designated sites, Manchester Mosses SAC (section 2.2.8), clearly indicates a restriction in regeneration of the qualifying features owing to industrial impacts on air quality. Improvements in air quality and the conservation status of the qualifying features are indirect indicators of significant impacts.</p>
<p><b>Describe from the above those elements of the project or plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known.</b></p>	<p>No elements of the plan or combination of elements of the plan are likely to cause a significant impact.</p> <p>There is a degree of uncertainty regarding indirect impacts of the plan. The rate of urban and rural development and industrialisation in Merseyside area is unknown but the region is likely to see significant economic growth over the next ten years. Uncertainty exists as to how these growths could change air quality in the region, and how these may be compensated through the Merseyside SPD, and other environmental plans and policy for the area.</p>

### 3 Habitats Directive Screening Matrix - Finding of No Significant Effects

#### 3.1 Plan Background

<p><b>Is the project or plan directly connected with or necessary to the management of the site (provide details)?</b></p>	<p>No</p>
<p><b>Are there other projects or plans that together with the project or plan being assessed could affect the site (provide details)?</b></p>	<p>Yes, there are many other plans which could have potential in-combination or accumulative impacts. The main plans being:</p> <ul style="list-style-type: none"> <li>- Merseyside Second Local Transport Plan 2006-2011</li> <li>- Liverpool City Council Air Quality Action Plan</li> <li>- Knowsley UDP (June 2006)</li> <li>- St Helens UDP (July 1998)</li> <li>- Liverpool UDP (November 2002)</li> <li>- Sefton UDP (June 2006)</li> <li>- Wirral UDP (February 2000)</li> <li>- Liverpool First – Liverpool Community Strategy 2005-2008</li> <li>- Knowsley Community Plan 2002-2012</li> <li>- A Vision for Sefton – Sefton Community Strategy 2006-2011</li> <li>- St Helens Community Plan 2002-2012</li> <li>- Getting Better Together – Wirral Community Strategy 2003-2013</li> <li>- Liverpool City Regional Development Programme - Update 2006</li> <li>- Housing Market Renewal Initiative – Liverpool Delivery Plan (May 2004)</li> <li>- Rising to the Challenge – A Climate Change Action Plan for England’s Northwest 2007-2009 (November 2006).</li> </ul> <p>Potential impact resulting from possible in-combination affects on the Natura 2000 &amp; Ramsar sites should be covered in the Appropriate Assessment for the Merseyside Development Plan Documents.</p>

### 3.2 Assessment of Significance Effects

<p><b>Describe how [summary] the project or plan (alone or in combination) is likely to affect the Natura 2000 site.</b></p>	<p>The Merseyside SPD is highly unlikely to have any significant affects on the designated sites, except for possible in-combination and cumulative affect if the SPD has the potential to increase urbanisation in Merseyside resulting from an improved transport provision.</p> <p>The direct impacts of the SPD (Option 3) are likely to be beneficial owing to possible improvements in air quality. These beneficial affects could be, in the long-term neutralised by negative impacts resulting from climate change. Climate change impacts are likely to include increased submersion and erosion of coastal habitats. However, climate change impacts are poorly understood and with a relatively high degree of uncertainty. A detailed assessment on the potential impacts of climate change on Merseyside designated sites has not been carried out and beyond the remit of this document.</p>
<p><b>Explain why these effects are not considered significant.</b></p>	<p>The Merseyside SPD will not have any direct negative impacts on the designated sites, and the only likely significant environmental impact is a possible slight beneficial long-term change in air quality. But the beneficial effects are not necessarily considered as being significant owing to potential negative impacts from climate change.</p>

## 4 Conclusion

The proposed Merseyside SPD: Ensuring Choice of Travel is highly unlikely to have any significant impacts on the Natura 2000 and Ramsar sites within the Merseyside area. In the long-term there could be potential beneficial effects owing to possible improvements in air quality. However, these long-term effects will be dependent upon the extent and in-combination and cumulative impacts of others development and urbanisation across Merseyside. It is also possible that climate change could neutralise any long-term beneficial effects of the SPD on the designated sites.

In accordance with Regulation 48 of the Habitats Regulations 1994 the Stage 1 Test of Likely Significance has indicated that the Merseyside SPD is unlikely to have direct effects on Merseyside Natura 2000 and Ramsar sites. It has therefore been concluded that a Stage 2 Appropriate Assessment will not be required at this high level for the Merseyside area. In addition, in taking the SPD forward at the local level it is considered unlikely that AA would be required or appropriate, unless there are significant changes to the proposed SPD or significant changes in views of the statutory consultees. Within the context of AA, some screening of these issues in relation to potential changes is recommended at the local level at this later stage.

However, there could be potential cumulative and in-combination impacts as a result of other development plans and programmes. It is recommended that when each of the five Merseyside Local Authorities develops and adopts its own SPD, further investigation of the identified potential indirect cumulative effects associated with other plans and programmes should be carried out at the local level as part of the Stage 2 Appropriate Assessments being undertaken for other Development Plan Documents for example housing

## 5 References

ODPM (September 2005) A Practical Guide the SEA Directive.

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ODPM/ DfT (August 2006) Draft Guidance on Transport Assessment.

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Mott MacDonald (November 2006) MIS Six Month Monitoring Review.

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Mott MacDonald (2007) Merseyside Supplementary Planning Document for Transport 'Ensuring Choice of Travel' Sustainability Appraisal Report. April 2007.

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Sub-Regional Partnership (2006) Liverpool City Region Development Programme – Update 2006.

Sustainable Development Working Group (October 2005) Draft Merseyside Environmental Objectives and Indicators for SEA/SA.

The Mersey Partnership (July 2006) Merseyside Action Plan.



## Appendix A Designated Site Citation

### A.1 Special Areas of Conservation (SACs)

#### A.1.1 Sefton Coast



Location of Sefton Coast SAC/SCI/cSAC

Country	England
Unitary Authority	Sefton
Grid Ref*	SD281099
Latitude	53 34 51 N
Longitude	03 05 06 W
SAC EU code	UK0013076
Status	Designated Special Area of Conservation (SAC)
Area (ha)	4563.97

\* This is the approximate central point of the SAC. In the case of large, linear or composite sites, this may not represent the location where a feature occurs within the SAC.

#### *General site character*

Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins) (50%)

Coastal sand dunes. Sand beaches. Machair (30%)

Heath. Scrub. Maquis and garrigue. Phygrana (10%)

Coniferous woodland (10%)

#### *Annex I habitats that are a primary reason for selection of this site*

2110 Embryonic shifting dunes

The Sefton Coast in north-west England displays both rapid erosion and active progradation. Embryonic shifting dunes are of the northern, lyme-grass *Leymus arenarius*, type and are mainly associated with the areas of progradation, though vegetation dominated by lyme-grass is also found associated with areas of persistent, heavy disturbance further inland.

#### 2120 Shifting dunes along the shoreline with *Ammophila arenaria* (‘white dunes’)

A substantial stretch of the Sefton Coast dune system in north-west England is fronted by about 163 ha of shifting dunes. Marram *Ammophila arenaria* usually dominates the mobile dunes, amidst considerable areas of blown sand. Where rates of sand deposition decline, lyme grass *Leymus arenarius*, sea-holly *Eryngium maritimum* and cat’s-ear *Hypochaeris radicata* occur, with red fescue *Festuca rubra* and spreading meadow-grass *Poa humilis* present on the more sheltered ridges. Sea spurge *Euphorbia paralias* and the nationally scarce dune fescue *Vulpia fasciculata* are frequent, while sea bindweed *Calystegia soldanella* is very local. Formby Point is the hinge point between two coastal sub-cells. The zone around the Point has been eroding since 1906 while areas north and south of this zone are accreting (where the nature of the coast allows). The rapid erosion is therefore reducing the area of shifting dunes at Formby, and high, steep eroding dunes abut the beach with extensive areas of blown sand immediately inland.

#### 2130 Fixed dunes with herbaceous vegetation (‘grey dunes’) \* Priority feature

Sefton Coast is a large area of predominantly calcareous dune vegetation in north-west England. The sequence of habitats from foredunes to dune grassland and dune slack is extensive, and substantial areas of open dune vegetation remain. There are large areas of semi-fixed and fixed dunes with herbaceous vegetation exhibiting considerable variation from calcareous to acidic. In the calcareous areas common restharrow *Ononis repens* is prominent. There are small but significant areas of decalcified sand with grey hair-grass *Corynephorus canescens*, a species more characteristic of decalcified fixed dunes in the east of England and around the Baltic.

#### 2170 Dunes with *Salix repens* ssp. *argentea* (*Salicion arenariae*)

At Sefton Coast on the north-west coast of England there are extensive dune slacks dominated by creeping willow *Salix repens* ssp. *argentea*, making this site particularly important for dunes with *Salix repens* ssp. *argentea*. Radley (1994) estimated that 99 ha, or 43% of the total English resource of the main dune slack community dominated by creeping willow occurred here. The species also dominates areas of free-draining dune grassland to a much greater extent than at most other UK sites. Despite some urban and recreational development, both successional and geomorphological processes are still active and the structure and function of the site as a whole is still well-conserved. Management, including partial removal of planted conifers, has taken place in recent years to maintain and enhance these processes

#### 2190 Humid dune slacks

Sefton Coast is a large area of predominantly calcareous dune vegetation, containing extensive areas representative of humid dune slacks in north-west England. Some active slack formation can still be seen and a variety of successional stages are represented. The sequence from foredunes to dune grassland and dune slack is extensive. The site contributes to the range and variation of humid dune slack vegetation, being a large and representative base-rich system towards the northern limit for some humid dune slack communities along the west coast of Britain.

*Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site*



2150 Atlantic decalcified fixed dunes (*Calluno-Ulicetea*) \* **Priority feature**

*Annex II species that are a primary reason for selection of this site*

1395 Petalwort *Petalophyllum ralfsii*

A large population of petalwort *Petalophyllum ralfsii* occurs at Sefton Coast, the only site chosen for this species in north-west England. The plant was first recorded on the Sefton Coast at Ainsdale in 1861 and it is still found within the dune system between Southport and Ainsdale. It seems to prefer damp ground around the edges of dune slacks of fairly recent origin, with the largest populations found in slacks of less than 25 years old. The plant is often found in association with footpaths, where light trampling keeps the ground vegetation sparse; infrequently-used paths or less-trampled edges of pathways seem to be favoured. Although the preferred habitat is short damp turf with plenty of bare patches, populations have been found growing amongst dense marram *Ammophila arenaria* with few other associated species.

*Annex II species present as a qualifying feature, but not a primary reason for site selection*

1166 Great crested newt *Triturus cristatus*

UK SAC data form

## NATURA 2000

### STANDARD DATA FORM

FOR SPECIAL PROTECTION AREAS (SPA)  
FOR SITES ELIGIBLE FOR IDENTIFICATION AS SITES OF COMMUNITY IMPORTANCE (SCI)  
AND  
FOR SPECIAL AREAS OF CONSERVATION (SAC)

#### 1. Site identification:

1.1 Type  1.2 Site code

1.3 Compilation date  1.4 Update

1.5 Relationship with other Natura 2000 sites

1.6 Respondent(s)

1.7 Site name

1.8 Site indication and designation classification dates

date site proposed as eligible as SCI	199601
date confirmed as SCI	200412
date site classified as SPA	
date site designated as SAC	200504

#### 2. Site location:

2.1 Site centre location

longitude	latitude
03 05 06 W	53 34 51 N

2.2 Site area (ha)  2.3 Site length (km)

2.5 Administrative region

NUTS code	Region name	% cover
UK84	Merseyside	100.00%

2.6 Biogeographic region

Alpine    
  Atlantic    
  Boreal    
  Continental    
  Macaronesia    
  Mediterranean

#### 3. Ecological information:

3.1 Annex I habitats

Habitat types present on the site and the site assessment for them:

Annex I habitat	% cover	Representativity	Relative surface	Conservation status	Global assessment
Embryonic shifting dunes	0.2	B	B	A	A

UK SAC data form

Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes")	3.2	B	B	B	B
Fixed dunes with herbaceous vegetation ("grey dunes")	12.6	A	B	B	B
Atlantic decalcified fixed dunes ( <i>Calluna-Ulicetea</i> )	1.5	B	B	B	C
Dunes with <i>Hippophae rhamnoides</i>	0.4	D			
Dunes with <i>Salix repens</i> ssp. <i>argentea</i> ( <i>Salicion arenariae</i> )	2	A	B	B	A
Humid dune slacks	4	B	B	B	B

3.2 Annex II species

Species name	Population			Site assessment				
	Resident	Migratory			Population	Conservation	Isolation	Global
		Breed	Winter	Stage				
<i>Triturus cristatus</i>	Present	-	-	-	C	B	C	C
<i>Petalophyllum ralfsii</i>	1001-10,000	-	-	-	B	A	B	B

4. Site description

4.1 General site character

Habitat classes	% cover
Marine areas. Sea inlets	
Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins)	50.0
Salt marshes. Salt pastures. Salt steppes	
Coastal sand dunes. Sand beaches. Machair	30.0
Shingle. Sea cliffs. Islets	
Inland water bodies (standing water, running water)	
Bogs. Marshes. Water fringed vegetation. Fens	
Heath. Scrub. Maquis and garrigue. Phygrana	10.0
Dry grassland. Steppes	
Humid grassland. Mesophile grassland	
Alpine and sub-alpine grassland	
Improved grassland	
Other arable land	
Broad-leaved deciduous woodland	
Coniferous woodland	10.0
Evergreen woodland	
Mixed woodland	
Non-forest areas cultivated with woody plants (including orchards, groves, vineyards, dehesas)	
Inland rocks. Screes. Sands. Permanent snow and ice	
Other land (including towns, villages, roads, waste places, mines, industrial sites)	
<b>Total habitat cover</b>	<b>100%</b>

4.1 Other site characteristics

<p><b>Soil &amp; geology:</b> Basic, Sand</p> <p><b>Geomorphology &amp; landscape:</b> Coastal, Open coast (including bay)</p>
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4.2 Quality and importance

<p>Embryonic shifting dunes</p> <ul style="list-style-type: none"> <li>• which is considered to be rare as its total extent in the United Kingdom is estimated to be less than 1000 hectares.</li> <li>• for which this is considered to be one of the best areas in the United Kingdom.</li> </ul>
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*UK SAC data form*

<p>Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes")</p> <ul style="list-style-type: none"> <li>for which this is considered to be one of the best areas in the United Kingdom.</li> </ul> <p>Fixed dunes with herbaceous vegetation ("grey dunes")</p> <ul style="list-style-type: none"> <li>for which this is considered to be one of the best areas in the United Kingdom.</li> </ul> <p>Atlantic decalcified fixed dunes (<i>Calluno-Ulicetea</i>)</p> <ul style="list-style-type: none"> <li>which is considered to be rare as its total extent in the United Kingdom is estimated to be less than 1000 hectares.</li> <li>for which the area is considered to support a significant presence.</li> </ul> <p>Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (<i>Salicion arenariae</i>)</p> <ul style="list-style-type: none"> <li>which is considered to be rare as its total extent in the United Kingdom is estimated to be less than 1000 hectares.</li> <li>for which this is considered to be one of the best areas in the United Kingdom.</li> </ul> <p>Humid dune slacks</p> <ul style="list-style-type: none"> <li>for which this is considered to be one of the best areas in the United Kingdom.</li> </ul> <p><i>Triturus cristatus</i></p> <ul style="list-style-type: none"> <li>for which the area is considered to support a significant presence.</li> </ul> <p><i>Petalophyllum ralfsii</i></p> <ul style="list-style-type: none"> <li>for which this is considered to be one of the best areas in the United Kingdom.</li> </ul>
--

**4.3 Vulnerability**

<p>Sefton Coast is primarily owned and managed by Sefton Council, with other major landowners including English Nature (Ainsdale Sand Dunes and Cabin Hill NNRs), the National Trust, Ministry of Defence, and a number of international standard golf clubs. The extensive sand dunes and intertidal areas attract large numbers of summer tourists. This impact is addressed in Sefton Metropolitan Borough Council's Beach Management Plan. Co-ordinated management of the coast is achieved through the long-standing Sefton Coast Management Scheme (now the Sefton Coast Partnership), in which all key landowners play a part. Golf course management achieves a positive balance between play areas and important habitats.</p> <p>Concerns have been raised regarding water abstraction on the coast. This is being addressed through detailed modelling of the dune aquifer by the Environment Agency. The coniferous plantations are also a source of debate, with a balance needed between restoration of dune habitats and public enjoyment of the woodlands. Work on this is being carried out on Ainsdale Sand Dunes National Nature Reserve, which holds a significant proportion of these woodlands.</p>
---

**5. Site protection status and relation with CORINE biotopes:**

**5.1 Designation types at national and regional level**

Code	% cover
UK01 (NNR)	11.3
UK04 (SSSI/ASSI)	100.0

### A.1.2 Rixton Clay Pits



Location of Rixton Clay Pits SAC/SCI/cSAC

<b>Country</b>	England
<b>Unitary Authority</b>	Warrington
<b>Grid Ref*</b>	SJ684901
<b>Latitude</b>	53 24 23 N
<b>Longitude</b>	02 28 31 W
<b>SAC EU code</b>	UK0030265
<b>Status</b>	Designated Special Area of Conservation (SAC)
<b>Area (ha)</b>	13.99

*General site character*

Inland water bodies (standing water, running water) (20%)  
 Heath. Scrub. Maquis and garrigue. Phygrana (25%)  
 Humid grassland. Mesophile grassland (55%)

*Annex I habitats that are a primary reason for selection of this site*

Not applicable

*Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site*

Not applicable.

*Annex II species that are a primary reason for selection of this site*

1166 Great crested newt *Triturus cristatus*

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

UK SAC data form

## NATURA 2000

### STANDARD DATA FORM

FOR SPECIAL PROTECTION AREAS (SPA)  
FOR SITES ELIGIBLE FOR IDENTIFICATION AS SITES OF COMMUNITY IMPORTANCE (SCI)  
AND  
FOR SPECIAL AREAS OF CONSERVATION (SAC)

**1. Site identification:**

1.1 Type  1.2 Site code

1.3 Compilation date  1.4 Update

1.5 Relationship with other Natura 2000 sites

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1.6 Respondent(s)

1.7 Site name

**1.8 Site indication and designation classification dates**

date site proposed as eligible as SCI	200101
date confirmed as SCI	200412
date site classified as SPA	
date site designated as SAC	200504

**2. Site location:**

**2.1 Site centre location**

longitude	latitude
02 28 31 W	53 24 23 N

2.2 Site area (ha)  2.3 Site length (km)

**2.5 Administrative region**

NUTS code	Region name	% cover
UK81	Cheshire	100.00%

**2.6 Biogeographic region**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alpine	Atlantic	Boreal	Continental	Macaronesia	Mediterranean

**3. Ecological information:**

**3.1 Annex I habitats**

Habitat types present on the site and the site assessment for them:

Annex I habitat	% cover	Representativity	Relative surface	Conservation status	Global assessment

UK SAC data form

### 3.2 Annex II species

Species name	Population				Site assessment			
	Resident	Migratory			Population	Conservation	Isolation	Global
		Breed	Winter	Stage				
<i>Triturus cristatus</i>	1001-10,000	-	-	-	C	B	C	B

## 4. Site description

### 4.1 General site character

Habitat classes	% cover
Marine areas. Sea inlets	
Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins)	
Salt marshes. Salt pastures. Salt steppes	
Coastal sand dunes. Sand beaches. Machair	
Shingle. Sea cliffs. Islets	
Inland water bodies (standing water, running water)	20.0
Bogs. Marshes. Water fringed vegetation. Fens	
Heath. Scrub. Maquis and garrigue. Phygrana	25.0
Dry grassland. Steppes	
Humid grassland. Mesophile grassland	55.0
Alpine and sub-alpine grassland	
Improved grassland	
Other arable land	
Broad-leaved deciduous woodland	
Coniferous woodland	
Evergreen woodland	
Mixed woodland	
Non-forest areas cultivated with woody plants (including orchards, groves, vineyards, dehesas)	
Inland rocks. Scree. Sands. Permanent snow and ice	
Other land (including towns, villages, roads, waste places, mines, industrial sites)	
<b>Total habitat cover</b>	<b>100%</b>

### 4.1 Other site characteristics

<p><b>Soil &amp; geology:</b> Basic, Clay, Shingle</p> <p><b>Geomorphology &amp; landscape:</b> Lowland</p>
---

### 4.2 Quality and importance

<p><i>Triturus cristatus</i></p> <ul style="list-style-type: none"> <li>for which this is considered to be one of the best areas in the United Kingdom.</li> </ul>
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*UK SAC data form*

### 4.3 Vulnerability

The site comprises parts of an extensive disused brickworks quarry excavated in glacial boulder-clay deposits east of Warrington. It is of importance for its calcareous grassland communities and because the site supports a large breeding population of great crested newts. Extraction of clay at different periods up to 1965 has left a mosaic of water-filled hollows and clay banks which now support a diversity of habitats of varying maturity.

Warrington Borough Council owns and manages the site, and has a ranger based on-site. A possible conflict between grassland management and great crested newts has been identified; this is being addressed through contract research on the site. However, the great crested newt population is increasing at the site.

## 5. Site protection status and relation with CORINE biotopes:

### 5.1 Designation types at national and regional level

Code	% cover
UK04 (SSSI/ASSI)	100.0

### A.1.3 Manchester Mosses



Location of Manchester Mosses SAC/SCI/cSAC

Country	England
Unitary Authority	Warrington; Wigan
Grid Ref*	SJ691973
Latitude	53 28 16 N
Longitude	02 27 56 W
SAC EU code	UK0030200
Status	Designated Special Area of Conservation (SAC)
Area (ha)	172.81

\* This is the approximate central point of the SAC. In the case of large, linear or composite sites, this may not represent the location where a feature occurs within the SAC.

#### *General site character*

Bogs. Marshes. Water fringed vegetation. Fens (89%)  
Broad-leaved deciduous woodland (11%)

#### *Annex I habitats that are a primary reason for selection of this site*

7120 Degraded raised bogs still capable of natural regeneration

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

*Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site*

Not applicable.

*Annex II species that are a primary reason for selection of this site*

Not applicable.

*Annex II species present as a qualifying feature, but not a primary reason for site selection*

Not applicable.

UK SAC data form

## NATURA 2000

### STANDARD DATA FORM

FOR SPECIAL PROTECTION AREAS (SPA)  
FOR SITES ELIGIBLE FOR IDENTIFICATION AS SITES OF COMMUNITY IMPORTANCE (SCI)  
AND  
FOR SPECIAL AREAS OF CONSERVATION (SAC)

**1. Site identification:**

**1.1 Type**  **1.2 Site code**

**1.3 Compilation date**  **1.4 Update**

**1.5 Relationship with other Natura 2000 sites**

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**1.6 Respondent(s)**

**1.7 Site name**

**1.8 Site indication and designation classification dates**

date site proposed as eligible as SCI	200103
date confirmed as SCI	200412
date site classified as SPA	
date site designated as SAC	200504

**2. Site location:**

**2.1 Site centre location**

<b>longitude</b>	<b>latitude</b>
02 27 56 W	53 28 16 N

**2.2 Site area (ha)**  **2.3 Site length (km)**

**2.5 Administrative region**

NUTS code	Region name	% cover
UK81	Cheshire	46.17%
UK82	Greater Manchester	53.83%

**2.6 Biogeographic region**

Alpine    
  Atlantic    
  Boreal    
  Continental    
  Macaronesia    
  Mediterranean

UK SAC data form

### 3. Ecological information:

#### 3.1 Annex I habitats

Habitat types present on the site and the site assessment for them:

Annex I habitat	% cover	Representativity	Relative surface	Conservation status	Global assessment
Degraded raised bogs still capable of natural regeneration	89	B	C	C	B

#### 3.2 Annex II species

Species name	Population				Site assessment			
	Resident	Migratory			Population	Conservation	Isolation	Global
		Breed	Winter	Stage				

### 4. Site description

#### 4.1 General site character

Habitat classes	% cover
Marine areas. Sea inlets	
Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins)	
Salt marshes. Salt pastures. Salt steppes	
Coastal sand dunes. Sand beaches. Machair	
Shingle. Sea cliffs. Islets	
Inland water bodies (standing water, running water)	
Bogs. Marshes. Water fringed vegetation. Fens	89.0
Heath. Scrub. Maquis and garrigue. Phygrana	
Dry grassland. Steppes	
Humid grassland. Mesophile grassland	
Alpine and sub-alpine grassland	
Improved grassland	
Other arable land	
Broad-leaved deciduous woodland	11.0
Coniferous woodland	
Evergreen woodland	
Mixed woodland	
Non-forest areas cultivated with woody plants (including orchards, groves, vineyards, dehesas)	
Inland rocks. Scree. Sands. Permanent snow and ice	
Other land (including towns, villages, roads, waste places, mines, industrial sites)	
<b>Total habitat cover</b>	<b>100%</b>

#### 4.1 Other site characteristics

<p><b>Soil &amp; geology:</b> Acidic, Peat</p> <p><b>Geomorphology &amp; landscape:</b> Floodplain, Lowland</p>
---

#### 4.2 Quality and importance

<p>Degraded raised bogs still capable of natural regeneration</p> <ul style="list-style-type: none"> <li>for which this is considered to be one of the best areas in the United Kingdom.</li> </ul>
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UK SAC data form

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### 4.3 Vulnerability

Manchester Mosses SAC consists of three sites (Risley Moss, Holcroft Moss and Astley and Bedford Mosses). Risley Moss is owned and managed by Warrington Borough Council, while Holcroft Moss is owned and managed by Cheshire Wildlife Trust. Both of these sites are undergoing restoration. Part of Astley and Bedford Mosses is owned and managed by Lancashire Wildlife Trust and is undergoing restoration, but the remainder (approximately 50%) is in private ownership. Management agreements or purchase of the land will be necessary for restoration on these areas.

All three sites have suffered from drainage in the past and are affected by continued, if reduced, drainage, particularly from boundary ditches. Agricultural land forms a significant part of the adjacent land on all three sites, which will have implications for restoration, particularly as re-wetting is one of the key requirements. Adjacent land will need to be taken into consideration and possibly placed under suitable management. All three sites are affected by scrub invasion, which is being controlled in some areas but will need further attention. Impacts on groundwater will need to be investigated, such as water abstraction, mineral extraction and waste management (landfill). The sites are located close to heavy industry (Greater Manchester, Merseyside). Air quality may therefore have an impact on *Sphagnum* regeneration and will need investigating.

## 5. Site protection status and relation with CORINE biotopes:

### 5.1 Designation types at national and regional level

Code	% cover
UK04 (SSSI/ASSI)	100.0

## A.2 Special Protection Areas

### A.2.1 Dee Estuary

UK SPA data form

**NATURA 2000**  
**STANDARD DATA FORM**  
 FOR SPECIAL PROTECTION AREAS (SPA)  
 FOR SITES ELIGIBLE FOR IDENTIFICATION AS SITES OF COMMUNITY IMPORTANCE (SCI)  
 AND  
 FOR SPECIAL AREAS OF CONSERVATION (SAC)

**1. Site identification:**

**1.1 Type**  **1.2 Site code**

**1.3 Compilation date**  **1.4 Update**

**1.5 Relationship with other Natura 2000 sites**

**1.6 Respondent(s)**

**1.7 Site name**

**1.8 Site indication and designation classification dates**

date site proposed as eligible as SCI	
date confirmed as SCI	
date site classified as SPA	198507
date site designated as SAC	

**2. Site location:**

**2.1 Site centre location**

**longitude**  **latitude**

**2.2 Site area (ha)**  **2.3 Site length (km)**

**2.5 Administrative region**

NUTS code	Region name	% cover
UK81	Cheshire	11.01%
UK911	Clwyd	41.82%
UK84	Merseyside	28.96%

**2.6 Biogeographic region**

Alpine    
  Atlantic    
  Boreal    
  Continental    
  Macaronesia    
  Mediterranean

UK SPA data form

### 3. Ecological information:

#### 3.1 Annex I habitats

Habitat types present on the site and the site assessment for them:

Annex I habitat	% cover	Representativity	Relative surface	Conservation status	Global assessment

#### 3.2 Annex I birds and regularly occurring migratory birds not listed on Annex I

Code	Species name	Population			Site assessment			
		Resident	Migratory		Population	Conservation	Isolation	Global
			Breed	Winter				
A054	<i>Anas acuta</i>			5319 I		A		C
A143	<i>Calidris canutus</i>			17564 I		B		C
A130	<i>Haematopus ostralegus</i>			18915 I		B		C
A157	<i>Limosa lapponica</i>			1177 I		B		C
A048	<i>Tadorna tadorna</i>			3203 I		B		C
A162	<i>Tringa totanus</i>			3594 I		B		C

### 4. Site description:

#### 4.1 General site character

Habitat classes	% cover
Marine areas. Sea inlets	14.0
Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins)	69.0
Salt marshes. Salt pastures. Salt steppes	16.0
Coastal sand dunes. Sand beaches. Machair	
Shingle. Sea cliffs. Islets	1.0
Inland water bodies (standing water, running water)	
Bogs. Marshes. Water fringed vegetation. Fens	
Heath. Scrub. Maquis and garrigue. Phygrana	
Dry grassland. Steppes	
Humid grassland. Mesophile grassland	
Alpine and sub-alpine grassland	
Improved grassland	
Other arable land	
Broad-leaved deciduous woodland	
Coniferous woodland	
Evergreen woodland	
Mixed woodland	
Non-forest areas cultivated with woody plants (including orchards, groves, vineyards, dehesas)	
Inland rocks. Scree. Sands. Permanent snow and ice	
Other land (including towns, villages, roads, waste places, mines, industrial sites)	
<b>Total habitat cover</b>	<b>100%</b>

#### 4.1 Other site characteristics

<p><b>Soil &amp; geology:</b></p> <p>Clay, Mud, Sand, Sandstone, Sandstone/mudstone, Sedimentary, Shingle</p> <p><b>Geomorphology &amp; landscape:</b></p> <p>Cliffs, Coastal, Estuary, Intertidal rock, Intertidal sediments (including sandflat/mudflat), Islands, Lowland, Shingle bar, Subtidal sediments (including sandbank/mudbank)</p>
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UK SPA data form

## 4.2 Quality and importance

### ARTICLE 4.1 QUALIFICATION (79/409/EEC)

Over winter the area regularly supports:

<i>Limosa lapponica</i> (Western Palearctic - wintering)	2.2% of the GB population 5 year peak mean 1991/92-1995/96
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### ARTICLE 4.2 QUALIFICATION (79/409/EEC)

Over winter the area regularly supports:

<i>Anas acuta</i> (North-western Europe)	8.9% of the population 5 year peak mean 1991/92-1995/96
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<i>Calidris canutus</i> (North-eastern Canada/Greenland/Iceland/North-western Europe)	5.1% of the population 5 year peak mean 1991/92-1995/96
--	--

<i>Haematopus ostralegus</i> (Europe & Northern/Western Africa)	2.2% of the population 5 year peak mean 1991/92-1995/96
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<i>Tadorna tadorna</i> (North-western Europe)	1.1% of the population 5 year peak mean 1991/92-1995/96
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<i>Tringa totanus</i> (Eastern Atlantic - wintering)	2% of the population 5 year peak mean 1991/92-1995/96
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### ARTICLE 4.2 QUALIFICATION (79/409/EEC): AN INTERNATIONALLY IMPORTANT ASSEMBLAGE OF BIRDS

Over winter the area regularly supports:

90518 waterfowl (5 year peak mean 01/04/1998)

Including:

*Tadorna tadorna* , *Anas acuta* , *Haematopus ostralegus* , *Calidris canutus* , *Limosa lapponica* , *Tringa totanus* .

## 4.3 Vulnerability

Parts of the shoreline have been heavily industrialised and/or urbanised. This has led to a legacy of waste tips around the estuary and discharges into it. Remediation of tips is under way and discharges are being improved.

Overall the estuary would benefit from improvements in water quality. Investment by water companies is being undertaken and existing consents are being reviewed.

Wildfowling occurs but at lower levels than in the recent past. An estuary-wide study of wildfowling activities has been prepared which will be followed by a more detailed management plan.

Cockle beds have suffered from over-exploitation. New bylaws and code of practice have been introduced to control this.

There have been some small scale developments (e.g. port infrastructure at Mostyn).

Sizeable parts of the estuary are in conservation management or are subject to management agreements. The Dee Estuary Strategy contributes to the positive management of the estuary through its well established and effective management framework and its voluntary user groups which represent all estuarine interests.

*UK SPA data form*

## **5. Site protection status and relation with CORINE biotopes:**

### **5.1 Designation types at national and regional level**

<b>Code</b>	<b>% cover</b>
UK04 (SSSI/ASSI)	99.9

## A.2.2 Mersey Estuary

UK SPA data form

### NATURA 2000

### STANDARD DATA FORM

FOR SPECIAL PROTECTION AREAS (SPA)

FOR SITES ELIGIBLE FOR IDENTIFICATION AS SITES OF COMMUNITY IMPORTANCE (SCI)

AND

FOR SPECIAL AREAS OF CONSERVATION (SAC)

#### 1. Site identification:

1.1 Type  1.2 Site code

1.3 Compilation date  1.4 Update

1.5 Relationship with other Natura 2000 sites

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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1.6 Respondent(s)

1.7 Site name

1.8 Site indication and designation classification dates

date site proposed as eligible as SCI	
date confirmed as SCI	
date site classified as SPA	199512
date site designated as SAC	

#### 2. Site location:

2.1 Site centre location

longitude	latitude
02 49 25 W	53 18 51 N

2.2 Site area (ha)  2.3 Site length (km)

2.5 Administrative region

NUTS code	Region name	% cover
UK81	Cheshire	46.38%
UK84	Merseyside	53.62%

2.6 Biogeographic region

Alpine
  Atlantic
  Boreal
  Continental
  Macaronesia
  Mediterranean

#### 3. Ecological information:

3.1 Annex I habitats

Habitat types present on the site and the site assessment for them:

Annex I habitat	% cover	Representativity	Relative surface	Conservation status	Global assessment

UK SPA data form

### 3.2 Annex I birds and regularly occurring migratory birds not listed on Annex I

Code	Species name	Population			Site assessment			
		Resident	Migratory		Population	Conservation	Isolation	Global
			Breed	Winter				
A054	<i>Anas acuta</i>			1169 I		B		C
A052	<i>Anas crecca</i>			11723 I		B		C
A050	<i>Anas penelope</i>			11886 I		B		C
A149	<i>Calidris alpina alpina</i>			48789 I		B		C
A137	<i>Charadrius hiaticula</i>				505 I	C		C
A156	<i>Limosa limosa islandica</i>			976 I		B		C
A160	<i>Numenius arquata</i>			1300 I		C		C
A140	<i>Phuvalis apricaria</i>			3040 I		C		C
A141	<i>Phuvalis squatarola</i>			1010 I		B		C
A005	<i>Podiceps cristatus</i>			136 I		C		C
A048	<i>Tadorna tadorna</i>			6746 I		B		C
A162	<i>Tringa totanus</i>				4513 I	B		C
A162	<i>Tringa totanus</i>			4993 I		B		C
A142	<i>Vanellus vanellus</i>			10544 I		C		C

## 4. Site description:

### 4.1 General site character

Habitat classes	% cover
Marine areas. Sea inlets	
Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins)	89.0
Salt marshes. Salt pastures. Salt steppes	11.0
Coastal sand dunes. Sand beaches. Machair	
Shingle. Sea cliffs. Islets	
Inland water bodies (standing water, running water)	
Bogs. Marshes. Water fringed vegetation. Fens	
Heath. Scrub. Maquis and garrigue. Phygrana	
Dry grassland. Steppes	
Humid grassland. Mesophile grassland	
Alpine and sub-alpine grassland	
Improved grassland	
Other arable land	
Broad-leaved deciduous woodland	
Coniferous woodland	
Evergreen woodland	
Mixed woodland	
Non-forest areas cultivated with woody plants (including orchards, groves, vineyards, dehesas)	
Inland rocks. Scree. Sands. Permanent snow and ice	
Other land (including towns, villages, roads, waste places, mines, industrial sites)	
<b>Total habitat cover</b>	<b>100%</b>

### 4.1 Other site characteristics

<p><b>Soil &amp; geology:</b> Mud, Sand, Sandstone/mudstone</p> <p><b>Geomorphology &amp; landscape:</b> Coastal, Estuary, Intertidal sediments (including sandflat/mudflat)</p>
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UK SPA data form

**4.2 Quality and importance****ARTICLE 4.1 QUALIFICATION (79/409/EEC)****Over winter the area regularly supports:**

<i>Pluvialis apricaria</i> (North-western Europe - breeding)	1.2% of the GB population 5-year peak mean, 1993/94–1997/98
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**ARTICLE 4.2 QUALIFICATION (79/409/EEC)****Over winter the area regularly supports:**

<i>Anas acuta</i> (North-western Europe)	1.9% of the population 5-year peak mean, 1993/94–1997/98
<i>Anas crecca</i> (North-western Europe)	2.9% of the population 5-year peak mean, 1993/94–1997/98
<i>Anas penelope</i> (Western Siberia/North-western/North-eastern Europe)	4.2% of the population in Great Britain 5-year peak mean, 1993/94–1997/98
<i>Calidris alpina alpina</i> (Northern Siberia/Europe/Western Africa)	3.6% of the population 5-year peak mean, 1993/94–1997/98
<i>Limosa limosa islandica</i> (Iceland - breeding)	1.6% of the population 5-year peak mean, 1993/94–1997/98
<i>Numenius arquata</i> (Europe - breeding)	1.1% of the population in Great Britain 5-year peak mean, 1993/94–1997/98
<i>Pluvialis squatarola</i> (Eastern Atlantic - wintering)	2.3% of the population in Great Britain 5-year peak mean, 1993/94–1997/98
<i>Podiceps cristatus</i> (North-western Europe - wintering)	1.4% of the population in Great Britain 5-year peak mean, 1993/94–1997/98
<i>Tadorna tadorna</i> (North-western Europe)	2.2% of the population 5-year peak mean, 1993/94–1997/98
<i>Tringa totanus</i> (Eastern Atlantic - wintering)	2.8% of the population 5-year peak mean, 1993/94–1997/98
<i>Vanellus vanellus</i> (Europe - breeding)	0.7% of the population in Great Britain 5-year peak mean, 1993/94–1997/98
<b>On passage the area regularly supports:</b>	
<i>Charadrius hiaticula</i> (Europe/Northern Africa - wintering)	1.7% of the population in Great Britain 5-year peak mean, 1993–1997
<i>Tringa totanus</i> (Eastern Atlantic - wintering)	3.8% of the population 5-year peak mean, 1993–1997

*UK SPA data form*

### 4.3 Vulnerability

Wintering bird numbers and associated intertidal flats are robust to day-to-day change. Nevertheless, the estuary is subject to multiple uses; it is heavily industrialised, a substantial urban conurbation, has multiple transport requirements and increasing recreational activities. The site is vulnerable to physical loss through land-claim and development, physical damage caused by navigation capital and maintenance dredging, agricultural requirements, non-physical loss, toxic and non-toxic contamination and biological disturbance by wildfowling. The Special Protection Area status, requirements for Environmental Impact Assessment and the estuary management plan should, however, safeguard the site.

## 5. Site protection status and relation with CORINE biotopes:

### 5.1 Designation types at national and regional level

Code	% cover
UK04 (SSSI/ASSI)	100.0

### A.2.3 Ribbles and Alt Estuaries

UK SPA data form

## NATURA 2000

### STANDARD DATA FORM

FOR SPECIAL PROTECTION AREAS (SPA)  
FOR SITES ELIGIBLE FOR IDENTIFICATION AS SITES OF COMMUNITY IMPORTANCE (SCI)  
AND  
FOR SPECIAL AREAS OF CONSERVATION (SAC)

#### 1. Site identification:

1.1 Type  1.2 Site code

1.3 Compilation date  1.4 Update

1.5 Relationship with other Natura 2000 sites

1.6 Respondent(s)

1.7 Site name

1.8 Site indication and designation classification dates

date site proposed as eligible as SCI	
date confirmed as SCI	
date site classified as SPA	199502
date site designated as SAC	

#### 2. Site location:

2.1 Site centre location

longitude	latitude
<input type="text" value="02 59 14 W"/>	<input type="text" value="53 42 20 N"/>

2.2 Site area (ha)  2.3 Site length (km)

2.5 Administrative region

NUTS code	Region name	% cover
UK83	Lancashire	54.79%
UK84	Merseyside	45.21%

2.6 Biogeographic region

Alpine
  Atlantic
  Boreal
  Continental
  Macaronesia
  Mediterranean

#### 3. Ecological information:

3.1 Annex I habitats

Habitat types present on the site and the site assessment for them:

Annex I habitat	% cover	Representativity	Relative surface	Conservation status	Global assessment

UK SPA data form

## 3.2 Annex I birds and regularly occurring migratory birds not listed on Annex I

Code	Species name	Population			Site assessment				
		Resident	Migratory		Population	Conservation	Isolation	Global	
			Breed	Winter					Stage
A054	<i>Anas acuta</i>			2731 I		B		C	
A052	<i>Anas crecca</i>			7157 I		C		C	
A050	<i>Anas penelope</i>			85259 I		B		C	
A040	<i>Anser brachyrhynchus</i>			11764 I		B		B	
A062	<i>Aythya marila</i>			114 I		C		C	
A144	<i>Calidris alba</i>			2882 I		B		C	
A144	<i>Calidris alba</i>				6535 I	B		C	
A149	<i>Calidris alpina alpina</i>			39376 I		B		C	
A143	<i>Calidris canutus</i>			68922 I		A		C	
A137	<i>Charadrius hiaticula</i>				1657 I	B		C	
A037	<i>Cygnus columbianus bewickii</i>			276 I		B		C	
A038	<i>Cygnus cygnus</i>			182 I		B		C	
A130	<i>Haematopus ostralegus</i>			18535 I		B		C	
A183	<i>Larus fuscus</i>		1800 P			C		C	
A179	<i>Larus ridibundus</i>		11900 P			B		C	
A157	<i>Limosa lapponica</i>			20086 I		A		C	
A156	<i>Limosa limosa islandica</i>			1273 I		C		C	
A065	<i>Melanitta nigra</i>			746 I		B		C	
A160	<i>Numenius arquata</i>			2046 I		C		C	
A158	<i>Numenius phaeopus</i>				697 I	B		C	
A017	<i>Phalacrocorax carbo</i>			311 I		B		C	
A151	<i>Philomachus pugnax</i>		1 P			B		B	
A140	<i>Pluvialis apricaria</i>			3598 I		C		C	
A141	<i>Pluvialis squatarola</i>			9355 I		B		C	
A193	<i>Sterna hirundo</i>		182 P			C		C	
A048	<i>Tadorna tadorna</i>			4925 I		C		C	
A162	<i>Tringa totanus</i>			2505 I		C		C	
A162	<i>Tringa totanus</i>				3247 I	B		C	
A142	<i>Vanellus vanellus</i>			16496 I		C		C	

## 4. Site description:

## 4.1 General site character

Habitat classes	% cover
Marine areas. Sea inlets	
Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins)	82.0
Salt marshes. Salt pastures. Salt steppes	17.0
Coastal sand dunes. Sand beaches. Machair	
Shingle. Sea cliffs. Islets	
Inland water bodies (standing water, running water)	
Bogs. Marshes. Water fringed vegetation. Fens	1.0
Heath. Scrub. Maquis and garrigue. Phygrana	
Dry grassland. Steppes	
Humid grassland. Mesophile grassland	
Alpine and sub-alpine grassland	
Improved grassland	
Other arable land	
Broad-leaved deciduous woodland	
Coniferous woodland	
Evergreen woodland	
Mixed woodland	
Non-forest areas cultivated with woody plants (including orchards, groves, vineyards, dehesas)	



## UK SPA data form

Habitat classes	% cover
Inland rocks. Scree. Sands. Permanent snow and ice	
Other land (including towns, villages, roads, waste places, mines, industrial sites)	
<b>Total habitat cover</b>	<b>100%</b>

**4.1 Other site characteristics****Soil & geology:**

Alluvium, Basic, Neutral, Sand, Sedimentary

**Geomorphology & landscape:**

Coastal, Estuary, Intertidal sediments (including sandflat/mudflat), Lowland, Open coast (including bay)

**4.2 Quality and importance****ARTICLE 4.1 QUALIFICATION (79/409/EEC)****During the breeding season the area regularly supports:**

*Philomachus pugnax* 9.1% of the GB breeding population  
(Western Africa - wintering) Count as at late 1980s

*Sterna hirundo* 1.5% of the GB breeding population  
(Northern/Eastern Europe - breeding) Count as at 1996

**Over winter the area regularly supports:**

*Cygnus columbianus bewickii* 3.9% of the GB population  
(Western Siberia/North-eastern & North-western Europe) 5 year peak mean 1993/94 - 1997/98

*Cygnus cygnus* 3.3% of the GB population  
(Iceland/UK/Ireland) 5 year peak mean 1993/94 - 1997/98

*Limosa lapponica* 37.9% of the GB population  
(Western Palearctic - wintering) 5 year peak mean 1993/94 - 1997/98

*Pluvialis apricaria* 1.4% of the GB population  
(North-western Europe - breeding) 5 year peak mean 1993/94 - 1997/98

**ARTICLE 4.2 QUALIFICATION (79/409/EEC)****During the breeding season the area regularly supports:**

*Larus fuscus* 1.5% of the breeding population  
(Western Europe/Mediterranean/Western Africa) Count as at 1993

*Larus ridibundus* 7.1% of the population in Great Britain  
(North-western Europe - breeding) Count as at 1996

**Over winter the area regularly supports:**

*Anas acuta* 4.6% of the population  
(North-western Europe) 5 year peak mean 1993/94 - 1997/98

*Anas crecca* 1.8% of the population  
(North-western Europe) 5 year peak mean 1993/94 - 1997/98

## UK SPA data form

<i>Anas penelope</i> (Western Siberia/North-western/North-eastern Europe)	6.8% of the population 5 year peak mean 1993/94 - 1997/98
<i>Anser brachyrhynchus</i> (Eastern Greenland/Iceland/UK)	5.2% of the population 5 year peak mean 1993/94 - 1997/98
<i>Aythya marila</i> (Northern/Western Europe)	1.0% of the population in Great Britain 5 year peak mean 1993/94 - 1997/98
<i>Calidris alba</i> (Eastern Atlantic/Western & Southern Africa - wintering)	2.9% of the population 5 year peak mean 1993/94 - 1997/98
<i>Calidris alpina alpina</i> (Northern Siberia/Europe/Western Africa)	2.8% of the population 5 year peak mean 1993/94 - 1997/98
<i>Calidris canutus</i> (North-eastern Canada/Greenland/Iceland/North-western Europe)	19.7% of the population 5 year peak mean 1993/94 - 1997/98
<i>Haematopus ostralegus</i> (Europe & Northern/Western Africa)	2.1% of the population 5 year peak mean 1993/94 - 1997/98
<i>Limosa limosa islandica</i> (Iceland - breeding)	1.8% of the population 5 year peak mean 1993/94 - 1997/98
<i>Melanitta nigra</i> (Western Siberia/Western & Northern Europe/North-western Africa)	2.7% of the population in Great Britain 5 year peak mean 1993/94 - 1997/98
<i>Numenius arquata</i> (Europe - breeding)	1.7% of the population in Great Britain 5 year peak mean 1993/94 - 1997/98
<i>Phalacrocorax carbo</i> (North-western Europe)	2.4% of the population in Great Britain 5 year peak mean 1993/94 - 1997/98
<i>Phoebastria squatarola</i> (Eastern Atlantic - wintering)	6.2% of the population 5 year peak mean 1993/94 - 1997/98
<i>Tadorna tadorna</i> (North-western Europe)	1.6% of the population 5 year peak mean 1993/94 - 1997/98
<i>Tringa totanus</i> (Eastern Atlantic - wintering)	1.7% of the population 5 year peak mean 1993/94 - 1997/98
<i>Vanellus vanellus</i> (Europe - breeding)	0.8% of the population in Great Britain 5 year peak mean 1993/94 - 1997/98
<b>On passage the area regularly supports:</b>	
<i>Calidris alba</i> (Eastern Atlantic/Western & Southern Africa - wintering)	6.5% of the population 5 year peak mean 1993 - 1997
<i>Charadrius hiaticula</i> (Europe/Northern Africa - wintering)	3.3% of the population 5 year peak mean 1993 - 1997
<i>Numenius phaeopus</i> (Europe/Western Africa)	13.9% of the population in Great Britain 5 year peak mean 1993/94 - 1997/98

UK SPA data form

<i>Tringa totanus</i> (Eastern Atlantic - wintering)	2.2% of the population 5 year peak mean 1993 - 1997
<b>ARTICLE 4.2 QUALIFICATION (79/409/EEC): AN INTERNATIONALLY IMPORTANT ASSEMBLAGE OF BIRDS</b>	
<b>During the breeding season the area regularly supports:</b>	
29236 seabirds (5 year peak mean 01/10/2002)	
Including:	
<i>Larus ridibundus</i> , <i>Larus fuscus</i> , <i>Sterna hirundo</i> .	
<b>Over winter the area regularly supports:</b>	
323861 waterfowl (5 year peak mean 01/10/2002)	
Including:	
<i>Phalacrocorax carbo</i> , <i>Cygnus columbianus bewickii</i> , <i>Cygnus cygnus</i> , <i>Anser brachyrhynchus</i> , <i>Tadorna tadorna</i> , <i>Anas penelope</i> , <i>Anas crecca</i> , <i>Anas acuta</i> , <i>Aythya marila</i> , <i>Melanitta nigra</i> , <i>Haematopus ostralegus</i> , <i>Charadrius hiaticula</i> , <i>Pluvialis apricaria</i> , <i>Pluvialis squatarola</i> , <i>Vanellus vanellus</i> , <i>Calidris canutus</i> , <i>Calidris alba</i> , <i>Calidris alpina alpina</i> , <i>Limosa limosa islandica</i> , <i>Limosa lapponica</i> , <i>Numenius arquata</i> , <i>Tringa totanus</i> .	

**4.3 Vulnerability**

Overall, the dunes, intertidal flats and saltmarsh enjoy a relatively robust status and a favourable condition. However, the site is, in places, subject to pressure from recreation, built development (including coastal defence), wildfowling and industry, including sand-winning. Wildfowling is not considered to have a significant impact in terms of direct take; resulting disturbance is effectively managed through the provision of refuge areas and strict regulation on shooting activities. Military activities only take place at Altcar Rifle Range which is adjacent to the Alt Estuary. Recreation is informal and of relatively low intensity along most of the Sefton Coast and in the Ribble Estuary. There is no longer a registered beach airfield at Sefton, however occasional landing of pleasure craft may be requested during large events. Beach activities are managed by the Beach Management Plan. Sand-winning was addressed during a Public Inquiry in August 2001, with the result that detailed environmental monitoring will now be incorporated into the renewed planning permission. Much of the site attracts beneficial land management via the implementation of agreed plans for three NNRs, two LNRs and other initiatives developed by the Sefton Coast Partnership. These plans/initiatives are addressing a number of these pressures, whilst other pressures will be addressed following procedures under the Habitat Regulations. Wider land management issues are being developed via the neighbouring Ribble and Mersey Estuary Strategies. The issue of grazing pressure on the saltmarsh will be addressed through a management agreement to reduce the grazing pressure.

Although there is little evidence of sea-level rise so far, the extent and distribution of habitats remains vulnerable to changes in the physical environment, either natural or man-induced. In contrast the coast at Formby Point and Ainsdale is suffering intense erosion which is being investigated through the Sefton Shoreline Management Plan, and beach management practices have effectively encouraged the creation of considerable areas of embryo dunes on the upper shore elsewhere. The Ribble Estuary is also evolving as sediment patterns are changing and saltmarsh continues to accrete following past land-claim and the closure of Preston Docks. The intertidal habitats are vulnerable to accidental pollution from the nearby Mersey Estuary and the Irish Sea oil and gas fields. Oil spill contingency plans are being updated to deal with such events. The Ribble in particular has failed to meet the requirements of the Bathing Waters Directive. Government Office North West and the Environment Agency are investigating likely sources of pollution that may have caused this.

**5. Site protection status and relation with CORINE biotopes:**

**5.1 Designation types at national and regional level**

Code	% cover
UK01 (NNR)	37.6
UK04 (SSSI/ASSI)	100.0

**A.3 Ramsar Sites**

**A.3.1 Dee Estuary**

## Information Sheet on Ramsar Wetlands (RIS)

*Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.*

Note for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers are strongly urged to provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of maps.

**1. Name and address of the compiler of this form:**

**Joint Nature Conservation Committee**  
 Monkstone House  
 City Road  
 Peterborough  
 Cambridgeshire PE1 1JY  
 UK  
 Telephone/Fax: +44 (0)1733 – 562 626 / +44 (0)1733 – 555 948  
 Email: [RIS@JNCC.gov.uk](mailto:RIS@JNCC.gov.uk)

FOR OFFICE USE ONLY.

DD	MM	YY
Designation date		

Site Reference Number							

**2. Date this sheet was completed/updated:**

Designated: 17 July 1985

**3. Country:**

UK (England/Wales)

**4. Name of the Ramsar site:**

The Dee Estuary

**5. Map of site included:**

Refer to Annex III of the *Explanatory Notes and Guidelines*, for detailed guidance on provision of suitable maps.

a) hard copy (required for inclusion of site in the Ramsar List): yes ✓ -or- no

b) digital (electronic) format (optional): Yes

**6. Geographical coordinates (latitude/longitude):**

53 18 39 N                      03 11 02 W

**7. General location:**

Include in which part of the country and which large administrative region(s), and the location of the nearest large town.

Nearest town/city: Birkenhead

The Dee Estuary lies between the Wirral peninsula, England and the Flintshire coastline of north-east Wales. It is adjacent to the Mersey estuary to its east and to the Clwyd estuary to its west.

**Administrative region:** Cheshire; Clwyd; Merseyside; Sir y Fflint/ Flintshire; Wirral

**8. Elevation (average and/or max. & min.) (metres):    9. Area (hectares): 13084.85**

Min.    -2  
 Max.    5  
 Mean    0

## Information Sheet on Ramsar Wetlands (RIS), page 2

**10. Overview:**

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

The Dee is a large funnel-shaped sheltered estuary and is one of the top five estuaries in the UK for wintering and passage waterfowl populations. The estuary supports internationally important numbers of waterfowl and waders. The estuary is an accreting system and the extent of saltmarsh continues to expand as the estuary seeks to achieve a new equilibrium situation following large-scale historical land-claim at the head of the estuary which commenced in the 1730s. Nevertheless, the estuary still supports extensive areas of intertidal sand and mudflats as well as saltmarsh. Where land-claim has not occurred, the saltmarshes grade into transitional brackish and freshwater swamp vegetation, on the upper shore. The site includes the three sandstone islands of Hilbre with their important cliff vegetation and maritime heathland/grassland. The site also includes an assemblage of nationally scarce plants and the sandhill rustic moth *Luperina nickerlii gueneei*, a British Red Data Book species. The two shorelines of the estuary show a marked contrast between the industrialised usage of the coastal belt in Wales and residential and recreational usage in England.

**11. Ramsar Criteria:**

Circle or underline each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11).

1, 5, 6

**12. Justification for the application of each Criterion listed in 11. above:**

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

**Ramsar criterion 1**

Extensive intertidal mud and sand flats (20 km by 9 km) with large expanses of saltmarsh towards the head of the estuary. Habitats Directive Annex I features present on the pSAC include:

- H1130 Estuaries
- H1140 Mudflats and sandflats not covered by seawater at low tide
- H1210 Annual vegetation of drift lines
- H1230 Vegetated sea cliffs of the Atlantic and Baltic coasts
- H1310 *Salicornia* and other annuals colonising mud and sand
- H1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritima*)
- H2110 Embryonic shifting dunes
- H2120 Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes")
- H2130 Fixed dunes with herbaceous vegetation ("grey dunes")
- H2190 Humid dune slacks

**Ramsar criterion 5****Assemblages of international importance:****Species with peak counts in winter:**

74230 waterfowl (5 year peak mean 1998/99-2002/2003)

**Ramsar criterion 6 – species/populations occurring at levels of international importance.****Qualifying Species/populations (as identified at designation):**

## Information Sheet on Ramsar Wetlands (RIS), page 3

**Species with peak counts in spring/autumn:**

Common shelduck , <i>Tadorna tadorna</i> , NW Europe	9346 individuals, representing an average of 3.1% of the population (5 year peak mean 1998/9-2002/3)
Eurasian oystercatcher , <i>Haematopus ostralegus ostralegus</i> , Europe & NW Africa -wintering	19174 individuals, representing an average of 1.8% of the population (5 year peak mean 1998/9-2002/3)
Eurasian curlew , <i>Numenius arquata arquata</i> , N. a. arquata Europe (breeding)	4195 individuals, representing an average of 2.8% of the GB population (5 year peak mean 1998/9-2002/3)
Common redshank , <i>Tringa totanus totanus</i> ,	8281 individuals, representing an average of 3.3% of the population (5 year peak mean 1998/9-2002/3)

**Species with peak counts in winter:**

Eurasian teal , <i>Anas crecca</i> , NW Europe	3058 individuals, representing an average of 1.5% of the GB population (5 year peak mean 1998/9-2002/3)
Northern pintail , <i>Anas acuta</i> , NW Europe	4976 individuals, representing an average of 8.2% of the population (5 year peak mean 1998/9-2002/3)
Grey plover , <i>Pluvialis squatarola</i> , E Atlantic/W Africa -wintering	603 individuals, representing an average of 1.1% of the GB population (5 year peak mean 1998/9-2002/3)
Red knot , <i>Calidris canutus islandica</i> , W & Southern Africa (wintering)	3729 individuals, representing an average of 1.3% of the GB population (5 year peak mean 1998/9-2002/3)
Dunlin , <i>Calidris alpina alpina</i> , W Siberia/W Europe	19157 individuals, representing an average of 1.4% of the population (5 year peak mean 1998/9-2002/3)
Black-tailed godwit , <i>Limosa limosa islandica</i> , Iceland/W Europe	2791 individuals, representing an average of 7.9% of the population (5 year peak mean 1998/9-2002/3)
Bar-tailed godwit , <i>Limosa lapponica lapponica</i> , W Palearctic	322 individuals, representing an average of 0.5% of the GB population (5 year peak mean 1998/9-2002/3)
Ruddy turnstone , <i>Arenaria interpres interpres</i> , NE Canada, Greenland/W Europe & NW Africa	291 individuals, representing an average of 0.5% of the GB population (5 year peak mean 1998/9-2002/3)

Contemporary data and information on waterbird trends at this site and their regional (sub-national) and national contexts can be found in the Wetland Bird Survey report, which is updated annually. See [www.bto.org/survey/webs/webs-alerts-index.htm](http://www.bto.org/survey/webs/webs-alerts-index.htm). Details of bird species occurring at levels of National importance are given in Section 20

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**13. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):**

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

**a) biogeographic region:**  
Atlantic

## Information Sheet on Ramsar Wetlands (RIS), page 4

**b) biogeographic regionalisation scheme (include reference citation):**

Council Directive 92/43/EEC

**14. Physical features of the site:**

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Soil & geology	alluvium, clay, mud, neutral, sand, sandstone, sedimentary, shingle
Geomorphology and landscape	cliffs, coastal, estuary, intertidal rock, intertidal sediments (including sandflat/mudflat), island, lagoon, lowland, shingle bar, subtidal sediments (including sandbank/mudbank)
Nutrient status	mesotrophic
pH	circumneutral
Salinity	brackish / mixosaline, saline / euhaline
Soil	mainly mineral, mainly organic
Water permanence	usually permanent
Summary of main climatic features	Annual averages (Blackpool, 1971–2000) ( <a href="http://www.metoffice.com/climate/uk/averages/19712000/sites/blackpool.html">www.metoffice.com/climate/uk/averages/19712000/sites/blackpool.html</a> ) Max. daily temperature: 12.9° C Min. daily temperature: 6.4° C Days of air frost: 40.3 Rainfall: 871.3 mm Hrs. of sunshine: 1540.3

**General description of the Physical Features:**

The Dee Estuary is a large, funnel-shaped, sheltered estuary that supports extensive areas of intertidal sandflats, mudflats and saltmarsh. Where agricultural land-claim has not occurred, the saltmarshes grade into transitional brackish and swamp vegetation on the upper shore. The site also includes the three sandstone islands of Hilbre with their important cliff vegetation and maritime heathland and grassland. The two shorelines of the estuary show a marked contrast between the industrialised usage of the coastal belt in Wales and residential and recreational usage in England.

**15. Physical features of the catchment area:**

Describe the surface area, general geology and geomorphological features, general soil types, general land use, and climate (including climate type).

The River Dee is 110 km long, rising in Snowdonia, Wales, and has a total catchment area above Chester Weir of approximately 1800 km<sup>2</sup>. Major reservoirs in the catchment include Bala Lake/Llyn Tegid; Llyn Brenig; Llyn Celyn. The path of the river trends generally east-south-east until it turns sharply northwards before meandering to Chester. Below Chester, the river flows along a canalised artificial channel for 8 km before entering the estuary. One of the major tributaries of the Dee, the Afon Alyn, crosses carboniferous limestone with numerous sink-holes, and during the summer months long stretches of the river bed run dry. A significant part of this lost flow re-emerges on the west bank of the Dee estuary from an artificial tunnel originally constructed to drain metal mines in Halkyn Mountain.

The Dee Estuary is a large, funnel-shaped, sheltered estuary that supports extensive areas of intertidal sandflats, mudflats and saltmarsh. Where agricultural land-claim has not occurred, the saltmarshes grade into transitional brackish and swamp vegetation on the upper shore. The site also includes the three sandstone islands of Hilbre with their important cliff vegetation and maritime heathland and grassland. The two shorelines of the estuary show a marked contrast

## Information Sheet on Ramsar Wetlands (RIS), page 5

between the industrialised usage of the coastal belt in Wales and residential and recreational usage in England.

**16. Hydrological values:**

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

Shoreline stabilisation and dissipation of erosive forces, Sediment trapping, Other, Water supply

**17. Wetland types**

Marine/coastal wetland

Code	Name	% Area
D	Rocky shores	0.4
E	Sand / shingle shores (including dune systems)	0.1
F	Estuarine waters	14.5
G	Tidal flats	68.7
H	Salt marshes	15.7
J	Coastal brackish / saline lagoons	0.08
R	Saline / brackish lakes: seasonal / intermittent	0.3
Other	Other	0.2

**18. General ecological features:**

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site.

The Dee estuary contains extensive areas of intertidal sand and mudflats with large areas of saltmarsh at its head and along part of its north-eastern shore. The saltmarsh vegetation exhibits a complete succession from early pioneer vegetation colonising intertidal flats through lower, middle and upper saltmarsh types to brackish and freshwater transitions at the top of the shore. Although land-claim has led to a loss of many of these natural transitions, there are still a number of areas, particularly on the English shoreline, where transition to swamp vegetation still occur. These are dominated usually by common reed *Phragmites australis* and sea club-rush *Bolboschoenus maritimus*.

The extensive intertidal mudflats and sandflats of the Dee Estuary form the fifth-largest area within an estuary in the UK and contain many invertebrates, including worms, bivalves (e.g. cockles *Cerastoderma* sp.) and amphipods. Much of the upper part of the estuary consists of muddy fine sand dominated by *Hediste diversicolor* and *Macoma balthica*. The sediment flats in the outer estuary also have fine muddy sands but here they are dominated by *Cerastoderma edule* and *Arenicola marina*. Where water movement is greater the sediments tend to be coarser and sandier, with *Nephtys* sp. and *Bathyporeia* sp.

The saltmarsh themselves support a variety of vegetation communities characteristic of estuaries in northern and western Britain. Much of the estuary is dominated by the non-native common cordgrass *Spartina anglica*; its current extent reflects the fact that the estuary continues to accrete following historical land-claim. Species such as glasswort *Salicornia* sp. and annual seablite *Suaeda maritima* are also present. Much of the saltmarsh remains ungrazed and this has allowed extensive stands of species intolerant of grazing, such as sea purslane *Atriplex portulacoides*, to develop.

The three sandstone islands which comprise the Hilbre complex, represent the only natural hard rock coast within the estuary. The coastal cliffs and maritime heathland and grassland on the plateau areas above the cliffs represent the only regional examples of these vegetative types. The sheltered eastern



## Information Sheet on Ramsar Wetlands (RIS), page 6

cliffs of Hilbre support common scurvygrass *Cochlearia officinalis* and sea campion *Silene uniflora*. The nationally scarce rock sea-lavender *Limonium britannicum* occurs, together with the regionally scarce sea spleenwort fern *Asplenium marinum*.

The Dee estuary supports a further nationally scarce species, Portland spurge *Euphorbia portlandica* found at Point of Ayr.

**19. Noteworthy flora:**

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc. Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.

**Nationally important species occurring on the site.****Higher Plants.**

*Limonium britannicum* subspecies *celticum* (endemic)

*Euphorbia portlandica*

*Spartina anglica* (invasive non-native species)

**20. Noteworthy fauna:**

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.

**Birds****Species currently occurring at levels of national importance:****Species with peak counts in spring/autumn:**

Great cormorant, <i>Phalacrocorax carbo carbo</i> , NW Europe	475 individuals, representing an average of 2% of the GB population (5 year peak mean 1998/9-2002/3)
Ruff, <i>Philomachus pugnax</i> , Europe/W Africa	10 individuals, representing an average of 1.4% of the GB population (5 year peak mean 1998/9-2002/3)
Whimbrel, <i>Numenius phaeopus</i> , Europe/Western Africa	30 individuals, representing an average of 1% of the GB population (5 year peak mean 1998/9-2002/3 - spring peak)
Common greenshank, <i>Tringa nebularia</i> , Europe/W Africa	52 individuals, representing an average of 8.7% of the GB population (5 year peak mean 1998/9-2002/3)

**Species with peak counts in winter:**

Spotted redshank, <i>Tringa erythropus</i> , Europe/W Africa	6 individuals, representing an average of 4.4% of the GB population (5 year peak mean 1998/9-2002/3)
--	--

**Species Information**

Sandhill rustic moth *Luperina nickerlii gueneei* [British Red Data Book]

River lamprey *Lampetra fluviatilis*; sea lamprey *Petromyzon marinus* (Habitats Directive Annex I species)

Hen harrier *Circus cyaneus*, merlin *Falco columbarius*, peregrine falcon *Falco peregrinus*, short-eared owl *Asio flammeus* (Birds Directive Annex 1 non-wetland birds)

Grey seal *Halichoerus grypus* (Habitats Directive Annex II, Annex IV species (S1364))

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**21. Social and cultural values:**

e.g. fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc.  
Distinguish between historical/archaeological/religious significance and current socio-economic values.

Aesthetic  
Aquatic vegetation (e.g. reeds, willows, seaweed)  
Environmental education/ interpretation  
Fisheries production  
Livestock grazing  
Non-consumptive recreation  
Scientific research  
Sport fishing  
Sport hunting  
Tourism  
Transportation/navigation

**22. Land tenure/ownership:**

Ownership category	On-site	Off-site
Non-governmental organisation (NGO)	+	+
Local authority, municipality etc.	+	+
National/Crown Estate	+	+
Private	+	+

**23. Current land (including water) use:**

Activity	On-site	Off-site
Nature conservation	+	+
Tourism	+	+
Recreation	+	+
Current scientific research	+	+
Fishing: commercial	+	+
Fishing: recreational/sport	+	+
Gathering of shellfish	+	+
Bait collection	+	+
Arable agriculture (unspecified)		+
Grazing (unspecified)	+	+
Permanent pastoral agriculture	+	+
Hay meadows		+
Hunting: recreational/sport	+	+
Industrial water supply	+	+
Industry		+
Sewage treatment/disposal		+
Harbour/port	+	+
Flood control		+
Mineral exploration (excl. hydrocarbons)		+
Oil/gas production		+
Transport route		+
Urban development		+
Non-urbanised settlements		+
Military activities	+	+

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**24. Factors adversely affecting the site’s ecological character, including changes in land (including water) use and development projects:**

*Explanation of reporting category:*

1. *Those factors that are still operating, but it is unclear if they are under control, as there is a lag in showing the management or regulatory regime to be successful.*
2. *Those factors that are not currently being managed, or where the regulatory regime appears to have been ineffective so far.*

NA = Not Applicable because no factors have been reported.

Adverse Factor Category	Reporting Category	Description of the problem (Newly reported Factors only)	On-Site	Off-Site	Major Impact?
Introduction/invasion of non-native plant species	1		+		+
Overfishing	2		+		+
Pollution – industrial waste	1		+	+	
General disturbance from human activities	1		+		+
Transport infrastructure development	2	There is an ongoing situation with dredging at Mostyn Dock which has been deemed likely to cause significant effect to the European Marine Site.	+	+	+

For category 2 factors only.

What measures have been taken / are planned / regulatory processes invoked, to mitigate the effect of these factors?  
 Overfishing - It is recognised that the current management of cockle fishing is not effective and new Regulatory Orders are currently with Defra awaiting public consultation.

Transport infrastructure development - At the Public Inquiry for the Mostyn Dock development it was stated there was a requirement for minimum maintenance dredging. Since then the dredging requirement has increased. Applications to dredge are still being determined and consents may be granted on grounds of overriding public interest, notwithstanding the potential damage to the interest of the site. Compensatory measures are being discussed.

The site was listed on the Montreux Record in 1990, because of these negative existing and potential impacts (Ramsar Convention Bureau 1994, 1995).

Is the site subject to adverse ecological change? YES

**25. Conservation measures taken:**

List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

Conservation measure	On-site	Off-site

## Information Sheet on Ramsar Wetlands (RIS), page 9

Site/ Area of Special Scientific Interest (SSSI/ASSI)	+	
Special Protection Area (SPA)	+	
Land owned by a non-governmental organisation for nature conservation	+	
Other	+	
Management plan in preparation	+	

**26. Conservation measures proposed but not yet implemented:**

e.g. management plan in preparation; official proposal as a legally protected area, etc.

No information available

**27. Current scientific research and facilities:**

e.g. details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

**Fauna.**

Numbers of migratory and wintering wildfowl and waders are monitored at high tide monthly throughout the year and the results are reported as part of the national Wetland Birds Survey (WeBS) organised by the British Trust for Ornithology, Wildfowl & Wetlands Trust, the Royal Society for the Protection of Birds and the Joint Nature Conservation Committee. Low-tide counts of migratory and wintering wildfowl and waders are also undertaken periodically.

Bird ringing: On site on Hilbre Island; outside the site at the nearby Shotton Steelworks; and part of Burton Marsh by RSPB.

'Modelling Oystercatchers and their Food on the Dee Estuary' research project is in its final year of field survey. Objectives of the research are to assess the power of existing surveys to detect changes in the cockle population and to recommend improvements, and secondly to determine how each site in the study was used by the population of oystercatchers that roosted there.

A biotope survey of the Dee Estuary is currently being carried out for the English side and will be completed in 2005.

**28. Current conservation education:**

e.g. visitor centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

Both public sector and non-governmental organisations are involved in interpretation and education. An educational CD-ROM has been prepared for use of primary schools around the Dee estuary both in England and Wales (approximately 200 schools). This has been a joint/partnership initiative led by the Dee Estuary Strategy (Estuarine Initiative). A booklet titled '*The Dee Estuary*' provides a general introduction to the site's ecological processes. This booklet was distributed last year to all primary and secondary schools around the estuary both in England and Wales.

**29. Current recreation and tourism:**

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

The Dee Estuary is used extensively for both tourism and recreation, e.g. windsurfing\*, kitesurfing\*, sand-yachting\*, sailing.

(\* restricted to outside the overwintering bird season)

General public access

Coastal cycle route on Welsh side likely to be linked up to Wirral side in future.

Jet-skiing

Water-skiing

Wildfowling (restricted to parts of the estuary)

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**30. Jurisdiction:**

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept. of Agriculture/Dept. of Environment, etc.

Head, Natura 2000 and Ramsar Team, Department for Environment, Food and Rural Affairs,  
European Wildlife Division, Zone 1/07, Temple Quay House, 2 The Square, Temple Quay,  
Bristol, BS1 6EB

Head, Countryside Division, Welsh Assembly Government, Cathays Park, Cardiff, CF1 3NQ

**31. Management authority:**

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Site Designations Manager, English Nature, Sites and Surveillance Team, Northminster House,  
Northminster Road, Peterborough, PE1 1UA, UK / Site Safeguard Officer, International  
Designations, Countryside Council for Wales, Maes-y-Ffynnon, Penrhosgarnedd, Bangor,  
Gwynedd, LL57 2DW

**32. Bibliographical references:**

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 13 above), list full reference citation for the scheme.

**Site-relevant references**

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Please return to: **Ramsar Secretariat, Rue Mauverney 28, CH-1196 Gland, Switzerland**  
Telephone: +41 22 999 0170 • Fax: +41 22 999 0169 • email: [ramsar@ramsar.org](mailto:ramsar@ramsar.org)

**A.3.2 Martin Mere**

# Information Sheet on Ramsar Wetlands (RIS)

*Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.*

Note for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers are strongly urged to provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of maps.

**1. Name and address of the compiler of this form:**

FOR OFFICE USE ONLY.

**Joint Nature Conservation Committee**  
 Monkstone House  
 City Road  
 Peterborough  
 Cambridgeshire PE1 1JY  
 UK  
 Telephone/Fax: +44 (0)1733 – 562 626 / +44 (0)1733 – 555 948  
 Email: [RIS@JNCC.gov.uk](mailto:RIS@JNCC.gov.uk)

DD MM YY

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Designation date

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Site Reference Number

**2. Date this sheet was completed/updated:**

Designated: 28 November 1985

**3. Country:**

UK (England)

**4. Name of the Ramsar site:**

**Martin Mere**

**5. Map of site included:**

Refer to Annex III of the *Explanatory Notes and Guidelines*, for detailed guidance on provision of suitable maps.

a) hard copy (required for inclusion of site in the Ramsar List): yes  -or- no

b) digital (electronic) format (optional): Yes

**6. Geographical coordinates (latitude/longitude):**

53 37 24 N                      02 52 37 W

**7. General location:**

Include in which part of the country and which large administrative region(s), and the location of the nearest large town.

Nearest town/city: Southport

Martin Mere lies between Ormskirk and Southport, close to the village of Burscough.

Administrative region: Lancashire

**8. Elevation (average and/or max. & min.) (metres): 9.      Area (hectares): 119.89**

Min.     3  
 Max.     4  
 Mean    4



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**10. Overview:**

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

Martin Mere occupies part of a former lake and mire which extended over some 1300 hectares of the Lancashire Coastal Plain during the 17th century. In 1972 the Wildfowl and Wetlands Trust purchased 147 hectares of the former Holcrofts Farm, consisting mainly of rough damp pasture, with the primary aim of providing grazing and roosting opportunities for wildfowl. Since acquisition the rough grazed pastures have been transformed by means of positive management into a wildfowl refuge of international importance. Areas of open water with associated muddy margins have been created, whilst maintaining seasonally flooded marsh and reed swamp habitats via water level control. In addition large areas of semi-improved damp grassland, unimproved species rich damp grassland and rush pasture have been maintained and enhanced via appropriate grazing management. Of the pastures the most botanically important are those species rich areas supporting whorled caraway, present here at one of very few sites in northern England. Such pastures are nationally important. However, the outstanding importance of Martin Mere is as a refuge for its large and diverse wintering, passage and breeding bird community. In September 2002, an additional 63 hectares of land were purchased on the southern most part of the refuge at Woodend Farm, with the aid of the Heritage Lottery Fund, to restore arable land to a variety of wetland habitats including seasonally flooded grassland, reedbed, wet woodland and open water habitats. These are all key Biodiversity Action Plan habitats within the Lancashire Plain and Valleys Natural Area.

**11. Ramsar Criteria:**

Circle or underline each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11).

5, 6

**12. Justification for the application of each Criterion listed in 11. above:**

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

Ramsar criterion 5

**Assemblages of international importance:****Species with peak counts in winter:**

25306 waterfowl (5 year peak mean 1998/99-2002/2003)

**Ramsar criterion 6 – species/populations occurring at levels of international importance.****Qualifying Species/populations (as identified at designation):****Species with peak counts in spring/autumn:**

Pink-footed goose, *Anser brachyrhynchus*,  
Greenland, Iceland/UK

8186 individuals, representing an average of  
3.4% of the population (5 year peak mean  
1998/9-2002/3)

**Species with peak counts in winter:**

Tundra swan, *Cygnus columbianus bewickii*,  
NW Europe

61 individuals, representing an average of 0.7%  
of the GB population (5 year peak mean 1998/9-  
2002/3)

Whooper swan, *Cygnus cygnus*,

1320 individuals, representing an average of  
6.3% of the population (5 year peak mean

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Iceland/UK/Ireland	1998/9-2002/3)
Eurasian wigeon , <i>Anas penelope</i> , NW Europe	3062 individuals, representing an average of 0.7% of the GB population (5 year peak mean 1998/9-2002/3)
Northern pintail , <i>Anas acuta</i> , NW Europe	415 individuals, representing an average of 1.4% of the GB population (5 year peak mean 1998/9-2002/3)

Contemporary data and information on waterbird trends at this site and their regional (sub-national) and national contexts can be found in the Wetland Bird Survey report, which is updated annually. See [www.bto.org/survey/webs/webs-alerts-index.htm](http://www.bto.org/survey/webs/webs-alerts-index.htm).

Details of bird species occurring at levels of National importance are given in Section 20

### 13. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region:  
Atlantic

b) biogeographic regionalisation scheme (include reference citation):  
Council Directive 92/43/EEC

### 14. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Soil & geology	acidic, sand, mud, clay, alluvium, peat, nutrient-poor, sedimentary, sandstone
Geomorphology and landscape	lowland, coastal, floodplain
Nutrient status	eutrophic, highly eutrophic
pH	alkaline, circumneutral
Salinity	fresh
Soil	mainly organic
Water permanence	usually permanent, usually seasonal / intermittent
Summary of main climatic features	Annual averages (Blackpool, 1971–2000) ( <a href="http://www.metoffice.com/climate/uk/averages/19712000/sites/blackpool.html">www.metoffice.com/climate/uk/averages/19712000/sites/blackpool.html</a> ) Max. daily temperature: 12.9° C Min. daily temperature: 6.4° C Days of air frost: 40.3 Rainfall: 871.3 mm Hrs. of sunshine: 1540.3

#### General description of the Physical Features:

Martin Mere comprises open water, seasonally-flooded marsh and damp, neutral hay meadows overlying deep peat.

### 15. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, general land use, and climate (including climate type).

Martin Mere comprises open water, seasonally-flooded marsh and damp, neutral hay meadows overlying deep peat.

## Information Sheet on Ramsar Wetlands (RIS), page 4

**16. Hydrological values:**

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

Other, Recharge and discharge of groundwater, Flood water storage / desynchronisation of flood peaks

**17. Wetland types**

Human-made wetland, Inland wetland

Code	Name	% Area
O	Freshwater lakes: permanent	13.7
Ts	Freshwater marshes / pools: seasonal / intermittent	78
U	Peatlands (including peat bogs swamps, fens)	7.1
Xf	Freshwater, tree-dominated wetlands	1.2

**18. General ecological features:**

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site.

Large areas of open water with muddy margins associated with seasonally flooded grazing marsh and reed swamp. There are also large areas of surrounding damp species-rich grassland and semi-improved areas of damp grassland maintained by grazing.

**19. Noteworthy flora:**

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc. Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.

**Nationally important species occurring on the site.****Higher Plants.**

*Carum verticillatum*, *Rumex maritimus*, *Oenanthe fistulosa*, *Oenanthe aquatica*, *Lemna gibba*

**Lower Plants.**

*Leucagaricus serenus*

**20. Noteworthy fauna:**

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.

**Birds****Species currently occurring at levels of national importance:****Species with peak counts in spring/autumn:**

Eurasian teal, *Anas crecca*, NW Europe 3494 individuals, representing an average of 1.8% of the GB population (5 year peak mean 1998/9-2002/3)

**Species with peak counts in winter:**

Common shelduck, *Tadorna tadorna*, NW Europe 936 individuals, representing an average of 1.1% of the GB population (5 year peak mean 1998/9-2002/3)

Common pochard, *Aythya ferina*, NE & NW Europe 829 individuals, representing an average of 1.3% of the GB population (5 year peak mean 1998/9-2002/3)

## Information Sheet on Ramsar Wetlands (RIS), page 5

Ruff, <i>Philomachus pugnax</i> , Europe/W Africa	139 individuals, representing an average of 19.8% of the GB population (5 year peak mean 1998/9-2002/3)
Spotted redshank, <i>Tringa erythropus</i> , Europe/W Africa	2 individuals, representing an average of 1.4% of the GB population (5 year peak mean 1991/92-1995/96)

**Species Information**  
None reported

**21. Social and cultural values:**

e.g. fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc.  
Distinguish between historical/archaeological/religious significance and current socio-economic values.

Aesthetic  
Aquatic vegetation (e.g. reeds, willows, seaweed)  
Archaeological/historical site  
Environmental education/ interpretation  
Livestock grazing  
Non-consumptive recreation  
Scientific research  
Tourism

**22. Land tenure/ownership:**

Ownership category	On-site	Off-site
Non-governmental organisation (NGO)	+	
Private		+
Other	+	+

**23. Current land (including water) use:**

Activity	On-site	Off-site
Nature conservation	+	+
Tourism	+	+
Current scientific research	+	+
Arable agriculture (unspecified)		+
Permanent arable agriculture		+
Grazing (unspecified)	+	+
Rough or shifting grazing	+	+
Permanent pastoral agriculture	+	+
Flood control		+

Information Sheet on Ramsar Wetlands (RIS), page 6

**24. Factors adversely affecting the site’s ecological character, including changes in land (including water) use and development projects:**

*Explanation of reporting category:*

1. *Those factors that are still operating, but it is unclear if they are under control, as there is a lag in showing the management or regulatory regime to be successful.*
2. *Those factors that are not currently being managed, or where the regulatory regime appears to have been ineffective so far.*

*NA = Not Applicable because no factors have been reported.*

Adverse Factor Category	Reporting Category	Description of the problem (Newly reported Factors only)	On-Site	Off-Site	Major Impact?
No factors reported	NA				

For category 2 factors only.  
 What measures have been taken / are planned / regulatory processes invoked, to mitigate the effect of these factors?

Is the site subject to adverse ecological change? NO

**25. Conservation measures taken:**

List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

Conservation measure	On-site	Off-site
Site/ Area of Special Scientific Interest (SSSI/ASSI)	+	
Special Protection Area (SPA)	+	
Land owned by a non-governmental organisation for nature conservation	+	
Site management statement/plan implemented	+	

**26. Conservation measures proposed but not yet implemented:**

e.g. management plan in preparation; official proposal as a legally protected area, etc.

No information available

**27. Current scientific research and facilities:**

e.g. details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

**Fauna.**

Numbers of migratory and wintering wildfowl and waders are monitored annually as part of the national Wetland Birds Survey (WeBS) organised by the British Trust for Ornithology, Wildfowl & Wetlands Trust, the Royal Society for the Protection of Birds and the Joint Nature Conservation Committee.

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**Information Sheet on Ramsar Wetlands (RIS), page 7**

Considerable amounts of research continues to undertaken by the Wildfowl and Wetlands Trust at Martin Mere on the feeding/breeding and behavioural ecology of individual species of wildfowl, in addition to fresh water grazing marsh management.

**Environment.**

Daily weather records, water level and water quality monitoring is undertaken by wardening staff.

**Habitat.**

Invertebrate and plant species records are collected by volunteers on a regular basis.

**Miscellaneous.**

Visitor and educational usage of the Refuge is monitored on a daily basis at this extremely popular and well visited Wildfowl & Wetlands Trust Refuge.

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**28. Current conservation education:**

e.g. visitor centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

WWT employs a number of warden-teacher staff who undertake environmental education work and escort large numbers of school parties around the refuge throughout most of the year. Various educational programmes have also been run for adults in recent years. WWT has excellent visitor and schoolroom facilities as part of its Interpretative Centre on the Refuge.

---

**29. Current recreation and tourism:**

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

**Activities, Facilities provided and Seasonality.**

The WWT Refuge at Martin Mere has excellent bird watching and interpretative facilities, including toilets a tea room/restaurant and shop for the selling of WWT goods and other commodities, as well as educational/interpretative materials and an adventure playground based on a bird theme. In addition its waterfowl collection allows close contact with many species of duck, goose and swan from all over the world.

The latter compliments large areas of refuge which remain free from disturbance for wintering, passage and breeding wildfowl and wading birds. The latter being overlooked from many well constructed tower hides. The Refuge including its waterfowl gardens are extremely well visited throughout the year by large numbers of visitors and parties of school children alike. The Refuge features in tourist literature and is well known throughout the country. People management is of the highest order and from a tourist point of view is sustainable without causing detrimental effects upon the wildlife interest of the refuge.

---

**30. Jurisdiction:**

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept. of Agriculture/Dept. of Environment, etc.

Head, Natura 2000 and Ramsar Team, Department for Environment, Food and Rural Affairs,  
European Wildlife Division, Zone 1/07, Temple Quay House, 2 The Square, Temple Quay,  
Bristol, BS1 6EB

---

**31. Management authority:**

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Site Designations Manager, English Nature, Sites and Surveillance Team, Northminster House,  
Northminster Road, Peterborough, PE1 1UA, UK

---

**32. Bibliographical references:**

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 13 above), list full reference citation for the scheme.

**Site-relevant references**

*Phase I Habitat Survey*

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Martin Mere

Produced by JNCC: Version 3.0, 05/05/2006

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- Environment Agency (1997) *Martin Mere Water Level Management Plan*. Environment Agency
- Forshaw, DW (\*\*\*\*) *Wild geese and swans in Lancashire 1995–1998*
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[www.jncc.gov.uk/UKSPA/default.htm](http://www.jncc.gov.uk/UKSPA/default.htm)
- Wildfowl and Wetlands Trust (\*\*\*\*) *Draft Management Plan*. Wildfowl and Wetlands Trust
- 

Please return to: **Ramsar Secretariat, Rue Mauverney 28, CH-1196 Gland, Switzerland**  
Telephone: +41 22 999 0170 • Fax: +41 22 999 0169 • email: [ramsar@ramsar.org](mailto:ramsar@ramsar.org)

**A.3.3 Mersey Estuary**

# Information Sheet on Ramsar Wetlands (RIS)

*Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.*

Note for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers are strongly urged to provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of maps.

**1. Name and address of the compiler of this form:**

FOR OFFICE USE ONLY.

**Joint Nature Conservation Committee**  
 Monkstone House  
 City Road  
 Peterborough  
 Cambridgeshire PE1 1JY  
 UK  
 Telephone/Fax: +44 (0)1733 – 562 626 / +44 (0)1733 – 555 948  
 Email: [RIS@JNCC.gov.uk](mailto:RIS@JNCC.gov.uk)

DD MM YY

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Designation date

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Site Reference Number

**2. Date this sheet was completed/updated:**

Designated: 20 December 1995

**3. Country:**

UK (England)

**4. Name of the Ramsar site:**

Mersey Estuary

**5. Map of site included:**

Refer to Annex III of the *Explanatory Notes and Guidelines*, for detailed guidance on provision of suitable maps.

a) hard copy (required for inclusion of site in the Ramsar List): yes  -or- no

b) digital (electronic) format (optional): Yes

**6. Geographical coordinates (latitude/longitude):**

053 18 51 N                      002 49 25 W

**7. General location:**

Include in which part of the country and which large administrative region(s), and the location of the nearest large town.

Nearest town/city: Liverpool

Mersey Estuary is located in north-west England between the counties of Cheshire and Merseyside.

Administrative region: Cheshire; Halton; Merseyside; Liverpool; Wirral

**8. Elevation (average and/or max. & min.) (metres):**    **9. Area (hectares):** 5023.35

Min.    -3  
 Max.    32  
 Mean    1



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**10. Overview:**

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

The Mersey is a large, sheltered estuary which comprises large areas of saltmarsh and extensive intertidal sand and mudflats, with limited areas of brackish marsh, rocky shoreline and boulder clay cliffs, within a rural and industrial environment. The intertidal flats and saltmarshes provide feeding and roosting sites for large and internationally important populations of waterfowl. During the winter, the site is of major importance for duck and waders. The site is also important during spring and autumn migration periods, particularly for wader populations moving along the west coast of Britain.

**11. Ramsar Criteria:**

Circle or underline each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11).

**5, 6**

**12. Justification for the application of each Criterion listed in 11. above:**

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

Ramsar criterion 5

**Assemblages of international importance:****Species with peak counts in winter:**

89576 waterfowl (5 year peak mean 1998/99-2002/2003)

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

**Qualifying Species/populations (as identified at designation):****Species with peak counts in spring/autumn:**

Common shelduck, *Tadorna tadorna*, NW Europe 12676 individuals, representing an average of 4.2% of the population (5 year peak mean 1998/9-2002/3)

Black-tailed godwit, *Limosa limosa islandica*, Iceland/W Europe 2011 individuals, representing an average of 5.7% of the population (5 year peak mean 1998/9-2002/3)

Common redshank, *Tringa totanus totanus*, 6651 individuals, representing an average of 2.6% of the population (5 year peak mean 1998/9-2002/3)

**Species with peak counts in winter:**

Eurasian teal, *Anas crecca*, NW Europe 10613 individuals, representing an average of 2.6% of the population (5 year peak mean 1998/9-2002/3)

Northern pintail, *Anas acuta*, NW Europe 565 individuals, representing an average of 2% of the GB population (5 year peak mean 1998/9-2002/3)

Dunlin, *Calidris alpina alpina*, W Siberia/W Europe 48364 individuals, representing an average of 3.6% of the population (5 year peak mean 1998/9-2002/3)

## Information Sheet on Ramsar Wetlands (RIS), page 3

Contemporary data and information on waterbird trends at this site and their regional (sub-national) and national contexts can be found in the Wetland Bird Survey report, which is updated annually. See [www.bto.org/survey/webs/webs-alerts-index.htm](http://www.bto.org/survey/webs/webs-alerts-index.htm).

Details of bird species occurring at levels of National importance are given in Section 20

### 13. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region:  
Atlantic

b) biogeographic regionalisation scheme (include reference citation):  
Council Directive 92/43/EEC

### 14. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Soil & geology	clay, mud, sand, sandstone/mudstone
Geomorphology and landscape	cliffs, coastal, estuary, intertidal sediments (including sandflat/mudflat), lowland, subtidal sediments (including sandbank/mudbank)
Nutrient status	eutrophic, mesotrophic
pH	no information
Salinity	brackish / mixosaline, saline / euhaline
Soil	no information
Water permanence	usually permanent
Summary of main climatic features	Annual averages (Blackpool, 1971–2000) ( <a href="http://www.metoffice.com/climate/uk/averages/19712000/sites/blackpool.html">www.metoffice.com/climate/uk/averages/19712000/sites/blackpool.html</a> ) Max. daily temperature: 12.9° C Min. daily temperature: 6.4° C Days of air frost: 40.3 Rainfall: 871.3 mm Hrs. of sunshine: 1540.3

#### General description of the Physical Features:

The Mersey Estuary is located on the Irish Sea coast of north-west England. It is a large, sheltered estuary which comprises large areas of saltmarsh and extensive intertidal sand- and mud-flats, with limited areas of brackish marsh, rocky shoreline and boulder clay cliffs, within a rural and industrial environment.

### 15. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, general land use, and climate (including climate type).

The Mersey catchment covers an area of approximately 535 km<sup>2</sup> and includes the River Mersey and the River Bollin and their tributaries. Several canals and a large number of water bodies, including the Cheshire Meres, large reservoirs and ponds lie within the catchment. The area is heavily urbanised around Greater Manchester, contrasting with the more rural areas of Cheshire to the south and east. Water is abstracted throughout the catchments from both surface waters and groundwater for a number of uses including agricultural, industrial and public water supply. A

## Information Sheet on Ramsar Wetlands (RIS), page 4

number of public water supply reservoirs are present within the upper reaches of the catchments including Lamaload, Trentabank and Ridgegate reservoirs.

The Mersey Estuary is located on the Irish Sea coast of north-west England. It is a large, sheltered estuary which comprises large areas of saltmarsh and extensive intertidal sand- and mud-flats, with limited areas of brackish marsh, rocky shoreline and boulder clay cliffs, within a rural and industrial environment.

**16. Hydrological values:**

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

Shoreline stabilisation and dissipation of erosive forces, Sediment trapping, Water supply

**17. Wetland types**

Marine/coastal wetland

Code	Name	% Area
G	Tidal flats	89
H	Salt marshes	11

**18. General ecological features:**

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site.

Within this site the main habitat types are: Mudflats, Sandflats, Saltmarsh, Soft cliffs and Brackish marsh.

The main plant communities consists of: *Spartina anglica* saltmarsh (SM6), *Puccinellia maritima* saltmarsh (SM13), Transitional low-marsh vegetation with *Puccinellia maritima*, *Salicornia* species and *Suaeda maritima* (SM10), *Honkenya peploides*–*Cakile maritima* strandline community (SD2), *Typha latifolia* swamp (S12), *Phragmites australis*–*Urtica dioica* tall-herb fen (S26).

The estuary consists of large areas of intertidal sand and mudflats and saltmarsh. These provide feeding and roosting sites for large populations of waterfowl. Grazing of the saltmarsh by sheep and cattle adds diversity. Some parts of the northern shoreline are formed of boulder clay cliffs below which there are, in some parts, transitional areas with *Phragmites australis*.

**19. Noteworthy flora:**

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc. Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.

None reported

**20. Noteworthy fauna:**

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.

**Birds****Species currently occurring at levels of national importance:****Species with peak counts in spring/autumn:**

Ringed plover, <i>Charadrius hiaticula</i> , Europe/Northwest Africa	429 individuals, representing an average of 1.3% of the GB population (5 year peak mean 1998/9-2002/3)
Eurasian curlew, <i>Numenius arquata arquata</i> , N. a. <i>arquata</i> Europe (breeding)	2010 individuals, representing an average of 1.3% of the GB population (5 year peak mean 1998/9-2002/3)

## Information Sheet on Ramsar Wetlands (RIS), page 5

Spotted redshank , <i>Tringa erythropus</i> , Europe/W Africa	3 individuals, representing an average of 2.2% of the GB population (5 year peak mean 1998/9-2002/3)
Common greenshank , <i>Tringa nebularia</i> , Europe/W Africa	6 individuals, representing an average of 1% of the GB population (5 year peak mean 1998/9-2002/3)
<b>Species with peak counts in winter:</b>	
Eurasian wigeon , <i>Anas penelope</i> , NW Europe	8268 individuals, representing an average of 2% of the GB population (5 year peak mean 1998/9-2002/3)

**Species Information**

None reported

**21. Social and cultural values:**

e.g. fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc.  
Distinguish between historical/archaeological/religious significance and current socio-economic values.

Aesthetic  
Environmental education/ interpretation  
Livestock grazing  
Non-consumptive recreation  
Scientific research  
Sport hunting  
Tourism  
Transportation/navigation

**22. Land tenure/ownership:**

Ownership category	On-site	Off-site
Non-governmental organisation (NGO)	+	+
Local authority, municipality etc.	+	+
National/Crown Estate	+	+
Private	+	+

**23. Current land (including water) use:**

Activity	On-site	Off-site
Nature conservation	+	+
Tourism	+	+
Current scientific research	+	+
Fishing: (unspecified)		+
Fishing: commercial		+
Fishing: recreational/sport		+
Fishing: subsistence		+
Bait collection	+	
Grazing (unspecified)	+	+
Hunting: recreational/sport	+	+
Industrial water supply	+	+
Industry	+	+
Sewage treatment/disposal	+	+
Harbour/port	+	+
Mineral exploration (excl. hydrocarbons)	+	+
Oil/gas exploration		+

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Oil/gas production		+
Transport route	+	+
Urban development		+

**24. Factors adversely affecting the site's ecological character, including changes in land (including water) use and development projects:**

*Explanation of reporting category:*

1. *Those factors that are still operating, but it is unclear if they are under control, as there is a lag in showing the management or regulatory regime to be successful.*
2. *Those factors that are not currently being managed, or where the regulatory regime appears to have been ineffective so far.*

NA = Not Applicable because no factors have been reported.

Adverse Factor Category	Reporting Category	Description of the problem (Newly reported Factors only)	On-Site	Off-Site	Major Impact?
No factors reported	NA				

For category 2 factors only.

What measures have been taken / are planned / regulatory processes invoked, to mitigate the effect of these factors?

Is the site subject to adverse ecological change? NO

**25. Conservation measures taken:**

List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

Conservation measure	On-site	Off-site
Site/ Area of Special Scientific Interest (SSSI/ASSI)	+	+
Special Protection Area (SPA)	+	
Management agreement	+	+
Site management statement/plan implemented	+	
Other	+	+

**26. Conservation measures proposed but not yet implemented:**

e.g. management plan in preparation; official proposal as a legally protected area, etc.

No information available

**27. Current scientific research and facilities:**

e.g. details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

**Fauna**

Numbers of migratory and wintering wildfowl and waders are monitored annually as part of the national Wetland Birds Survey (WeBS) organised by the British Trust for Ornithology, Wildfowl &

## Information Sheet on Ramsar Wetlands (RIS), page 7

Wetlands Trust, the Royal Society for the Protection of Birds and the Joint Nature Conservation Committee.

**Environment**

The Environment Agency has ongoing research/monitoring of water quality, management required under the Water Framework Directive. Research/monitoring is undertaken by departments within the University of Liverpool. The Liverpool Bay Shoreline Management Plan (Liverpool Bay Coastal Group, 1999a; 1999b; 1999c) expands knowledge of natural resources and physical processes within and affecting the estuary. In future, this will be enhanced by development of the Mersey Estuary Shoreline Management Plan which has not yet been prepared.

**28. Current conservation education:**

e.g. visitor centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

Both public sector and non-governmental organisations are involved in interpretation and education at the site.

**29. Current recreation and tourism:**

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

**Activities**

As the waters become cleaner, more people are likely to be attracted to water-based recreational activities including sailing, canoeing, windsurfing and angling.

There is a network of footpaths in the upper estuary, with the potential to extend public access. There is also the potential for greater integration of the footpath network, and improved accessibility design.

**Facilities provided**

Partial footpath network. New access points, routes and country parks have been opened recently.

**Seasonality**

All year with main concentrations during the summer from a catchment of 2 million people.

**30. Jurisdiction:**

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept. of Agriculture/Dept. of Environment, etc.

Head, Natura 2000 and Ramsar Team, Department for Environment, Food and Rural Affairs,  
European Wildlife Division, Zone 1/07, Temple Quay House, 2 The Square, Temple Quay,  
Bristol, BS1 6EB

**31. Management authority:**

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Site Designations Manager, English Nature, Sites and Surveillance Team, Northminster House,  
Northminster Road, Peterborough, PE1 1UA, UK

**32. Bibliographical references:**

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 13 above), list full reference citation for the scheme.

**Site-relevant references**

Anon. (1995) *Biodiversity: The UK Steering Group Report. Volume 2: Action plans*. HMSO, London

Barne, JH, Robson, CF, Kaznowska, SS, Doody, JP & Davidson, NC (eds.) (1996) *Coasts and seas of the United Kingdom. Region 13. Northern Irish Sea: Colwyn Bay to Stranraer, including the Isle of Man*. Joint Nature Conservation Committee, Peterborough. (Coastal Directories Series.)

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- Cheshire County Council (1989) *The ecology of the Mersey estuary*. Cheshire County Council, Environmental Planning, Chester
- Covey, R (1998) *Marine Nature Conservation Review Sector 11. Liverpool Bay and the Solway Firth: area summaries*. Joint Nature Conservation Committee, Peterborough (Coasts and seas of the United Kingdom. MNCR series)
- Cranswick, PA, Waters, RJ, Musgrove, AJ & Pollitt, MS (1997) *The Wetland Bird Survey 1995–96: wildfowl and wader counts*. British Trust for Ornithology, Wildfowl and Wetlands Trust, Royal Society for the Protection of Birds & Joint Nature Conservation Committee, Slimbridge
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**Information Sheet on Ramsar Wetlands (RIS), page 9**

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Please return to: **Ramsar Secretariat, Rue Mauverney 28, CH-1196 Gland, Switzerland**  
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**A.3.4 Midland Meres and Mosses**

# Information Sheet on Ramsar Wetlands (RIS)

*Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.*

Note for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers are strongly urged to provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of maps.

**1. Name and address of the compiler of this form:**

**Joint Nature Conservation Committee**  
 Monkstone House  
 City Road  
 Peterborough  
 Cambridgeshire PE1 1JY  
 UK  
 Telephone/Fax: +44 (0)1733 – 562 626 / +44 (0)1733 – 555 948  
 Email: [RIS@JNCC.gov.uk](mailto:RIS@JNCC.gov.uk)

FOR OFFICE USE ONLY.

DD MM YY	
Designation date	Site Reference Number

**2. Date this sheet was completed/updated:**

Designated: 02 February 1997

**3. Country:**

UK (England/Wales)

**4. Name of the Ramsar site:**

Midland Meres and Mosses Phase 2

**5. Map of site included:**

Refer to Annex III of the *Explanatory Notes and Guidelines*, for detailed guidance on provision of suitable maps.

a) hard copy (required for inclusion of site in the Ramsar List): *yes* ✓ -or- *no*

b) digital (electronic) format (optional): Yes

**6. Geographical coordinates (latitude/longitude):**

52 55 20 N                      02 45 43 W

**7. General location:**

Include in which part of the country and which large administrative region(s), and the location of the nearest large town.

Nearest town/city: Chester, Shrewsbury, Stafford

The 18 units which make up the site are spread over the Wrexham / Shropshire / Cheshire and Staffordshire Plain. The majority of the units are in Cheshire and north Shropshire, with a small number of outlying sites in adjacent parts of Staffordshire and Wrexham.

**Administrative region:** Cheshire; Clwyd; Shropshire; Staffordshire; Wrecsam/ Wrexham

**8. Elevation (average and/or max. & min.) (metres):    9. Area (hectares): 1588.24**

Min.    63  
 Max.    94  
 Mean    83

## Information Sheet on Ramsar Wetlands (RIS), page 2

**10. Overview:**

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

The Meres and Mosses form a geographically diverse series of lowland open water and peatland sites in the north-west Midlands of England and north-east Wales. These have developed in natural depressions in the glacial drift left by receding ice sheets which formerly covered the Cheshire/Shropshire Plain. The 18 component sites include open water bodies (meres), the majority of which are nutrient-rich with associated fringing habitats, reed swamp, fen, carr and damp pasture. Peat accumulation has resulted in the nutrient-poor peat bogs (mosses) forming in some sites on the fringes of the meres or completely infilling basins. In a few cases the result is a floating quaking bog or schwingmoor. The wide range of resulting habitats support nationally important flora and fauna.

**11. Ramsar Criteria:**

Circle or underline each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11).

1, 2

**12. Justification for the application of each Criterion listed in 11. above:**

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

**Ramsar criterion 1**

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

**Ramsar criterion 2**

Supports a number of rare species of plants associated with wetlands, including the nationally scarce cowbane *Cicuta virosa* and, elongated sedge *Carex elongata*. Also present are the nationally scarce bryophytes *Dicranum affine* and *Sphagnum pulchrum*.

Also supports an assemblage of invertebrates including several rare species. There are 16 species of British Red Data Book insect listed for this site including the following endangered species: the moth *Glyphipteryx lathamella*, the caddisfly *Hagenella clathrata* and the sawfly *Trichiosoma vitellinae*.

**13. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):**

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

**a) biogeographic region:**

Atlantic

**b) biogeographic regionalisation scheme (include reference citation):**

Council Directive 92/43/EEC

**14. Physical features of the site:**

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Soil & geology	acidic, basic, neutral, sand, clay, alluvium, peat, nutrient-rich, nutrient-poor, sandstone, sandstone/mudstone, gravel
Geomorphology and landscape	lowland, hilly, floodplain, escarpment

## Information Sheet on Ramsar Wetlands (RIS), page 3

Nutrient status	eutrophic, mesotrophic, oligotrophic
pH	acidic, circumneutral, strongly acidic
Salinity	fresh
Soil	mainly organic
Water permanence	usually permanent
Summary of main climatic features	Annual averages (Shawbury, 1971–2000) ( <a href="http://www.metoffice.com/climate/uk/averages/19712000/sites/shawbury.html">www.metoffice.com/climate/uk/averages/19712000/sites/shawbury.html</a> ) Max. daily temperature: 13.4° C Min. daily temperature: 5.2° C Days of air frost: 61.8 Rainfall: 655.7 mm Hrs. of sunshine: 1398.1

**General description of the Physical Features:**

The Meres and Mosses of the north-west Midlands comprise a series of open water and peatland sites, most of which developed in natural depressions left by the retreating ice sheets at the end of the last Ice Age. There are over 60 open water sites, or 'meres', as well as a smaller number of peatland sites, known as 'mosses'.

**15. Physical features of the catchment area:**

Describe the surface area, general geology and geomorphological features, general soil types, general land use, and climate (including climate type).

The Meres and Mosses of the north-west Midlands comprise a series of open water and peatland sites, most of which developed in natural depressions left by the retreating ice sheets at the end of the last Ice Age. There are over 60 open water sites, or 'meres', as well as a smaller number of peatland sites, known as 'mosses'.

**16. Hydrological values:**

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

Recharge and discharge of groundwater, Flood water storage / desynchronisation of flood peaks

**17. Wetland types**

Inland wetland

Code	Name	% Area
O	Freshwater lakes: permanent	14.4
U	Peatlands (including peat bogs swamps, fens)	66.1
W	Shrub-dominated wetlands	2.1
Other	Other	12.7
Xp	Forested peatland	4.7

**18. General ecological features:**

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site.

The site's primary interest is its wide range of lowland wetland types and successional stages within a distinct biogeographical area. Waters are generally circumneutral or acidic depending on the component site's soil type, catchment size and usage. Substantial areas of open water remain in some sites, and in many cases this is fringed by extensive and varied swamp, fen and carr communities. Some basins have become peat-filled, leading in some circumstances to the development of ombrotrophic conditions; of particular importance are the quaking bogs or schwingmoors.

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Fenns, Whixall, Bettisfield, Wem and Cadney Mosses are large raised bogs of exceptional importance.

**19. Noteworthy flora:**

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc. Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.

**Nationally important species occurring on the site.****Higher Plants.**

*Calamagrostis stricta, Carex elongata, Cicuta virosa, Thelypteris palustris*

**Lower Plants.**

*Sphagnum pulchrum, Dicranum undulatum*

**20. Noteworthy fauna:**

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.

**Species currently occurring at levels of national importance:****Species with peak counts in spring/autumn:**

Northern shoveler, *Anas chrypeata*, NW & C Europe 171 individuals, representing an average of 1.1% of the GB population (5 year peak mean 1998/9-2002/3)

**Species with peak counts in winter:**

Great cormorant, *Phalacrocorax carbo carbo*, NW Europe 323 individuals, representing an average of 1.4% of the GB population (5 year peak mean 1998/9-2002/3)

Great bittern, *Botaurus stellaris stellaris*, W Europe, NW Africa 1 individuals, representing an average of 1% of the GB population (5 year peak mean 1998/9-2002/3)

Water rail, *Rallus aquaticus*, Europe 7 individuals, representing an average of 1.5% of the GB population (5 year peak mean 1998/9-2002/3)

**Species Information****Nationally important species occurring on the site.****Invertebrates.**

*Limnophila heterogyna, Atylotus plebeius, Hagenella clathrata, Limnophila fasciata, Carorita limnaea, Glypteryx lathamella, Trichiosoma vitellinae, Eilema serica, Brachythops wusteneii, Pachinematus xanthocarpos, Sitticus floricola, Lampronia fuscata, Hybomitra lurida.*

**21. Social and cultural values:**

e.g. fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values.

**Aesthetic**

Archaeological/historical site

Environmental education/ interpretation

Livestock grazing

Non-consumptive recreation

Peat cutting (small-scale/subsistence)

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Scientific research

Sport fishing

**22. Land tenure/ownership:**

Ownership category	On-site	Off-site
Non-governmental organisation (NGO)	+	
Local authority, municipality etc.	+	+
National/Crown Estate	+	+
Private	+	+

**23. Current land (including water) use:**

Activity	On-site	Off-site
Nature conservation	+	
Recreation	+	
Current scientific research	+	
Collection of non-timber natural products: (unspecified)	+	
Commercial forestry		+
Fishing: recreational/sport	+	
Arable agriculture (unspecified)		+
Grazing (unspecified)	+	+
Hunting: recreational/sport	+	+
Sewage treatment/disposal		+
Irrigation (incl. agricultural water supply)		+
Mineral exploration (excl. hydrocarbons)		+
Transport route		+
Urban development		+
Non-urbanised settlements		+

**24. Factors adversely affecting the site's ecological character, including changes in land (including water) use and development projects:**

*Explanation of reporting category:*

1. *Those factors that are still operating, but it is unclear if they are under control, as there is a lag in showing the management or regulatory regime to be successful.*
2. *Those factors that are not currently being managed, or where the regulatory regime appears to have been ineffective so far.*

*NA = Not Applicable because no factors have been reported.*

Adverse Factor Category	Reporting Category	Description of the problem (Newly reported Factors only)	On-Site	Off-Site	Major Impact?
Eutrophication	1		+	+	+
Introduction/invasion of non-native plant species	1		+		+

## Information Sheet on Ramsar Wetlands (RIS), page 6

Pollution – pesticides/agricultural runoff	1			+	+

For category 2 factors only.

What measures have been taken / are planned / regulatory processes invoked, to mitigate the effect of these factors?

Is the site subject to adverse ecological change? NO

### 25. Conservation measures taken:

List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

Conservation measure	On-site	Off-site
Site/ Area of Special Scientific Interest (SSSI/ASSI)	+	
National Nature Reserve (NNR)	+	
Land owned by a non-governmental organisation for nature conservation	+	
Management agreement	+	+
Site management statement/plan implemented	+	
Other	+	+
Special Area of Conservation (SAC)	+	

### 26. Conservation measures proposed but not yet implemented:

e.g. management plan in preparation; official proposal as a legally protected area, etc.

No information available

### 27. Current scientific research and facilities:

e.g. details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

#### Habitat.

Catchment management planning.  
Peatland restoration & monitoring.  
Fen rehabilitation.  
Limnology.  
Hydrology.

#### Environment.

Water chemistry.  
Trophic status/nutrient budgets.  
Peat paleo-ecology.  
Impacts of fish.

### 28. Current conservation education:

e.g. visitor centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

Areas owned by the Local Authority and National Nature Reserves are used by schools and universities for site-based projects and individual dissertations.

National Nature Reserves are used as management-practice and machinery demonstration sites.

## Information Sheet on Ramsar Wetlands (RIS), page 6

Pollution – pesticides/agricultural runoff	1			+	+

For category 2 factors only.

What measures have been taken / are planned / regulatory processes invoked, to mitigate the effect of these factors?

Is the site subject to adverse ecological change? NO

#### 25. Conservation measures taken:

List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

Conservation measure	On-site	Off-site
Site/ Area of Special Scientific Interest (SSSI/ASSI)	+	
National Nature Reserve (NNR)	+	
Land owned by a non-governmental organisation for nature conservation	+	
Management agreement	+	+
Site management statement/plan implemented	+	
Other	+	+
Special Area of Conservation (SAC)	+	

#### 26. Conservation measures proposed but not yet implemented:

e.g. management plan in preparation; official proposal as a legally protected area, etc.

No information available

#### 27. Current scientific research and facilities:

e.g. details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

##### Habitat.

Catchment management planning.  
Peatland restoration & monitoring.  
Fen rehabilitation.  
Limnology.  
Hydrology.

##### Environment.

Water chemistry.  
Trophic status/nutrient budgets.  
Peat paleo-ecology.  
Impacts of fish.

#### 28. Current conservation education:

e.g. visitor centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

Areas owned by the Local Authority and National Nature Reserves are used by schools and universities for site-based projects and individual dissertations.

National Nature Reserves are used as management-practice and machinery demonstration sites.

## Information Sheet on Ramsar Wetlands (RIS), page 7

**29. Current recreation and tourism:**

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

**Activities.**

Angling; boating.

**Facilities provided.**

There is a network of public footpaths.

**Seasonality.**

Increased use in summer.

**30. Jurisdiction:**

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept. of Agriculture/Dept. of Environment, etc.

Head, Natura 2000 and Ramsar Team, Department for Environment, Food and Rural Affairs,  
European Wildlife Division, Zone 1/07, Temple Quay House, 2 The Square, Temple Quay,  
Bristol, BS1 6EB

Head, Countryside Division, Welsh Assembly Government, Cathays Park, Cardiff, CF1 3NQ

**31. Management authority:**

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Site Designations Manager, English Nature, Sites and Surveillance Team, Northminster House,  
Northminster Road, Peterborough, PE1 1UA, UK / Site Safeguard Officer, International  
Designations, Countryside Council for Wales, Maes-y-Ffynnon, Penrhosgarnedd, Bangor,  
Gwynedd, LL57 2DW

**32. Bibliographical references:**

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 13 above), list full reference citation for the scheme.

**Site-relevant references**

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Telephone: +41 22 999 0170 • Fax: +41 22 999 0169 • email: [ramsar@ramsar.org](mailto:ramsar@ramsar.org)

**A.3.5 Ribble and Alt Estuaries**

# Information Sheet on Ramsar Wetlands (RIS)

*Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.*

Note for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers are strongly urged to provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of maps.

**1. Name and address of the compiler of this form:**

FOR OFFICE USE ONLY.

**Joint Nature Conservation Committee**  
 Monkstone House  
 City Road  
 Peterborough  
 Cambridgeshire PE1 1JY  
 UK  
 Telephone/Fax: +44 (0)1733 – 562 626 / +44 (0)1733 – 555 948  
 Email: [RIS@JNCC.gov.uk](mailto:RIS@JNCC.gov.uk)

DD MM YY

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Designation date

--	--	--	--	--	--	--	--

Site Reference Number

**2. Date this sheet was completed/updated:**

Designated: 16 February 1995

**3. Country:**

UK (England)

**4. Name of the Ramsar site:**

Ribble and Alt Estuaries

**5. Map of site included:**

Refer to Annex III of the *Explanatory Notes and Guidelines*, for detailed guidance on provision of suitable maps.

a) hard copy (required for inclusion of site in the Ramsar List): yes  -or- no

b) digital (electronic) format (optional): Yes

**6. Geographical coordinates (latitude/longitude):**

53 42 41 N                      02 58 44 W

**7. General location:**

Include in which part of the country and which large administrative region(s), and the location of the nearest large town.

Nearest town/city: Preston

The site occupies a stretch of coastline between Liverpool and Preston on the north-west coast of England. It lies between the Mersey estuary and Morecambe Bay.

Administrative region: Lancashire; Merseyside; Sefton

**8. Elevation (average and/or max. & min.) (metres): 9. Area (hectares): 13464.1**

Min.	-2
Max.	19
Mean	1

## Information Sheet on Ramsar Wetlands (RIS), page 2

**10. Overview:**

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

A large area including two estuaries which form part of the chain of west coast sites which fringe the Irish Sea. The site is formed by extensive sand and mudflats backed, in the north, by the saltmarsh of the Ribble Estuary and, to the south, the sand dunes of the Sefton Coast. The tidal flats and saltmarsh support internationally important populations of waterfowl in winter and the sand dunes support vegetation communities and amphibian populations of international importance.

**11. Ramsar Criteria:**

Circle or underline each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11).

2, 5, 6

**12. Justification for the application of each Criterion listed in 11. above:**

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

**Ramsar criterion 2**

This site supports up to 40% of the Great Britain population of natterjack toads *Bufo calamita*.

**Ramsar criterion 5****Assemblages of international importance:****Species with peak counts in winter:**

222038 waterfowl (5 year peak mean 1998/99-2002/2003)

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

**Qualifying Species/populations (as identified at designation):****Species regularly supported during the breeding season:**

Lesser black-backed gull , *Larus fuscus graellsii*, 4108 apparently occupied nests, representing an average of 2.7% of the breeding population  
W Europe/Mediterranean/W Africa (Seabird 2000 Census)

**Species with peak counts in spring/autumn:**

Ringed plover , <i>Charadrius hiaticula</i> , Europe/Northwest Africa	3761 individuals, representing an average of 5.1% of the population (5 year peak mean 1998/9-2002/3 - spring peak)
Grey plover , <i>Pluvialis squatarola</i> , E Atlantic/W Africa -wintering	11021 individuals, representing an average of 4.4% of the population (5 year peak mean 1998/9-2002/3 - spring peak)
Red knot , <i>Calidris canutus islandica</i> , W & Southern Africa (wintering)	42692 individuals, representing an average of 9.4% of the population (5 year peak mean 1998/9-2002/3)
Sanderling , <i>Calidris alba</i> , Eastern Atlantic	7401 individuals, representing an average of 6% of the population (5 year peak mean 1998/9-2002/3 - spring peak)
Dunlin , <i>Calidris alpina alpina</i> , W Siberia/W Europe	38196 individuals, representing an average of 2.8% of the population (5 year peak mean

## Information Sheet on Ramsar Wetlands (RIS), page 3

Black-tailed godwit , <i>Limosa limosa islandica</i> , Iceland/W Europe	1998/9-2002/3 - spring peak) 3323 individuals, representing an average of 9.4% of the population (5 year peak mean 1998/9-2002/3)
Common redshank , <i>Tringa totanus totanus</i> ,	4465 individuals, representing an average of 1.7% of the population (5 year peak mean 1998/9-2002/3)
Lesser black-backed gull , <i>Larus fuscus graellsii</i> ,	1747 individuals, representing an average of 2.8% of the GB population (5 year peak mean 1998/9-2002/3)
<b>Species with peak counts in winter:</b>	
Tundra swan , <i>Cygnus columbianus bewickii</i> , NW Europe	230 individuals, representing an average of 2.8% of the GB population (5 year peak mean 1998/9- 2002/3)
Whooper swan , <i>Cygnus cygnus</i> , Iceland/UK/Ireland	211 individuals, representing an average of 1% of the population (5 year peak mean 1998/9- 2002/3)
Pink-footed goose , <i>Anser brachyrhynchus</i> , Greenland, Iceland/UK	6552 individuals, representing an average of 2.7% of the population (5 year peak mean 1998/9-2002/3)
Common shelduck , <i>Tadorna tadorna</i> , NW Europe	2944 individuals, representing an average of 3.7% of the GB population (5 year peak mean 1998/9-2002/3)
Eurasian wigeon , <i>Anas penelope</i> , NW Europe	69841 individuals, representing an average of 4.6% of the population (5 year peak mean 1998/9-2002/3)
Eurasian teal , <i>Anas crecca</i> , NW Europe	5107 individuals, representing an average of 1.2% of the population (5 year peak mean 1998/9-2002/3)
Northern pintail , <i>Anas acuta</i> , NW Europe	1497 individuals, representing an average of 2.4% of the population (5 year peak mean 1998/9-2002/3)
Eurasian oystercatcher , <i>Haematopus ostralegus</i> <i>ostralegus</i> , Europe & NW Africa -wintering	18926 individuals, representing an average of 1.8% of the population (5 year peak mean 1998/9-2002/3)
Bar-tailed godwit , <i>Limosa lapponica lapponica</i> , W Palearctic	13935 individuals, representing an average of 11.6% of the population (5 year peak mean 1998/9-2002/3)
Contemporary data and information on waterbird trends at this site and their regional (sub-national) and national contexts can be found in the Wetland Bird Survey report, which is updated annually. See <a href="http://www.bto.org/survey/webs/webs-alerts-index.htm">www.bto.org/survey/webs/webs-alerts-index.htm</a> .	
Details of bird species occurring at levels of National importance are given in Section 20	

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**13. Biogeography** (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

**a) biogeographic region:**

Atlantic

**b) biogeographic regionalisation scheme** (include reference citation):

Council Directive 92/43/EEC

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## Information Sheet on Ramsar Wetlands (RIS), page 4

**14. Physical features of the site:**

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Soil & geology	basic, neutral, sand, alluvium, sedimentary
Geomorphology and landscape	lowland, coastal, intertidal sediments (including sandflat/mudflat), open coast (including bay), estuary
Nutrient status	mesotrophic
pH	alkaline, circumneutral
Salinity	brackish / mixosaline, saline / euhaline
Soil	mainly mineral
Water permanence	usually permanent
Summary of main climatic features	Annual averages (Blackpool, 1971–2000) ( <a href="http://www.metoffice.com/climate/uk/averages/19712000/sites/blackpool.html">www.metoffice.com/climate/uk/averages/19712000/sites/blackpool.html</a> ) Max. daily temperature: 12.9° C Min. daily temperature: 6.4° C Days of air frost: 40.3 Rainfall: 871.3 mm Hrs. of sunshine: 1540.3

**General description of the Physical Features:**

The Ribble and Alt Estuaries lie on the Irish Sea coast of north-west England. The site comprises two estuaries, of which the Ribble Estuary is by far the larger, together with an extensive area of sandy foreshore along the Sefton Coast. The site consists of extensive sand- and mud-flats and, particularly in the Ribble Estuary, large areas of saltmarsh. There are also areas of coastal grazing marsh located behind the sea embankments.

**15. Physical features of the catchment area:**

Describe the surface area, general geology and geomorphological features, general soil types, general land use, and climate (including climate type).

The Ribble and Alt Estuaries lie on the Irish Sea coast of north-west England. The site comprises two estuaries, of which the Ribble Estuary is by far the larger, together with an extensive area of sandy foreshore along the Sefton Coast. The site consists of extensive sand- and mud-flats and, particularly in the Ribble Estuary, large areas of saltmarsh. There are also areas of coastal grazing marsh located behind the sea embankments.

**16. Hydrological values:**

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

Shoreline stabilisation and dissipation of erosive forces, Sediment trapping

**17. Wetland types**

Marine/coastal wetland

Code	Name	% Area
E	Sand / shingle shores (including dune systems)	8
G	Tidal flats	75
H	Salt marshes	16
Ts	Freshwater marshes / pools: seasonal / intermittent	1

## Information Sheet on Ramsar Wetlands (RIS), page 5

**18. General ecological features:**

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site.

The Ribble and Alt Estuaries contain extensive areas of intertidal sand and mudflats. These are backed by, on the Ribble, one of the most extensive areas of grazed saltmarsh in Britain and, along the Sefton Coast, the largest calcareous dune complex in north-western England.

The intertidal flats support internationally important populations of waterfowl which feed on a rich invertebrate fauna and *Enteromorpha* beds.

The saltmarsh supports a range of vegetation communities typical of north-west England maintained by stable grazing regimes. However, the estuary is accreting in response to large-scale land-claim, with *Spartina anglica* dominant in the pioneer stages with *Festuca rubra* and *Puccinellia maritima* dominating the grazed sward. Natural transitions are prevented by coastal defence structures. Small areas of saltmarsh also occur in discrete locations along the Sefton Coast.

The sand dunes display a full range of plant communities and habitat types from embryo to grey dunes with transitions to dune grassland and heath. Numerous species-rich slacks can be found throughout the dune transition but generally the extent of vegetation cover and species diversity increases with distance from the sea. *Elytrigia juncea* and *Elymus arenarius* dominate the embryo dunes (NVC SD5&7), being replaced by *Ammophila arenaria* in the mobile yellow dunes (SD6); large areas of bare sand are still present. Two distinct types of vegetation dominate the extensive grey dunes, the first a *Festuca rubra*/*Rubus caesius* dune pasture and a *Salix repens*/*R. caesius*/dwarf shrub (SD9 variants). These dunes also support two large coniferous plantations which support a distinctive flora. Elsewhere, and in the absence of management, smaller areas of secondary deciduous scrub/woodland remain including *Hippophae rhamnoides* and various *Populus* spp. Dune slacks are regularly found throughout the dune complex. Normally dominated by creeping willow, they also support a diverse flora including the nationally rare liverwort, *Petalophyllum ralfsii* and dune helleborine *Epipactis dunensis* (SD15&16). Dune grassland and heath occupy fragmented locations on the extreme eastern edge of the system with *Calluna vulgaris* and *Carex arenaria* both strong characteristics.

The dune system is a candidate Special Area of Conservation for the following Annex I habitats: dunes with creeping willow; shifting dunes; humid dune slacks; shifting dunes with marram; petalwort *Petalophyllum ralfsii*; great crested newt *Triturus cristatus*; coastal dune heathland; and dune grassland ('grey dunes'). The last two are priority habitat types under the EC Habitats Directive.

**19. Noteworthy flora:**

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc. Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.

International importance

Lower plants

*Petalophyllum ralfsii* Petalwort (Conservation status: European Red List: Vulnerable; Habitats Directive Annex II species (S1395))

**20. Noteworthy fauna:**

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.

Birds

Species currently occurring at levels of national importance:

Species regularly supported during the breeding season:

Black-headed gull, <i>Larus ridibundus</i> , N & C Europe	14888 apparently occupied nests, representing an average of 11.6% of the GB population (Seabird 2000 Census)
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## Information Sheet on Ramsar Wetlands (RIS), page 6

Common tern , <i>Sterna hirundo hirundo</i> , N & E Europe	182 pairs, representing an average of 1.7% of the GB population (1996)
<b>Species with peak counts in spring/autumn:</b>	
Ruff , <i>Philomachus pugnax</i> , Europe/W Africa	60 individuals, representing an average of 8.5% of the GB population (5 year peak mean 1998/9-2002/3)
Eurasian curlew , <i>Numenius arquata arquata</i> , N. a. <i>arquata</i> Europe (breeding)	2502 individuals, representing an average of 1.7% of the GB population (5 year peak mean 1998/9-2002/3)
Common greenshank , <i>Tringa nebularia</i> , Europe/W Africa	9 individuals, representing an average of 1.5% of the GB population (5 year peak mean 1998/9-2002/3)
<b>Species with peak counts in winter:</b>	
Red-throated diver , <i>Gavia stellata</i> , NW Europe	56 individuals, representing an average of 1.1% of the GB population (5 year peak mean 1998/9-2002/3)
Great cormorant , <i>Phalacrocorax carbo carbo</i> , NW Europe	463 individuals, representing an average of 2% of the GB population (5 year peak mean 1998/9-2002/3)
Northern shoveler , <i>Anas chlypeata</i> , NW & C Europe	200 individuals, representing an average of 1.3% of the GB population (5 year peak mean 1998/9-2002/3)
Black (common) scoter , <i>Melanitta nigra nigra</i> ,	691 individuals, representing an average of 1.3% of the GB population (5 year peak mean 1998/9-2002/3)
European golden plover , <i>Pluvialis apricaria apricaria</i> , P. a. <i>altifrons</i> Iceland & Faroes/E Atlantic	3588 individuals, representing an average of 1.4% of the GB population (5 year peak mean 1998/9-2002/3)
Spotted redshank , <i>Tringa erythropus</i> , Europe/W Africa	2 individuals, representing an average of 1.4% of the GB population (5 year peak mean 1998/9-2002/3)
Black-headed gull , <i>Larus ridibundus</i> , N & C Europe	16849 individuals, representing an average of 1% of the GB population (5 year peak mean 1998/9-2002/3)

**Species Information**

Species occurring at levels of national importance:

Natterjack toad *Bufo calamita* (Habitats Directive Annex IV species (S1202)) (c. 40% GB population)

**21. Social and cultural values:**

e.g. fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values.

- Aesthetic
- Archaeological/historical site
- Environmental education/ interpretation
- Fisheries production
- Livestock grazing
- Non-consumptive recreation
- Scientific research
- Sport fishing
- Sport hunting

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Tourism  
Transportation/navigation

**22. Land tenure/ownership:**

Ownership category	On-site	Off-site
Non-governmental organisation (NGO)	+	+
Local authority, municipality etc.	+	+
National/Crown Estate	+	+
Private	+	+
Public/communal	+	+

**23. Current land (including water) use:**

Activity	On-site	Off-site
Nature conservation	+	+
Tourism	+	+
Recreation	+	+
Current scientific research	+	
Fishing: commercial	+	+
Fishing: recreational/sport	+	+
Gathering of shellfish	+	
Bait collection	+	
Permanent arable agriculture		+
Grazing (unspecified)	+	
Hunting: recreational/sport	+	
Industry	+	
Sewage treatment/disposal	+	+
Harbour/port		+
Flood control	+	+
Irrigation (incl. agricultural water supply)		+
Mineral exploration (excl. hydrocarbons)	+	
Oil/gas exploration		+
Oil/gas production		+
Transport route	+	+
Urban development		+
Military activities		+



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**24. Factors adversely affecting the site’s ecological character, including changes in land (including water) use and development projects:**

*Explanation of reporting category:*

1. *Those factors that are still operating, but it is unclear if they are under control, as there is a lag in showing the management or regulatory regime to be successful.*
2. *Those factors that are not currently being managed, or where the regulatory regime appears to have been ineffective so far.*

*NA = Not Applicable because no factors have been reported.*

Adverse Factor Category	Reporting Category	Description of the problem (Newly reported Factors only)	On-Site	Off-Site	Major Impact?
Erosion	2	Coastal erosion is a factor at Formby Point with an estimated loss of 4 metres per year. It is a concern because pine woodland on the sand dunes is causing coastal squeeze and therefore preventing sand dune habitats from rolling back; as such dune slack habitats for natterjack toads are declining/being lost.	+		+

For category 2 factors only.

What measures have been taken / are planned / regulatory processes invoked, to mitigate the effect of these factors?  
 Erosion - At Ainsdale Sand Dunes National Nature Reserve English Nature have made efforts to restore dune habitat; an Environmental Impact Assessment has been carried out with a view to submitting a tree-felling application in February 2005.

Is the site subject to adverse ecological change? NO

**25. Conservation measures taken:**

List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

Conservation measure	On-site	Off-site
Site/ Area of Special Scientific Interest (SSSI/ASSI)	+	+
National Nature Reserve (NNR)	+	
Special Protection Area (SPA)	+	
Land owned by a non-governmental organisation for nature conservation	+	
Management agreement	+	
Special Area of Conservation (SAC)	+	
Management plan in preparation	+	

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**26. Conservation measures proposed but not yet implemented:**

e.g. management plan in preparation; official proposal as a legally protected area, etc.

No information available

**27. Current scientific research and facilities:**

e.g. details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

**Contemporary.****Fauna.**

Numbers of migratory and wintering wildfowl and waders are monitored annually as part of the national Wetland Birds Survey (WeBS) organised by the British Trust for Ornithology, Wildfowl & Wetlands Trust, the Royal Society for the Protection of Birds and the Joint Nature Conservation Committee.

Annual natterjack toad monitoring programme: Leisure Services, Metropolitan Borough of Sefton and English Nature Ainsdale NNR.

**Completed.****Flora.**

National sand dune survey. Sefton coast NCC Report (Edmondson *et al.* 1989)

Bryophyte surveys (various) of Sefton Coast (M Newton).

Ribble and Alt NVC saltmarsh survey 2002 (The Environment Partnership 2003)

**Fauna.**

Invertebrate surveys (numerous)

Documents held by various authorities on the coast including English Nature & Metropolitan Borough of Sefton.

For a full account of reports, papers etc, reference should be made to:

*The sand dunes of the Sefton Coast* (Atkinson & Houston 1993).

**28. Current conservation education:**

e.g. visitor centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

The Metropolitan Borough of Sefton, English Nature, National Trust and RSPB all lead guided walks onto suitable areas of the coast at all times of the year.

The entire site is reasonably well provided with fixed interpretation panels at many of the main public access points around the site.

The RSPB is developing educational/visitor facilities at its Reserve.

Southport Pier is developing into a major wildlife interpretation centre. English Nature, RSPB and Sefton Council are working on the project.

**29. Current recreation and tourism:**

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

**Activities, Facilities provided and Seasonality.****Infrastructure developments**

There are caravan parks adjacent to the site at Formby and moorings in the Alt. No major expansion anticipated.

**Land-based recreation**

There is intensive recreational use of the northern beaches (Southport & Ainsdale) where traditional activities are concentrated. These include beach car parking, and, during the summer months several large-scale events. Elsewhere, recreation is more informal and less intensive - but all beach activities on the Sefton Coast are managed by the Beach Management Plan. The golf courses are heavily used; Royal Birkdale hosted the British Open Golf Championship in 1998.

**Water-based recreation**

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Mainly a summer activity based on the beach at Southport. Becoming more common but has, in the past, included pleasure trips on hovercraft.

Airborne recreation

Some disturbance in winter months by micro-lights, particularly to pink-footed goose populations.

Wildfowling

Occurs on extensive areas of the Ribble including the NNR. Usually controlled by agreement.

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### 30. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept. of Agriculture/Dept. of Environment, etc.

Head, Natura 2000 and Ramsar Team, Department for Environment, Food and Rural Affairs,  
European Wildlife Division, Zone 1/07, Temple Quay House, 2 The Square, Temple Quay,  
Bristol, BS1 6EB

---

### 31. Management authority:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Site Designations Manager, English Nature, Sites and Surveillance Team, Northminster House,  
Northminster Road, Peterborough, PE1 1UA, UK

---

### 32. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 13 above), list full reference citation for the scheme.

#### Site-relevant references

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## Information Sheet on Ramsar Wetlands (RIS), page 11

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## Appendix B SPD Objectives and SA/SEA Objectives

From the Sustainability Report (Mott MacDonald, 2007)

**Table B.1: SA/SEA Objectives and Indicators**

Ref	Mott MacDonald Merseyside SPD SA/SEA Objectives	Indicators (The reference number for the national sustainable development indicator and Merseyside generic indicator is given where appropriate)
1	To protect and where necessary improve air quality within Merseyside by aiming to reduce concentrations of NO <sub>2</sub> generated from surface based transport	<ul style="list-style-type: none"> <li>• Number of exceedances for NO<sub>2</sub> compared to EC standards adopted in Action Plans</li> <li>• Change in background pollutant concentrations</li> <li>• NO<sub>2</sub> levels through changes in traffic levels</li> </ul>
2	To mitigate and adapt to climate change through reducing greenhouse gas emissions such as CO <sub>2</sub> from surface based transport	<ul style="list-style-type: none"> <li>• CO<sub>2</sub> tonnes per annum emitted by transport in the Merseyside area</li> <li>• % of CO<sub>2</sub> from transport offset by planting</li> <li>• % reduction in CO<sub>2</sub> through smarter choices or improvements to the bus fleet</li> </ul>
3	To preserve, enhance and manage Merseyside's rich diversity of cultural, historic and archaeological buildings, areas, sites and features during design and implementation of transport projects	<ul style="list-style-type: none"> <li>• Change in number/setting of listed buildings</li> <li>• Number and reported condition of designated heritage sites (taken from Merseyside indicators)</li> <li>• Number of archaeological sites adversely impacted by transport infrastructure projects</li> </ul>
4	To protect, enhance and manage biodiversity, species, wildlife habitats and sites of geological importance within Merseyside	<ul style="list-style-type: none"> <li>• Progress against Biodiversity Action Plan targets (S4)</li> <li>• Number of hectares of habitats created from transport infrastructure projects</li> <li>• Number of trees planted as a result of transport infrastructure projects</li> <li>• Number of mitigation measures included in transport infrastructure projects</li> <li>• Number of geologically important sites adversely affected by transport'</li> </ul>
5	To protect and enhance the character of Merseyside's rural and urban landscapes and townscapes	<ul style="list-style-type: none"> <li>• % of transport development on green belt land</li> <li>• Number of hectares planted for landscape enhancement/screening as a proportion of the total</li> </ul>
6	To protect the quality of inland, estuarine and coastal waters, ensure that existing levels of flood risk are not increased and where possible provide development that seeks to reduce flood risk through appropriate mitigation, and efficient use of water resources	<ul style="list-style-type: none"> <li>• Water quality (chemical and biological) classification of rivers, canals, estuaries and coastal waters (H12, R1)</li> <li>• % development on floodplain</li> <li>• Groundwater quality</li> </ul>
7	To improve the health and wellbeing of communities within Merseyside, reduce transport related crime and road traffic accidents	<ul style="list-style-type: none"> <li>• Life expectancy at birth (adapted from H6)</li> <li>• % of households satisfied with the quality of the places in which they live</li> <li>• Mortality rates from respiratory diseases</li> <li>• Numbers of people killed/seriously injured in traffic accidents (taken from Merseyside indicators)</li> <li>• Numbers of children killed/seriously injured in traffic accidents (taken from Merseyside indicators)</li> <li>• Crime/fear of crime: a) Number of broken window incidents recorded on public transport (monthly average); b) Proportion of people who are discouraged from PT use at night because of personal travel safety and security issues</li> </ul>
8	To improve accessibility of communities to key services, goods and amenities, and reduce community severance	<ul style="list-style-type: none"> <li>• % of households within 400m of key services (hospitals, schools, dentists, GPs, ATMs)</li> <li>• % of households within 400m of recreational and leisure facilities (sports clubs, parks, gym)</li> <li>• % of households within 400m of a bus top or railway station</li> <li>• % of jobs and services within 400m of a bus stop or railway station</li> </ul>
9	Reduce the need to travel by car by increasing opportunities to use public transport, walking and cycling and making improvements for people with mobility difficulties	<ul style="list-style-type: none"> <li>• Personal travel – distance, purpose and modes (G1,G3)</li> <li>• Number and length of new cycleways</li> <li>• Number and length of new walking routes</li> <li>• Bus and rail patronage (taken from Merseyside indicators)</li> <li>• % total bus fleet which are fully accessible low floor vehicles)</li> <li>• Changes in public transport fares</li> <li>• Motor vehicle flows</li> </ul>
10	Increase social inclusion and reduce	<ul style="list-style-type: none"> <li>• The percentage of population of working age who are claiming key benefits</li> </ul>

	deprivation through supporting the local economy, opportunities for investment, education and employment	<ul style="list-style-type: none"><li>• Deprivation indices</li><li>• % of Merseyside unemployed</li><li>• Economic activity</li><li>• % with no qualifications</li></ul>
11	To enhance the vitality and viability of city, town and local centres by developing and marketing the image of Merseyside by ensuring choice of sustainable transport	<ul style="list-style-type: none"><li>• Number of visitors to Merseyside using local public transport</li></ul>

**Table B.2: Testing the SPD objectives against the SA/SEA objectives**

SA/SEA Objectives	SPD Objectives					
	1. Ensure a reasonable choice of access by all modes to new development	2. Reduce the environmental impact of travel choices (reduce pollution / improve local environment visually & in terms of road safety)	3. Ensure choice – to maximise the ability of people to access services and opportunities	4. Promote healthier lifestyles (Healthier workforces / residential locations where people choose to walk or cycle)	5. Reduce the level of traffic growth and congestion on the local road network	6. Encourage opportunities to improve the quality of development proposals by better use of space through the provision of less car parking spaces where appropriate
1. To protect and where necessary improve air quality within Merseyside by aiming to reduce concentrations of NO <sub>2</sub> generated from surface based transport	+	++	+	++	++	+
2. To mitigate and adapt to climate change through reducing greenhouse gas emissions such as CO <sub>2</sub> from surface based transport	+	++	+	++	++	+
3. To preserve, enhance and manage Merseyside’s rich diversity of cultural, historic and archaeological buildings, areas, sites and features during design and implementation of transport projects		++			+	
4. To protect, enhance and manage biodiversity, species, wildlife habitats and sites of geological importance within Merseyside		++			+	
5. To protect and enhance the character of Merseyside’s rural and urban landscapes and townscapes		++			+	+
6. To protect the quality of inland, estuarine and coastal waters, ensure that existing levels of flood risk are not increased and where possible provide development that seeks to reduce flood risk through appropriate mitigation, and use water resources efficiently		++			+	+
7. To improve the health and wellbeing of communities within Merseyside, reduce transport related crime and road traffic accidents	+	++	++	++	++	+
8. To improve accessibility of communities to key services, goods and amenities, and reduce community severance	++	+	++	+	+	+
9. Reduce the need to travel by car by increasing opportunities to use public transport, walking and cycling and making improvements for people with mobility difficulties	++	+	++	++	++	++
10. Increase social inclusion and reduce deprivation through supporting the local economy, opportunities for investment, education and employment	++	+	++	+	+	+
11. To enhance the vitality and viability of city, town and local centres by developing and marketing the image of Merseyside by ensuring choice of sustainable transport	+	+	++	+	+	

**Key**

++	SPD objective directly promotes SA objective
+	SPD objective indirectly promotes SA objective
	SPD objective has no link to the SA objective
-	SPD objective indirectly contradicts SA objectives
--	SPD objective directly contradicts SA objectives
?	Link depends on implementation of SPD objective

**Table B.3: Appraising the SPD options against the SA/SEA objectives**

SA/SEA Objectives	Socio-Economic										
	1. To protect and where necessary improve air quality within Merseyside by aiming to reduce concentrations of NO <sub>2</sub> generated from surface based transport	2. To mitigate and adapt to climate change through reducing greenhouse gas emissions such as CO <sub>2</sub> from surface based transport	3. To preserve, enhance and manage Merseyside's rich diversity of cultural, historic and archaeological buildings, areas, sites and features during design and implementation of transport projects	4. To protect, enhance and manage biodiversity, species, wildlife habitats and sites of geological importance within Merseyside	5. To protect and enhance the character of Merseyside's rural and urban landscapes and townscapes	6. To protect the quality of inland, estuarine and coastal waters, ensure that existing levels of flood risk are not increased and where possible provide development that seeks to reduce flood risk through appropriate mitigation, and use water resources efficiently	7. To improve the health and wellbeing of communities within Merseyside, reduce crime related and road traffic accidents	8. To improve accessibility of communities to key services, goods and amenities, and reduce community severance	9. Reduce the need to travel by car by increasing opportunities to use public transport, walking and cycling and making improvements for people with mobility difficulties	10. Increase social inclusion and reduce deprivation through supporting the local economy, opportunities for investment, education and employment	11. To enhance the vitality and viability of city, town and local centres by developing and marketing the image of Merseyside by ensuring choice of sustainable transport
Business as usual/ Without SPD	+	+			+	+	+	+	+	+	+
With SPD & without Air Quality	++	+			+	+	++	++	++	++	++
With SPD & with added Air Quality	++	++	+	+	+	+	++	++	++	++	++

**Key**

++	Significant Positive Effect
+	Marginal Positive Effect
	Neutral or No Effect
-	Marginal Negative Effect
--	Significant Negative Effect
D	Depends on Implementation