

## Appendix E: SEA for the Revocation of the North West Regional Strategy

**Appendix E** sets out the collated contextual and baseline information, on a topic-by-topic basis, for each of the 10 assessment topics:

1. **Biodiversity and Nature Conservation** (including Fauna and Flora)
2. **Population** including demographics, socio-economics
3. **Human health**
4. **Soil** including geology and land use
5. **Water** quality (including surface and ground water quality and availability)
6. **Air quality**
7. **Climatic Factors** including climate change and adaptation and flood risk
8. **Material Assets** including waste management and minerals
9. **Cultural Heritage – including architectural and archaeological heritage**
10. **Landscape and Townscape**

The information for each topic is structured as follows in compliance of the SEA Directive Annex I (b) – (g) requirements:

Annex I SEA Directive Requirements	Sub section in the Topic chapter
	<b>Introduction</b> - provides an overview and definition of the topic.
e) The environmental protection, objectives, established at international, Community or national level, which are relevant to the plan or programme and the way those objectives and any environmental, considerations have been taken into account during its preparation.	<b>Summary of national and regional plans and programmes</b> - provides an overview of the policy context in which the revocation plan sits and identifies the environmental protection, objectives, established at international, Community or national level that are relevant to the Regional Strategy.
b) The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme.	<b>Overview of the baseline</b> - provides an overview of the relevant aspects of the current state of the environment at a national and regional level and the key topic specific baseline factors which will need to be considered as part of the assessment. <b>The likely evolution of these baseline conditions without the implementation of the revocation plan</b> - provides an overview of how the baseline is likely to change in the absence of the revocation plan, an understanding of this is key to understanding the effects of the revocation plan on the topic area.
c) The environmental characteristics of areas likely to be significantly affected.	<b>The environmental characteristics of areas likely to be significantly affected</b> – provides a summary of those key aspects of the region most likely to be affected by the plan.
d) Any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43/EEC.	<b>Current problems in areas of particular environmental importance</b> (such as those designated under the Wild Birds and Habitats Directives and further expanded upon in <b>Appendix G</b> ). Given the focus on European designated conservation sites this sub-section appears in biodiversity.

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Annex I SEA Directive Requirements	Sub section in the Topic chapter
f) The likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors. (Footnote: These effects should include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects).	<b>Assessing significance</b> –provides an outline of the illustrative guidance used to assess the potential effects for each topic. <b>Assessment of likely significant effects of retention, revocation and partial revocation</b> - including information on the likely significant effects.
g) The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme.	<b>Proposed mitigation measures</b> – including proposed measures identified.

# 1. Biodiversity and Nature Conservation

## 1.1 Introduction

The overview of plans and programmes and baseline information contained in this section provides the context for the assessment of potential effects of the Revocation Plan on biodiversity and nature conservation. Information is presented for both national and regional levels.

Biodiversity in this context is defined by the **Convention on Biological Diversity**<sup>1</sup> as 'the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.' Biodiversity is integral to the functioning of ecosystems and these, in turn, provide 'ecosystem services' which include food, flood management, pollination and the provision of clean air and water.

There are links between the biodiversity and nature conservation topic and other topics in the SEA, including water, soil and geology, land use, and climate change.

## 1.2 Summary of Plans and Programmes

### 1.2.1 International

The UK is a signatory (along with another 189 parties) to the **Convention on Biological Diversity**, Nagoya, Japan, 2010 which sets out a conservation plan to protect global biodiversity, and an international treaty to establish a fair and equitable system to enable nations to co-operate in accessing and sharing the benefits of genetic resources. The new global vision is: 'By 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people.' The parties also agreed a shorter-term ambition to 'Take effective and urgent action to halt the loss of biodiversity, [so] that by 2020 ecosystems are resilient and continue to provide essential services, thereby securing the planet's variety of life, and contributing to human well-being, and poverty eradication'.

In March 2010, the European Union (EU) agreed to **an EU vision and 2020 mission for biodiversity**:

- By 2050, EU biodiversity and the ecosystem services it provides – its natural capital – are protected, valued and appropriately restored for biodiversity's intrinsic value and for their essential contribution to human wellbeing and economic prosperity, and so that catastrophic changes caused by the loss of biodiversity are avoided;
- Halt the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restore them insofar as is feasible, while stepping up the EU contribution to averting global biodiversity loss.

The European Commission adopted a new **EU Biodiversity strategy** to help meet this goal. The strategy provides a framework for action over the next decade and covers the following key areas:

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<sup>1</sup> The convention uses this definition to describe 'biological diversity' commonly taken to mean the same as biodiversity.

- Conserving and restoring nature;
- Maintaining and enhancing ecosystems and their services;
- Ensuring the sustainability of agriculture, forestry and fisheries;
- Combating invasive alien species;
- Addressing the global biodiversity crisis.

There are a number of EU Directives focusing on various types of wildlife and habitat that provide a framework for national action and international co-operation for conservation on land and in the sea. In particular the **Habitats Directive** and **Birds Directive** include measures to maintain or restore important natural habitats and species including through the designation of Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). These Directives are transposed into British law through a number of regulations and planning policy documents. The **Freshwater Fish Directive** includes measure on the quality of fresh waters needing protection or improvement in order to support fish life.

The **Marine Strategy Framework Directive (2008/56/EC)** requires Member States to develop a marine strategy, including determining Good Environmental Status (GES) for their marine waters, and designing and implementing programmes of measures aimed at achieving it by 2020, using an ecosystem approach to marine management. It takes account both of socioeconomic factors and the cost of taking action in relation to the scale of the risk to the marine environment. Draft regulations establish a legal framework which assigns duties to the Secretary of State, Welsh and Scottish Ministers and the Department of the Environment in Northern Ireland have been published for consultation.

Under the **Ramsar Convention**, wetlands of international importance are designated as Ramsar Sites. As a matter of policy, Ramsar sites in England are protected as European sites. The vast majority are also classified as SPAs and all terrestrial Ramsar sites in England are notified as Sites of Special Scientific Interest (SSSIs).

### 1.2.2 National

#### UK

**The Wildlife and Countryside Act 1981** is the main UK legislation relating to the protection of named animal and plant species includes legislation relating to the UK network of nationally protected wildlife areas: Site of Special Scientific Interest (SSSIs<sup>2</sup>). Under this Act, Natural England now has responsibility for identifying and protecting the SSSIs in England. The **Countryside and Rights of Way Act 2000** (CROW) strengthens the powers of Natural England to protect and manage Sites of Special Scientific Interest. The CROW Act improves the legislation for protecting and managing SSSIs so that:

- Natural England can change existing SSSIs to take account of natural changes or new information;
- all public bodies have a duty to further the conservation and enhancement of SSSIs;

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<sup>2</sup> As amended by the *Countryside and Rights of Way (CROW) Act 2000* and the *Natural Environment and Rural Communities (NERC) Act 2006*.

- neglected or mismanaged sites can be brought into favourable management;
- new offences and heavier penalties now apply to people who illegally damage SSSIs.

The **UK Biodiversity Action Plan (1994)** was the UK Government's response to signing the Convention on Biological Diversity (CBD) at the 1992 Rio Earth Summit. The CBD called for the development and enforcement of national strategies and associated action plans to identify, conserve and protect existing biological diversity, and to enhance it wherever possible. The UK Biodiversity Action Plan was then established to conserve and enhance biodiversity in the UK through the use of Habitats and Species Action Plans to help the most threatened species and habitats to recover and to contribute to the conservation of global biodiversity. The plan set out a programme for conserving the UK's biodiversity. It also led to the production of 436 action plans between 1995 and 1999 to help many of the UK's most threatened species and habitats to recover. A review of the UK BAP priority list in 2007 led to the identification of 1,150 species and 65 habitats that meet the BAP criteria at UK level. As well as having national priorities and targets, action was taken at a local level to create Local Biodiversity Action Plans (LBAPS). These identify local priorities for biodiversity conservation and work to deliver agreed actions and targets for priority habitats and species and locally important wildlife and sites.

**Conserving Biodiversity – The UK Approach (2007)** sets out an approach to halt UK biodiversity loss by 2010 using an integrated framework of an Ecosystem Approach<sup>3</sup>. Key targets include:

- for 95% of SSSIs to be in favourable or recovering condition by 2010;
- to halt the loss of biodiversity by 2010; and
- to reverse the long-term decline in the number of farmland birds by 2020.

More recently the **Conservation of Habitats and Species Regulations 2010** require that sites of importance to habitats or species are to be designated and any impact on such sites or species must be considered in regards to planning permission applications.

The **Environmental Protection Act 1990** sets out key statutory requirements for the UK regarding environmental protection (including waste and nature conservation).

The **Marine and Coastal Access Act 2009** sets out a number of measures including the establishment of Marine Conservation Zones (MCZs) and Marine Spatial Plans. The **Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007** apply in the 'offshore area' beyond 12 nautical miles from the UK coast. They provide protection for a variety of marine species and wild birds through a number of offences that aim to prevent damaging activities affecting protected species and habitats.

The **National Parks and Access to the Countryside Act 1949** aims to conserve and protect countryside and National Parks through legislation.

The **Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007** apply in the 'offshore area' beyond 12 nautical miles from the UK coast. They provide protection for a variety of marine species and wild birds through a number of offences that aim to prevent damaging activities affecting protected species and habitats.

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<sup>3</sup> The Convention on Biological Diversity (<http://www.cbd.int/ecosystem/>) defines the Ecosystem Approach as '*a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.*'

### England

**The Natural Environment and Rural Communities (NERC) Act 2006** establishes Natural England as the main body responsible for conserving, enhancing and managing England's natural environment. It also covers biodiversity, pesticides harmful to wildlife and the protection of birds.

The **Natural Environment White Paper (2011)** recognises that nationally, the fragmentation of natural environments is driving continuing threats to biodiversity. It sets out the Government's policy intent to:

- improve the quality of the natural environment across England;
- move to a net gain in the value of nature;
- arrest the decline in habitats and species and the degradation of landscapes;
- protect priority habitats;
- safeguard vulnerable non-renewable resources for future generations;
- support natural systems to function more effectively in town, in the country and at sea; and
- create an ecological network which is resilient to changing pressures.

By 2020, the Government wants to achieve an overall improvement in the status of the UK's wildlife including no net loss of priority habitat and an increase of at least 200,000 hectares in the overall extent of priority habitats. Under the White Paper, the Government has also put in place a clear institutional framework to support nature restoration which includes Local Nature Partnerships creating new Nature Improvement Areas (NIAs).

**Biodiversity 2020: A strategy for England's wildlife and ecosystem (2011)** is a new biodiversity strategy for England that builds on the Natural Environment White Paper and provides a comprehensive picture of the Government is implementing the international and EU commitments. It sets out the strategic direction for biodiversity policy for the next decade on land (including rivers and lakes) and at sea.

The **National Planning Policy Framework (NPPF) (2012)** replaces the majority of previously used planning policy including Planning Policy Statement 9 on Biodiversity and Geological Conservation. The NPPF includes key policies to ensure the planning system contributes to and enhances the natural and local environment by:

- protecting and enhancing valued landscapes, geological conservation interests and soils;
- recognising the wider benefits of ecosystem services;
- minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability; and
- remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

The Framework states that, when preparing plans to meet development needs, the aim should be to minimise pollution and other adverse effects on the local and natural environment. Local planning authorities are expected to set criteria based policies against which proposals for any development on or affecting protected wildlife or geodiversity or landscape areas will be judged. In doing so they must take into account the policies in the Framework including those which set out the circumstances where in order to conserve and enhance biodiversity planning permission should be refused.

### 1.2.3 North West Regional Plans

There are 157 Local Biodiversity Action Plans (LBAPs) in England, of which five relate to the North West (as at March 2011):

- Cumbria LBAP;
- Greater Manchester Biodiversity Action Plan;
- Lancashire Biodiversity Action Plan ;
- Cheshire Region LBAP;
- North Merseyside Biodiversity Action Plan;

LBAPs are normally prepared and coordinated at the county level. The plans usually include actions to address the needs of the UK priority habitats and species in the local area, together with a range of other plans for habitats and species that are of local importance or interest.

### 1.3 Overview of the Baseline

#### 1.3.1 National

There are over 4,100 SSSIs in England, covering 1,076,986ha (including open water and coastal habitats). In terms of land area, approximately 8% of England is designated as SSSI.<sup>4</sup>

In England there are 250 SACs, 85 SPAs and 74 RAMSAR sites.<sup>5</sup>

As at 1 May 2012 the overall condition of SSSIs in England was assessed by Natural England to be 37.25% as area favourable; 59.4% area unfavourable recovering; 2.21% area unfavourable no change; 1.11% area unfavourable declining and 0.03% area destroyed/part destroyed.<sup>6</sup> The reasons for adverse conditions at sites are set out in **Table 1.1**. This indicates that planning permission (general) was linked to 0.93% of the area not meeting the Natural England Public Service Agreement (PSA) targets and planning permission (mineral and waste) 0.25%.<sup>7</sup>

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<sup>4</sup> Natural England <http://www.naturalengland.org.uk/ourwork/conservation/designatedareas/sssi/default.aspx>

<sup>5</sup> JNCC Protected sites <http://jncc.defra.gov.uk/page-1456>

<sup>6</sup> <http://www.sssi.naturalengland.org.uk/special/sssi/reportAction.cfm?Report=sdrt15&Category=N&Reference=0>

<sup>7</sup> <http://www.sssi.naturalengland.org.uk/special/sssi/reportAction.cfm?Report=sdrt17&Category=N&Reference=0>

Whilst these targets have been superseded, they were linked to delivering the commitments in the 2007 Conserving Biodiversity Strategy such as the requirement to have 95% of SSSIs to be in favourable or recovering condition by 2010.

**Table 1.1 Reasons for Adverse Condition Summary**

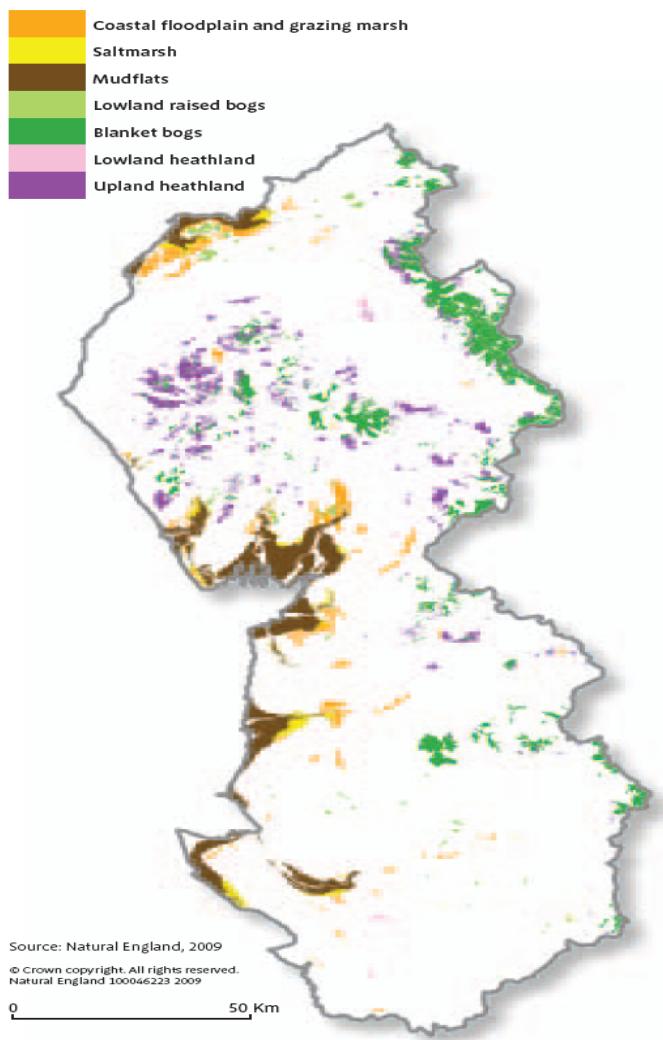
Reason for adverse condition	Percentage of unit area not meeting the PSA target	Reason for adverse condition	Percentage of unit area not meeting the PSA target
Inappropriate scrub control	14.46%	Fire - other	1.73%
Under-grazing	13.95%	Inappropriate coastal management	1.71%
Overgrazing	11.66%	Vehicles - other	1.68%
Water pollution - agriculture/run off	11.31%	Moor burning	1.62%
Inappropriate water levels	10.48%	Earth science feature obstructed	1.51%
Invasive freshwater species	8.75%	Vehicles - illicit	1.33%
Forestry and woodland management	5.90%	<b>Planning permission - general</b>	0.93%
Drainage	5.27%	Inappropriate css/esa prescription	0.79%
Coastal squeeze	5.16%	Sea fisheries	0.71%
Inappropriate weirs dams and other structures	4.46%	Air pollution	0.60%
Inappropriate weed control	4.28%	Peat extraction	0.50%
Water pollution – discharge	4.25%	Inland flood defence works	0.40%
Inappropriate cutting/mowing	3.95%	Game management - pheasant rearing	0.35%
Deer grazing/browsing	3.60%	Game management - other	0.32%
Public access/disturbance	3.30%	Inappropriate dredging	0.25%
Inappropriate ditch management	3.19%	<b>Planning permission - other mineral and waste</b>	0.25%
Siltation	3.06%	Inappropriate pest control	0.22%
Fish stocking	2.75%	Earth science feature removed	0.14%
Fertiliser use	2.67%	Inappropriate stock-feeding	0.09%
Water abstraction	2.06%	Pesticide/herbicide use	0.04%
Agriculture – other	1.77%	Other	14.07%

### 1.3.2 North West Region

The North West region is rich in habitats and wildlife. 35 out of the 40 UK Biodiversity Action Plan (BAP) terrestrial and freshwater habitats are found within the North West. The region holds significant proportions of the England resource for some habitats, particularly those found in the uplands, coast and estuaries and lowland wetlands. Examples include around 18% of the English resource of upland heathland, 25% of blanket bog, 20% of sand dunes, 34% of intertidal mudflats and saltmarsh, and 56% of lowland raised bog (Figure 1). In the south of the

region, areas of biodiversity interest are often small and fragmented which leads to isolation of populations and vulnerability to damage from external influences.

**Figure 1.1 BAP Habitats in the North West<sup>8</sup>**



The North West contains some European protected species – for example, parts of Sefton coast and Cumbria are strongholds for amphibian species including the natterjack toad and great crested newt.

The key pressures and risks on the natural environment in the North West include habitat loss and fragmentation from development, agricultural intensification, water abstraction and drainage, inappropriate coastal management, air pollution, water pollution from point and diffuse sources, recreational pressure and human disturbance. A further issue is the need to reverse the fragmentation of biodiversity in the lowlands of the region. This is especially true in the south of the region, where areas of biodiversity interest are frequently small and fragmented, rendering the

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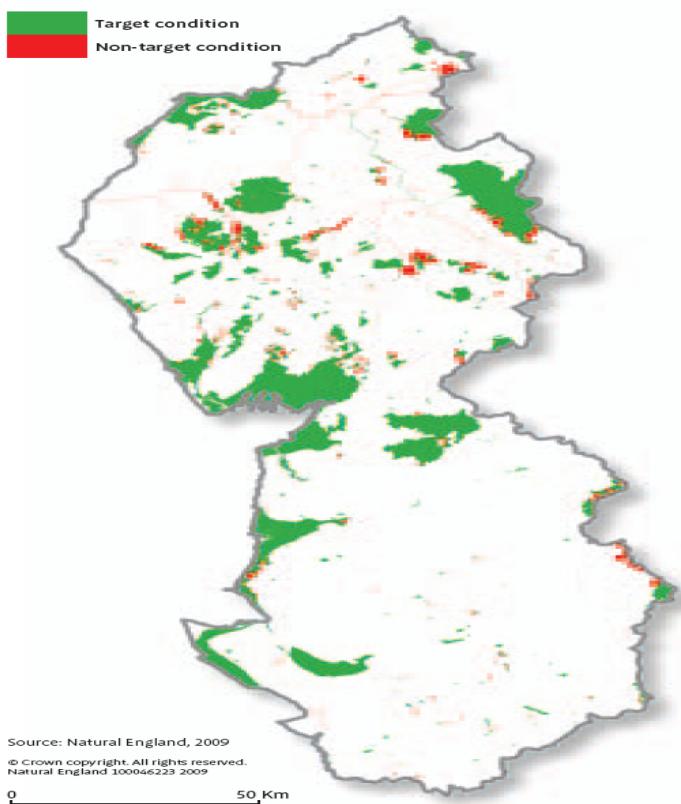
<sup>8</sup> Natural England (2009) State of the Natural Environment in the North West (2009)  
<http://publicationsnaturalengland.org.uk/publication/30044?category=118044>

species they support vulnerable to damage from external influences. This effect of fragmentation is likely to be exacerbated by climate change as the local environmental conditions necessary for a species survival change, but the isolation of the species population prevents dispersal to more suitable habitat.

### Designated Sites

On average around 60% of the biodiversity habitat area of the North West lies within statutory designations of Sites of Special Scientific Interest (SSSIs), Special Protection Area (SPA), Special Area of Conservation (SAC) and/or Ramsar Sites and is thus protected by legislation. The region has the largest area of SSSI of all regions in England with 200,000 ha (18% of the region); of this 13% is also designated as SPA, SAC or Ramsar Site. This demonstrates the range and quality of biodiversity and geology in the region. The largest SSSIs cover intertidal or high moorland areas; elsewhere sites tend to be small and fragmented, particularly in the south of the region. The remaining 40% of biodiversity habitat area lies outside statutory designations and is largely unprotected. 90.25% of the SSSIs in the North West are in favourable or recovering condition.

**Figure 1.2 SSSI Condition<sup>9</sup>**



<sup>9</sup> Natural England (2009) State of the Natural Environment in the North West (2009)  
<http://publicationsnaturalengland.org.uk/publication/30044?category=118044>

### Wetlands, openwater and rivers

The North West has the largest area of wetlands of all regions in England, almost 29% of England's wetlands by area, dominated by blanket bog (55%) which forms peat landscapes in wet areas. Although significantly smaller, there are also important areas of lowland raised bogs, which represent almost 56% of England's resource by area. Over 80% of the region's blanket bog within SSSI is in favourable or recovering condition compared to 54% for lowland raised bog.

The North West has a greater area of designated rivers and open waters than any other English region. 644 km of river in Cumbria is designated as Special Areas of Conservation while many of the major lakes and larger tarns of the Lake District are SSSIs (1328 ha). Two Cumbrian rivers remain a stronghold for the declining native whiteclawed crayfish, while one of the rivers has the largest population of freshwater pearl mussels in England. The Cheshire Meres and Mosses are also notable for the large number of open water sites. Much of the area of freshwater SSSIs (over 80%) is in unfavourable condition because of a wide range of factors that include diffuse agricultural pollution, leaking septic tanks, invasive species of plants and animals, water abstraction, and flood defence works and other channel modifications. There have, however, been significant improvements in water quality in SAC designated rivers as sewage works have been upgraded by United Utilities, in line with tighter discharge standards that have followed on from the Environment Agency's Review of Consents under the Habitats Regulations. These achievements follow general improvements in water quality in recent decades that have led to recoveries in fish populations, and have helped the otter to spread back across its historical range.

### Heathland

The North West has a significant proportion of heathlands, particularly in the uplands which hold around 18% of England's upland heathland resource. By area 78% of the region's upland heath within SSSI is in favourable or recovering condition. Upland heathland primarily occurs in the Lake District and in the Forest of Bowland. Unfavourable condition in upland heathlands is largely associated with overgrazing, drainage and inappropriate burning.

Hen harriers have a stronghold in the Forest of Bowland where over two thirds of all breeding attempts in England 2002-08 were recorded. Bowland's hen harriers have bred successfully largely due to sympathetic gamekeepers and landowners.

### Woodlands

The North West is the English stronghold for many important woodland types that are characteristic of the region, for example upland oak woodland that is rich in lower plants, ash woodland on limestone, wet woodland and lowland mixed woodland. There are 4,964 ha of woodland within SSSI, much of which is of international importance and has been designated as Special Areas of Conservation. South Cumbria is one of the most wooded parts of England and contains many woodland SSSIs. Overall, however, the North West as a region has a relatively low level of cover with less than 15% of the England native woodland resource. By area, 69% of the region's SSSI woodlands are in favourable or recovering condition.

### Coast and estuaries

The North West coast and estuaries support internationally important populations of wildfowl and wading birds. They include 5 out of the top 10 estuaries in the UK for the numbers of wintering waterfowl they support. Together

they form the second largest gathering of winter waterfowl in the Western Palearctic (area covering Europe, NW coast of Africa and northern Asia) and are an important point on the global migration route for birds known as the East-Atlantic flyway. Over 80% of the length of the coastline is within sites designated for their European wildlife importance. By area 97% of coastal SSSI is in favourable or recovering condition. The region also has a high proportion of sand dunes, with 20% of the England resource, and some of the most extensive intertidal mudflats and saltmarsh in England.

### Marine

The Cumbrian shores have extensive boulder clay scars or skears, with nationally important reefs of the honeycomb worm and rich mussel beds. The undersea landscapes off the North West coast are largely plains of muddy sands, sands and gravels. The muddier areas support burrowing shellfish such as the Dublin Bay prawn and sea pens. At the entrance to Morecambe Bay, the Lune Deep is a deep channel gouged in the sea bed during the last ice age, through which strong tidal streams flow. The shallow water sandbanks off Blackpool and around Liverpool Bay support a rich marine life including Venus clams and in winter are hotspots for up to 16,000 common scoter sea duck, which dive to feed on the seabed. The rich marine life provides food for other seabirds such as gulls, guillemots and redthroated divers. The undersea landscapes also provide important spawning and nursery areas and fisheries for many commercial species of fish. Larger wildlife to be seen off the coast includes bottlenosed dolphins, harbour porpoises and basking sharks.

### Birds

Between 1994 and 2006, the North West population indices increased for all native bird species (+23%) compared to the national indices, which had seen a slight decline. During the same period indices for woodland birds increased (+32%). The indices for 19 of the 29 individual woodland bird species included in the index increased by 10% or more.

The population of farmland birds in the North West showed the index increasing by 8% between 1994 and 2006, differing from the national index, which had seen a slight decline. The indices for 8 of the 18 individual farmland bird species included in the index increased by 10% or more. Greenfinch, goldfinch and stock dove all saw a rise of 50% or more in their populations. Tree sparrow populations nearly doubled in number, whilst the population of corn bunting decreased by more than 50%.

In all cases, the indices were above the national index; however, indices should be used with caution as they are subject to large sampling uncertainties and mask some significant declines in BAP species.

1.4

### Environmental characteristics of those areas most likely to be affected

There is a clear North South divide with regard to biodiversity in the region with Cumbria containing a lot of the highest quality habitats and suffering the lowest damages from urban development. The southern part of the region (in particular the Merseyside-Warrington-Greater Manchester corridor) requires investment into green infrastructure and other natural restoration to improve the quality of the environment. The southern part of the region is the most densely populated and is where the most significant future growth in the region will be directed.

Around 60% of the region's biodiversity habitat area is protected by national or international designation. The

distribution of sites mirrors that of biodiversity habitats with the largest sites covering inter-tidal or high moorland areas. Elsewhere sites tend to be small and fragmented particularly in the south of the region.

Despite statutory protection, designated sites remain under continual pressure from activities related to economic development, including water abstraction, waste water treatment affecting water quality, air quality, disturbance from recreation, transport and other activities, and coastal squeeze. With regard to SSSI condition, however, the North West as a whole has performed relatively well, with 90.8% of SSIs meeting the standard. The most consistent improvements in the condition of SSIs have occurred in Cumbria, where all six local authorities have experienced an increase in the proportion of SSIs in a favourable or recovering condition. Greater Manchester is the poorest performing sub-region, with just over half (51.1%) of SSIs meeting the required standard. This is in contrast to all other sub-regions, with each attaining at least 80% of their SSSI land in a favourable or recovering condition. Greater Manchester, however, has seen the most successful growth, with an overall increase of 4.4%. Cumbria showed the second highest increase of 3.8%. Only Cheshire and Lancashire have exceeded the 2010 target of 95% of SSIs in favourable or recovering condition<sup>10</sup>.

A further issue is the need to reverse the fragmentation of biodiversity in the lowlands of the region. This is especially true in the south of the region, where areas of biodiversity interest are frequently small and fragmented, rendering the species they support vulnerable to damage from external influences. This effect of fragmentation is likely to be exacerbated by climate change as the local environmental conditions necessary for species survival change, but isolation of populations prevents dispersal to more suitable habitat.

The North West has the greatest extent of designated rivers and open waters of English regions. In Cumbria 644 km of river are designated as SAC and many of the major lakes are SSSI. The rare freshwater fish (vendace and arctic char) are confined to these lakes. Two Cumbrian rivers remain a stronghold for the declining native white clawed crayfish. These habitats are important for many other species including otters, water voles, amphibians, invertebrates. Over 80% of freshwater SSSI area is in unfavourable condition because of factors such as diffuse agricultural pollution, leaking septic tanks, invasive species of plants and animals, water abstraction, flood defence works and channel modifications. However there have been improvements in water quality in SAC designated rivers as sewage works have been upgraded.

The North West also holds a significant proportion of the English resource of upland heath habitat (around 18%), most of which occurs in the Lake District, N. Pennines and Forest of Bowland. 78% of SSSI designated habitat is in favourable or recovering condition. Unfavourable conditions are associated with overgrazing, drainage and inappropriate burning. Heathland habitat is important for breeding birds. The Forest of Bowland is a stronghold for rare Hen harriers where over two thirds of all breeding attempts in England between 2002 and 2008 were recorded. However declines have been reported in populations of other breeding birds such as curlew, dunlin, and twite. Heathlands are also important for uncommon invertebrates, rare flowering plants and mosses & liverworts.

The region is important for upland calcareous grassland and upland hay meadow habitats (over 40% and 30% respectively of English resource). These are largely confined to north Lancashire and Cumbria and support rare plants and butterflies.

Limestone pavement is also a feature of North West region which holds nearly 50% of the English resource. Found around Morecambe Bay and South Cumbria, the pavements support many rare plants and invertebrates.

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<sup>10</sup> 4NW (2010) North West Regional Strategy AMR.

The North West is a stronghold for woodland habitat types such as upland oak woodland, and ash woodland on limestone. 4,964 ha of woodland is within SSSI, much of it of international importance and designated as SAC. South Cumbria is one of the most wooded parts of England, but overall the North West region has relatively low cover with less than 15% of the England native woodland resource. By area, 69% of SSSI woodland is in favourable or recovering condition. Unfavourable condition is mainly caused by the impact of non-native species and lack of natural regeneration due to overgrazing by sheep and deer.

The coast and estuaries in the region are internationally important for wildlife with over 80% of the coastline's length designated as SPA, SAC or Ramsar site (Map 9), including all the major estuaries (Dee, Mersey, Ribble and Alt, Morecambe Bay, Duddon and Solway Firth). Morecambe Bay is also a Marine Special Area of Conservation. These sites support internationally important populations of wildfowl and wading birds and include 5 out of the top 10 estuaries in the UK for numbers of wintering waterfowl. Together they form the second largest gathering of winter waterfowl in the Western Palearctic (area covering Europe, North West coast of Africa and northern Asia) and are an important point on the global migration route for birds known as the East-Atlantic flyway. The coast also contains 20% of the English resource for sand dune habitats and over 30% of that for coastal saltmarsh and intertidal mudflats. By area 97% of coastal SSSI is in favourable or recovering condition.<sup>11</sup>

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<sup>11</sup> Regional Intelligence Unit (2010) Environmental Evidence Base RS2010

## 1.5 Summary of existing problems relevant to revocation of the Plan

The following existing problems for biodiversity have been identified:

- Condition of some SSSIs (including internationally designated sites);
- Direct and indirect impacts of development and infrastructure on biodiversity (e.g. from habitat loss and fragmentation; recreational pressure; over abstraction of water, and air and water pollution);
- The impacts of climate change on habitats and species, including the loss of habitat resulting from sea-level rise;
- Loss of wider biodiversity interest within non-designated areas – e.g. within non-designated countryside and built up urban areas – including on some previously developed land;
- The need to reverse the fragmentation of biodiversity in the lowlands of the region. This is especially true in the south of the region, where areas of biodiversity interest are frequently small and fragmented, rendering the species they support vulnerable to damage from external influences. This effect of fragmentation is likely to be exacerbated by climate change as the local environmental conditions necessary for species survival change, but isolation of populations prevents dispersal to more suitable habitat.

## 1.6 Likely evolution of the baseline

### 1.6.1 England

Results of the 2008 reporting round of the UK Biodiversity Action Plan indicate that in England:<sup>7</sup>

Habitats:

- 17% of priority habitats were increasing (compared to 24% in 2005);
- 12% of priority habitats were stable (compared to 12% in 2005);
- 12% of habitats were declining (continuing/accelerating) (compared to 2% in 2005);
- 24% of habitats were declining (slowing) (compared to 34% in 2005);
- 24% of habitats were fluctuating (compared to 7% in 2005); and
- the status of 10% of habitats was unknown (compared to 20% in 2005).

Species:

- 8% of species were increasing (no change since 2005);

- 22% of species were stable (no change since 2005);
- 24% of species were fluctuating (compared to 19% in 2005);
- 6% of species were declining (slowing) (compared to 8% in 2005);
- 8% of species were declining (continuing/accelerating) (compared to 10% in 2005);
- 3% of species were lost (pre BAP publication) (no change since 2005);
- 5% of species showed no clear trend (compared to 7% in 2005); and
- the status of 21% of species was unknown (no change since 2005).

In England, in 2009 over 80% of SACs and SPAs were in favourable or recovering condition. For the decade up to 2008, SSSI condition in England has experienced a dramatic improvement in the overall site condition over the last 10 years as a result of protection and management<sup>12</sup>. However, some species in particular continue to be impacted upon. The trend in populations of breeding wading birds on unprotected lowland wetland grasslands is towards a major decline.<sup>13</sup>

Despite the increase in area protected for its biodiversity there is concern that the protected site network as it exists is insufficient to protect biodiversity in England as a whole and that some species and habitats will be confined to these protected areas and more vulnerable to pressures and threats, including climate change.<sup>14</sup>

### 1.6.2 North West Region

Overall 90% of SSSI area in the North West is in favourable or recovering condition, however, while for instance coastal habitats are mostly in this state areas of other habitats remain in unfavourable condition.

- Over 50% of lowland raised bog SSSI is in unfavourable condition mainly because of drainage and unsuitable water levels;
- Over 80% of fresh water SSSI area is in unfavourable condition mainly because of water quality and abstraction, invasive species, flood defence works and channel modifications;
- Over 30% of woodland is in unfavourable condition mainly because of the impacts of non-native species and overgrazing by sheep and deer.

The condition of protected sites (SSSIs) is slowing improving with best performance in Merseyside and Cheshire and very poor performance in Greater Manchester.

The long term trend for breeding farmland, woodland and wetland breeding birds is that of decline in the UK. However, in the North West the all native birds and woodland birds' indices are increasing. Sea birds and those

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<sup>12</sup> Natural England (2008) State of the Environment Report.

<sup>13</sup> Joint Nature Conservation Committee, Protected Areas, <http://www.jncc.gov.uk/page-4241>.

<sup>14</sup> Lawton *et al* (2010) Making Space for Nature: A review of England's Wildlife Sites and Ecological Network.

that migrate here over winter are also increasing. Declines have been reported for breeding birds in upland heathland e.g. curlew, dunlin and twite.

As with the national picture, whilst there have been improvements in the biodiversity of protected areas in the North West and in protected species, there is concern that species and habitats will be confined to these protected areas and therefore become more vulnerable to pressures and threats which include climate change.

The direct impacts of climate change on biodiversity include changes in:

- Climate envelope shift – e.g. shifts in suitable climate conditions for individual species;
- Phenology – the timing of life cycle events leading to a loss of synchrony between species;
- Species abundance and distribution (as a result of arrival and loss of species);
- Community composition;
- Habitat changes;
- Ecosystem processes and function – e.g. increasing decomposition in bogs and forest biomass;
- Loss of space – for example due to sea level rise.

The North West Regional Intelligence Unit<sup>15</sup> reports that a number of studies have been carried out in an attempt to model species distribution changes and provide some insight into how the climate space will change despite the uncertainty. The Modelling Natural Resource Responses to Climate Change (MONARCH) project is one such study and initially mapped 50 species associated with 28 habitats. The results suggested a predicted trend for some northern species to lose suitable climate space (for example in the montane heath) and some species might completely disappear in the UK. Many southern species are likely to gain space with suitable climate. Further modelling of future climate space for a range of UK Biodiversity Action Plan (BAP) species shows similar trends, with the large number of southerly distributed BAP species likely to no longer be confined to their existing range by climate. It seems likely that species will respond to climate change differently so that species abundances will change over time within habitats and sites, while species gains and losses may create new combinations of species or communities.

The Regional Strategy Evidence base states that 28 species were modelled in the UK 'Regional Climate Change Impact and Response Studies in East Anglia and North West England' (the REGIS study). This study implied that there certainly will be impacts on biodiversity in the uplands of the Pennines and the Lake District. The results provide further evidence that species, despite having apparently similar initial distributions, respond individually to climate change leading to new distributions and habitat composition. The range of northern species e.g. Flat sedge (*Blysmus rufus*) and Alpine lady's mantle (*Alchemilla alpina*) contracts, as climatic conditions for survival become less favourable. One species, the mountain ringlet butterfly *Erebia epiphron* could lose all suitable climate space. The North West is a critical region for climate change impact assessment because it contains a climatic divide between the North West and the South East. Species in this region are particularly sensitive to climate change, especially if they are near their range margins. The Arctic-Alpine habitat is the most sensitive as all species lose

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<sup>15</sup> NW Regional Intelligence Unit (2010) Environmental Evidence Base RS2010.

suitable climate space; the climatic envelope shifts to a higher elevation and there is no land corresponding to the current climate conditions.

The NW Regional intelligence unit anticipated that some of the most dramatic changes may occur on the coast as a result of sea-level rise exacerbated by extreme weather events, which may lead to alterations in the balance between accretion and erosion on saltmarshes, sand dunes and shingle beaches on low-lying coasts. There may also be change to the erosion of cliffs and complex changes in the water regimes and landforms of estuaries and tidal rivers. Coastal areas have complex microclimates compared to inland areas and there is large climate variation over distances of less than one kilometre at the coast meaning species may find suitable nearby habitat patches as climate changes. Some sensitive species in blanket and raised bogs will suffer declines as a result of changing water levels, as well as some arctic fish in selected Cumbrian lakes. Increases in arable farming may put pressure on upland hay meadows. There have already been climate changes as the thermal growing season has lengthened by almost one month over the last century; spring is coming earlier and winter later

Although responses of individual species to climate change are uncertain it is clear that climate change is now affecting the distribution, composition and abundance of biodiversity in the UK. In the medium to long term natural systems and biodiversity will be substantially affected and the great majority of organisms and ecosystems are likely to have difficulty adapting to climate change impacts. In the North West, coastal and upland habitats will be vulnerable, and existing issues of habitat fragmentation particularly in the lowlands will be exacerbated. Northwest species and habitats will seek to adapt to climate change, but will be constrained in their ability to achieve this by the fragmented landscape and insufficient or poorly distributed semi-natural habitat space.

Climate change is likely to increase the impact of invasive species with more non-native species arriving and becoming established in the region as winters become warmer. Those species currently restricted to Southern England may spread into the North and already established or new species may become invasive.

## 1.7 Assessing Significance

**Table 1.2** sets out guidance utilised during the assessment to help determine the relative significance of potential effects on the biodiversity objective. It should not be viewed as definitive or prescriptive; merely illustrative of the factors that were considered as part of the assessment process.

**Table 1.2 Approach to determining the significance of effects on biodiversity**

Effect	Description	Illustrative Guidance
++	Significant positive	<ul style="list-style-type: none"> <li>Alternative would have a significant and sustained positive impact on European or national designated sites and/or protected species. (e.g. – fully supports all conservation objectives on site, long term increase in population of designated species)</li> <li>Alternative would have a strong positive effect on local biodiversity (e.g. – through removal of all existing disturbance/pollutant emissions, or creation of new habitats leading to long term improvement to ecosystem structure and function).</li> <li>Alternative will create new areas of wildlife interest with improved public access in areas where there is a high demand for access to these sites.</li> </ul>

## Appendix E: SEA for the Revocation of the North West Regional Strategy

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<b>+</b>	Positive	<ul style="list-style-type: none"> <li>• Alternative would have a minor positive effect on European or national designated sites and/or protected species (e.g. – supports one of the conservation objectives on site, short term increase in population of designated species).</li> <li>• Alternative may have a positive net effect on local biodiversity (e.g. – through reduction in disturbance/pollutant emissions, or some habitat creation leading to temporary improvement to ecosystem structure and function).</li> <li>• Alternative will enhance existing public access to areas of wildlife interest in areas where there is some demand for these sites.</li> </ul>
<b>0</b>	No (neutral effects)	<ul style="list-style-type: none"> <li>• Alternative would not have any effects on European or national designated sites and/or any species (including both designated and non-designated species).</li> <li>• Alternative would not affect public right of way or access to areas of wildlife interest.</li> </ul>
-	Negative	<ul style="list-style-type: none"> <li>• Alternative would have minor short-term negative effects on non-designated conservation sites and species (e.g. – through a minor increase in disturbance/pollutant emissions, or some loss of habitat leading to temporary loss of ecosystem structure and function).</li> <li>• Alternative will decrease public access to areas of wildlife interest in areas where there is some demand for these sites.</li> </ul>
--	Significant negative	<ul style="list-style-type: none"> <li>• Alternative would have a major negative and sustained effect on European or national designated sites and/or protected species (e.g. – prevents reaching all conservation objectives on site, long term decrease in populations of designated species). These impacts could not reasonably be compensated for.</li> <li>• Alternative would have strong negative effects on local biodiversity (e.g. – through a minor increase in disturbance/pollutant emissions, or considerable loss of habitat leading to long term loss of ecosystem structure and function).</li> </ul>
?	Uncertain	<ul style="list-style-type: none"> <li>• From the level of information available the impact that the Alternative would have on this objective is uncertain.</li> </ul>

## 1.8 Assessment of Significant Effects of Retention, Revocation and Partial Revocation

**Table 1.3 Significant Effects against the Biodiversity Topic**

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy DP 2 – Promote Sustainable Communities Retention	+	++	++	Policy DP2 sets out a series of principles for the promotion of sustainable communities, which include taking into account the economic, environmental, social and cultural implications of development, and improving the built and natural environment. DP2 states that building sustainable communities is a regional priority in both urban and rural areas. It is therefore assumed that Core Strategies will have to put into place a policy framework which meets this regional priority.
Policy DP 2 – Promote Sustainable Communities Revocation	+	++	++	The NPPF provides wide ranging support for sustainable development and it is considered unlikely that there will be significant differences between the effects of retention or revocation.
Policy DP 7 - Promote Environmental Quality Retention	+	++	++	DP7 sets out a range of measures by which environmental quality should be protected and enhanced, including promoting policies relating to green infrastructure and the greening of towns and cities, and maintaining and enhancing the quality of biodiversity and habitat. This policy should have increasingly powerful benefits as it is reflected in plans. The RES supports the development of new uses for brownfield land – including housing and the creation of new strategic green space. The RES also supports investment in quality public realm, green space and environmental quality in a range of locations across the region.
Policy DP 7 - Promote Environmental Quality Revocation	+	++	++	For the revocation alternative, paragraphs 117 and 118 of the NPPF provide powerful protection for biodiversity, which bite immediately in planning decisions.
Policy DP 9 - Reduce Emissions and Adapt to Climate Change Retention	+	++	++	DP9 seeks reductions in carbon emissions as an urgent regional priority. Effective adaptation to the likely environmental, social and economic impacts of climate change is a key element of this policy. The strength of this policy is likely to result in immediate benefits. The RES supports the development and implementation of a Regional Climate Change Action Plan.
Policy DP 9 - Reduce Emissions and Adapt to Climate Change Revocation	+	++	++	The NPPF also provides a strong framework for the mitigation of climate change impacts, including for the protection and enhancement of biodiversity.

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Policy EM 1 - Integrated Enhancement and Protection of the Region's Environmental Assets Retention	+	+	++	<p>EM1 sets out a high level strategic approach to the conservation, restoration and enhancement of environmental assets, which should lead to an improvement in their overall management. Benefits increase over time, reflecting the time taken for core strategies to be adopted. Biodiversity, geological, and geomorphological resources are increased through the delivery of national, regional and local objectives and targets.</p> <p>Tree and woodland cover increases, with indirect benefits in terms of access to countryside and carbon savings and potentially indirect effects for biodiversity. RES is supportive of EM1(D) through Action 117 which sets out to implement the regional Forestry Strategy.</p>
Policy EM 1 - Integrated Enhancement and Protection of the Region's Environmental Assets Revocation	+	+	++	<p>The NPPF sets out policies designed to protect and enhance biodiversity, including in paragraphs 109 and 117, as well as reasserting the protections for designated sites. Positive effects on biodiversity and flora and fauna are likely to arise due to the policy in paragraph 110 of the NPPF for plans to allocate land for development with the least environmental or amenity value, rather than slavishly preferring brownfield even where it is rich in biodiversity.</p>
Policy EM 3 - Green Infrastructure Retention	0	+	++	<p>This is a high level policy setting out how green infrastructure should be planned for and actively preserved, enhanced and increased. Embedding the policy in local plans is likely to bring about a number of benefits in the medium to long term - the enhancement and increase in green infrastructure should help to increase biodiversity and soil quality.</p> <p>The RES supports the development of new uses for brownfield land –including housing and the creation of new strategic green space which may have indirect biodiversity effects. The RES also supports investment in a quality public realm, green space and environmental quality in a range of locations across the region, and seeks to deliver Business Improvement Districts and Green Business Parks.</p>
Policy EM 3 - Green Infrastructure Revocation	0	+	++	<p>Paragraph 114 of the NPPF states that local planning authorities should plan positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure, and this is built on in more details in paragraphs 117 and 118. Paragraph 99 of the NPPF notes that the creation of green infrastructure could be a suitable adaptation measure where new development is brought forward in an area which is vulnerable to the range of impacts arising from climate change. Similar benefits to retention are likely.</p>
Policy RT 2 – Managing Travel Demand Retention	+	+	++	<p>This policy has significant positive effects as a result of its focus on discouraging car use, tackling the most congested parts of the motorway network. In rural areas, the policy is focussed on relieving pressure on major tourist areas where visitor pressure is threatening the local environment, leading to benefits to flora and fauna in these areas.</p> <p>The relevant RES Theme sets out to improve and better manage road and rail infrastructure. Specific infrastructure projects supported by the RES include rail, light rail and bus enhancements together with limited road improvements in support of key gateways such as the Port of Heysham, improved access into Liverpool and better links between Barrow and the Furness peninsula.</p>
Policy RT 2 – Managing Travel Demand Revocation	?	?	?	<p>Whilst the NPPF advocates sustainable modes of transport, it recognises that different solutions will be required for different areas. It does not explicitly emphasise reducing the number of car journeys (and instead talks about meeting travel demand) but does encourage developments to be planned so that they promote public transport use, walking and cycling. The NPPF is supported by other government policy including the National Policy Statement for Ports 2011 which also seek to support sustainable transport and minimise greenhouse gas emissions at paragraph 3.3.5 and 3.3.3 respectively. There are some uncertain effects as it is difficult to predict whether the emphasis on sustainable transport modes will result in a reduction in the number of car journeys, especially given the popular tourist attractions in the region, such as the Lake District.</p>

RT 9: Walking and Cycling Retention	+	++	++	This policy has significant benefits for human health and the environment as it both seeks to develop integrated networks of continuous, attractive and safe walking and cycling routes, linking, in particular, residential areas, and places of employment and schools and leisure facilities. Dedicated cycleways can also act as ecological corridors as part of a wider green infrastructure programme. Providing that these paths can be built quickly, the benefits could start to be realised quickly.
RT 9: Walking and Cycling Revocation	+	++	++	The NPPF also strongly encourages sustainable modes of transport giving priority to pedestrian and cycle movements. It also encourages the linking of residential areas and key facilities such as schools and shops. It is therefore concluded that the revocation of RT9 is likely to maintain the positive effects associated with the retention of RT9.
Policy MCR1 – Manchester City Region Priorities Retention	+	+	+	MCR1 sets out the high level policy for the Manchester city region. It is aimed at achieving a significant improvement in the economic performance of the Manchester city region by encouraging investment and sustainable development in the Regional Centre, surrounding inner areas, the towns/cities and accessible suburban centres. Policies on environmental improvements are also likely to bring benefits to biodiversity and soil.
Policy MCR1 – Manchester City Region Priorities Revocation	+	+	++	The Manchester Core Strategy is adopted and sets out an expectation that strategic locations will be a priority for the remediation of contaminated land, implementing a similar expectation in MCR1. Biodiversity impacts for revocation are likely to be similar as for retention therefore, though the preference in the NPPF for the land of least environmental value to be preferred for development could bring additional protection to biodiversity.

### 1.8.1 Effects of Revocation

The Government's aim, as announced in the Natural Environment White Paper is that by 2020 there will be an overall improvement in the status of wildlife. The planning system can make an important contribution to achieving these goals, although it has to be recognised that the most influence will come from land uses outside the control of the planning system, and in particular, agriculture, and will depend on the uptake and success of agri-environment schemes.

Key indicators for biodiversity are the number and extent of protected areas and their condition. In particular, the Natural Environment White Paper states that 90% of priority wildlife habitats should be in recovering or favourable condition by 2020. There will be more, bigger, better and less-fragmented areas for wildlife, including no net loss of priority habitat and an increase of at least 200,000 hectares in the overall extent of priority habitats. At least 50% of Sites of Special Scientific Interest will be in favourable condition, while maintaining at least 95% in favourable or recovering condition.

According to the baseline the North West region has the largest area of SSSI of all regions in England with 200,000 ha (18% of the region); of this 13% is also designated as SPA, SAC or Ramsar Site. 90.25% of the SSIS in the North West are in favourable or recovering condition, some way short of the 2020 target.

The Regional Strategy was intended to function as a key tool in the achievement of national targets, and there is a potential risk that, by revoking it, the intended benefits could be put in jeopardy. However, the NPPF together with legislation and wider national policies on biodiversity provides a strong framework for protecting the existing biodiversity resource. For example, given the continued application of the legal and policy protection given to European and Ramsar sites and to SSIS and further application of agri-environment schemes it is expected that revocation of the Plan would not change the positive direction of travel. Achievement of legally binding targets for water and air quality will also be significant contributory factors in improving the quality of areas important for wildlife, while enhanced provisions on aspects such as the delivery and protection of green infrastructure will play an important role in increasing the overall area with significant biodiversity value. Statutory and policy protection for AONBs and National Parks will continue to protect the biodiversity value with these areas, at least in so far as

the planning system is concerned.

Despite these safeguards, it is far from certain that this would be the outcome and will depend on decisions taken by local authorities in consultation with their communities, and by businesses and other partners, on the future scale, nature and location of housing and other development in order to meet identified need. This is particularly the case with respect to non-designated sites and their associated biodiversity.

Several of the policies in the North West of England Plan (such as MCR1) encourage development within major centres which, in combination with other policies such as L3, steer development towards brownfield sites. This may protect biodiversity although it should be recognised that some of these sites also have environmental value. This potential for environmental value is recognised within the NPPF (within the Core planning principles and at paragraph 111). This recognition results in a long term significant positive effect at revocation for policy MCR1. Notwithstanding the conclusion set out in the preceding paragraph it should be noted that relocating some development of brownfield land may increase pressure on greenfield land in other parts of the region. It will therefore be important to ensure that wherever development takes place site specific circumstances, including the biodiversity value on and in the vicinity of the development are considered. It should also be recognised that well planned development which optimises the opportunities for biodiversity - as envisaged in the NPPF - can result in net gains to biodiversity.

Policy RT2 scores uncertain for biodiversity because whilst the NPPF advocates sustainable modes of transport it does not explicitly emphasise reducing the number of car journeys (and instead talks about meeting travel demand). Given the high level of biodiversity value in popular visitor areas such as the Lake District some uncertain effects are concluded as it is difficult to predict whether the emphasis on sustainable transport modes will result in a reduction in the number of car journeys to this and other sensitive, yet popular locations.

### 1.8.2 Effects of Partial Revocation

The effects of partial revocation concern either:

- Revoking all the quantified and spatially specific policies (for instance where a quantum of development, land for development or amounts of minerals to be extracted or waste disposal is allocated to a particular location in the region) and retaining for a transitional period the non spatial policies; or
- Retaining for a transitional period all the spatially specific policies where a quantum of development or land for development is allocated to a particular location in the region and revoking the non spatial policies, ambitions and priorities; or
- Retention for a transitional period of policies, the revocation of which may lead to likely significant negative environmental effects.

The assessment has found that there are no quantified or spatially specific policies in the North West Regional Strategy where the act of revocation will cause a significant negative effect upon Biodiversity whilst retaining the same policy will maintain a significant environmental benefit. In the case of MCR1 a positive significant effect is recorded for revocation.

With regard to non spatial policies, there are similarly no instances where revocation would lead to a significant negative effect.

### 1.8.3 Effects of Retention

Assessment of the effects of retention of the Regional Strategy are predicated on the assumption that in the absence of the legislation and regional architecture enabling the updating of the Strategy, the policies they contain will remain and become increasing outdated and in some cases in conflict with the national policies in the NPPF. They will therefore play an increasingly smaller role in plan making and development control over time.

The assessment has indicated that policies for retention have the same effect upon biodiversity as revocation, although the timing of effects may be different. Policy RT2 however is recorded as significantly positive for biodiversity but uncertain for revocation, the reasons for this are set out above.

### 1.9 Mitigation Measures

Because significant impacts on biodiversity are all assessed as positive, no mitigation measures are proposed.

## 2. Population

### 2.1 Introduction

In the absence of detailed SEA guidance on the content of the population topic, ‘population’ includes information on demographics and generic socio-economic issues. The overview of plans and programmes and baseline information contained in this section provides the context for the assessment of potential effects of the proposals on the plan to revoke on population and socio-economics. Information is presented for both national and regional levels.

There are links between the population topic and a number of other SEA topics, in particular the effects of population on human health, material assets, air quality and climate change.

### 2.2 Summary of Plans and Programmes

#### 2.2.1 International

The United Nation’s ***Aarhus Convention (2001)*** grants the public rights and imposes on Parties and public authority’s obligations regarding access to information, public participation and access to justice. It contains three broad themes or ‘pillars’:

- access to information;
- public participation; and
- access to justice.

The ***SEA Directive*** creates the following requirements for public consultation;

- Authorities which, because of their environmental responsibilities, are likely to be concerned by the effects of implementing the plan or programme, must be consulted on the scope and level of detail of the information to be included in the Environmental Report. These authorities are designated in the SEA Regulations as the Consultation Bodies (Consultation Authorities in Scotland);
- The public and the Consultation Bodies must be consulted on the draft plan or programme and the Environmental Report, and must be given an early and effective opportunity within appropriate time frames to express their opinions;
- Other EU Member States must be consulted if the plan or programme is likely to have significant effects on the environment in their territories;
- The Consultation Bodies must also be consulted on screening determinations on whether SEA is needed for plans or programmes under Article 3(5), i.e. those which may be excluded if they are not likely to have significant environmental effects.

The ***European Employment Strategy*** seeks to engender full employment, quality of work and increased productivity as well as the promotion of inclusion by addressing disparities in access to labour markets. These overarching aims are further espoused in the ***Integrated Guideline for Growth and Jobs 2008-11*** and later

documents relating policy objectives into broad actions for the member states (**A Shared Commitment for Employment**, 2009; and, **Implementation of the Lisbon Strategy Structural Reforms in the context of the European Economic Recovery Plan**, 2009).

### 2.2.2 National

#### England

The **Government's Housing White Paper 'Laying the Foundations'** sets out the Government's policies to support the housing market, especially house building. The Government believes that a well functioning housing market is vital to competitiveness and attractiveness to business. Housing is also seen as crucial to social mobility, health and well being - with quality and choice having an impact on social mobility and wellbeing from an early age. The Government is putting in place new incentives for housing growth through the New Homes Bonus, Community Infrastructure Levy and proposals for local retention of business rates.

The **Local Growth White Paper (October 2010)** sets out the Government overarching goal is to promote strong, sustainable and balanced growth. It restates the Government's role in providing the framework for conditions for sustainable growth by:

- creating macroeconomic stability, so that interest rates stay low and businesses have the certainty they need to plan ahead;
- helping markets work more effectively, to encourage innovation and the efficient allocation of resources;
- ensuring that it is efficient and focused in its own activities, prioritising high-value spending and reducing tax and regulatory burdens; and
- ensuring that everyone in the UK has access to opportunities that enable them to fulfil their potential.

The White Paper focuses on the approach to local growth proposing measures to shift power away from central government to local communities, citizens and independent providers. It introduced Local Enterprise Partnerships (LEPs) to provide a vision and leadership for sustainable local economic growth. The number of LEPs has increased to 39 from the 24 originally announced. Across England the LEP's are at different stages of establishment and are subject to further development and consultation. LEPs will be expected to fund their own day to day running costs but may wish to submit bids to the Regional Growth Fund (RGF). The RGF is a discretionary £1.4bn Fund operating for three years between 2011 and 2014 to stimulate enterprise by providing support for projects and programmes with significant potential for creating long term private sector led economic growth and employment and, in particular, help those areas and communities that are currently dependent on the public sector make the transition to sustainable private sector-led growth and prosperity.

There are a number of policies set out with the **National Planning Policy Framework (NPPF) (2012)** that set out how local planning authorities should plan for the supply of housing. The new policies explain that to boost significantly the supply of housing, local planning authorities should:

- use their evidence base to ensure that their Local Plan meets the full, objectively assessed housing needs;
- identify and update annually a supply of specific deliverable sites sufficient to provide five years worth

of housing;

- identify a supply of specific, developable sites or broad locations for growth, for years 6-10 and, where possible, for years 11-15;
- provide a housing trajectory and set out a housing implementation strategy for the full range of housing; and
- set out their own approach to housing density to reflect local circumstances.

The policy outlines measures that local planning authorities should take in order to deliver a wide choice of high quality homes, widen opportunities for home ownership and create sustainable, inclusive and mixed communities. The policy states that Local planning authorities should identify and bring back into residential use empty housing and buildings in line with local housing and empty homes strategies.

The Government's ***Planning Policy for Traveller Sites (2012)*** should be read in conjunction with the National Planning Policy Framework. The policy replaces Circular 01/2006: Planning for Gypsy and Traveller Caravan Sites and Circular 04/2007: Planning for Travelling Showpeople. The overarching aim of the new policy is to ensure fair and equal treatment for travellers, in a way that facilitates the traditional and nomadic way of life of travellers while respecting the interests of the settled community.

### 2.2.3 North West Regional Plans

#### Local Enterprise Partnerships in the North West of England

There are five Local Enterprise Partnerships in the North West of England region, covering Cheshire and Warrington, Cumbria, Greater Manchester and the Liverpool City Region. These are described in more detail below:

##### *Cheshire and Warrington LEP*

The Cheshire and Warrington LEP seeks to bring the necessary leadership, influence and leverage to drive the sustainable, private sector led economic growth of the sub-region. The LEP priorities are as follows:

- A skilled and productive workforce;
- Business investment;
- Infrastructure and connectivity;
- Deregulation;
- The rural economy; and
- Promoting Cheshire and Warrington.

##### *Cumbria LEP*

The Cumbria LEP will provide a strategic lead in all activities contributing to the growth and vibrancy of the county's

economy.

The LEP sees itself as 'big enough to be effect and small enough to be local' and is determined to build on the county's strengths to increase Cumbria's Gross Value Added (GVA).

### *Lancashire LEP*

The Lancashire Enterprise Partnership covers the whole of Lancashire, including the areas served by Lancashire County Council and the unitary local authorities for Blackburn with Darwen and Blackpool. The LEP is central to a number of economic development initiatives of both local and national significance. In partnership with BAE Systems it has established a new Enterprise Zone for advanced engineering and manufacturing at Samlesbury and Warton.

### *Greater Manchester LEP*

The LEP looks to create the right conditions for continued economic growth in Greater Manchester. It will work to oversee the development and delivery of the Greater Manchester Strategy and will have responsibility for a wide variety of activity to increase long-term sustainable economic growth including the areas of employment and skills, business support, science and innovation, inward investment, international trade, marketing and tourism, European funding, planning, housing and transport and research, strategy development and performance management.

### *Liverpool City Region LEP*

The Liverpool City Region LEP is a private sector led Board with political leaders representing the six local authority areas of Halton, Knowsley, Liverpool, Sefton, St. Helens and Wirral.

Its core activities include:

- Strategic Economic Development – contributing to the development of spatial planning, housing, transport, infrastructure, education and training policies. We are the main economic development interface with Government;
- Business Growth - assisting existing businesses to grow and increase productivity, promoting entrepreneurship and innovation, and advising and assisting businesses regarding available funds and additional indigenous investment.

## 2.3 Overview of the Baseline

### 2.3.1 UK

#### National Demographics

In mid 2010 the resident population of the UK was 62,262,000<sup>16</sup> and 64.8% of the population was working age (aged 16 to 64) (65.8% males and 63.8% females). The working age population in 2010 was broken down as follows:<sup>17</sup>

- 77.0% economically active;
- 70.5% in employment; and
- 8.2% unemployed.

The breakdown of qualifications of the working age population in 2010 was as follows:

- 31.2% had NVQ4 and above;
- 50.9% had NVQ3 and above;
- 67.2% had NVQ2 and above;
- 80.1% had NVQ1 and above;
- 8.4% had other qualifications; and
- 11.6% have no qualifications.

In England and Wales, between 2008/09 and 2009/10 estimates from the British Crime Survey (BCS) indicate vehicle-related thefts fell by 17%, burglary fell by 9% and violent crime fell by 1%. All BCS crime fell by 9%.

**Table 2.1 Number of Crimes Recorded by the Police in England and Wales.<sup>18</sup>**

	2008/09	2009/10	Change
	Number of offences (thousands)		%
Vandalism	2,700	2,408	-11
Burglary	725	659	-9
Vehicle-related theft	1,476	1,229	-17
Bicycle theft	527	480	-9

<sup>16</sup> Office for National Statistics 2010 mid-year population estimates.

<sup>17</sup> NOMIS, Official Labour Market Statistics, Annual Population Survey, 2010, <https://www.nomisweb.co.uk>

<sup>18</sup> Home Office, British Crime Survey in England and Wales 2009/10, <http://rds.homeoffice.gov.uk/rds/pdfs10/hosb1210.pdf>

	2008/09	2009/10	Change
Other household theft	1,155	1,163	1
Household acquisitive crime	3,883	3,531	-9
All household crime	6,583	5,939	-10
Theft from the person	725	525	-28
Other theft of personal property	1,096	1,036	-5
All violence	2,114	2,087	-1
Personal acquisitive crime	2,094	1,895	-9
All personal crime	3,936	3,648	-7
All BCS Crime	10,518	9,587	-9

In 2010/11, the UK had a total of 32,750 schools which were broken down as follows:

- 3,130 nursery (138,300 students);
- 21,244 primary (4,922,000 students);
- 4,121 secondary (3,888,700 students);
- 1,293 special (102,800 students); and
- 427 pupil referral units (12,500 students)<sup>19</sup>.

## National Socio-Economic

In 2010 UK per capita Gross Value Added (GVA) was £20,476<sup>20</sup>. The 2010 headline estimates show that both total GVA and GVA per head at current basic prices have increased in all UK regions. In 2010, London's gross value added (GVA) per head of population was 71.1% above the average for the United Kingdom (UK), while that of Wales was 26.0% below the average.

In 2009 the median full-time gross hourly pay in UK was £12.43 (males' median being £13.09 and the female median being £11.42). This compares to £11.98 in 2008<sup>21</sup>. In the three months to July 2010 pay growth (including bonuses) rose by 1.2% in the private sector over the previous year compared with 2.7% for the public sector.

Excluding bonus payments, growth in the private sector over the year was 1.3% compared with 2.8% for the public sector<sup>22</sup>.

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<sup>19</sup> DCSF, Education and Training Statistics for the United Kingdom: 2011, <http://www.education.gov.uk/rsgateway/DB/VOL/v001045/v02-2011c1v2.xls>

<sup>20</sup> Regional, sub-regional and local gross value added 2010, <http://www.statistics.gov.uk/pdfdir/gva1210.pdf>

<sup>21</sup> NOMIS, Official Labour Market Statistics, Annual survey of hours and earnings - resident analysis [https://www.nomisweb.co.uk/output/dn87000/{AFB7B1A5-142C-4D4F-BDE2-467C1389CB90}/nomis\\_2009\\_08\\_20\\_160703.xls](https://www.nomisweb.co.uk/output/dn87000/{AFB7B1A5-142C-4D4F-BDE2-467C1389CB90}/nomis_2009_08_20_160703.xls)

<sup>22</sup> ONS Labour Market Statistics, June 2012, <http://www.ons.gov.uk/ons/rel/lms/labour-market-statistics/june-2012/index.html>

In the period February - April 2012 the UK had a total of 29,280,000<sup>23</sup> people in employment aged 16 and over, up 166,000 on the quarter. The number of people employed in the private sector increased by 205,000 to reach 23.38 million but the number of people employed in the public sector fell by 39,000 to reach 5.90 million.

In February 2012 - April 2012, the UK had an unemployment rate of 8.2% (all people of working age). This is a reduction of 0.2% on the previous quarter and compares to the previous year when the UK had an unemployment rate of 5%<sup>24</sup>.

The recent UK recession has caused a downturn in many sectors and markets of the UK economy. UK gross domestic product (GDP) in volume terms decreased by 0.3% in the first quarter of 2012, revised from a previously estimated decline of 0.2%. Production industries fell by 0.4%, within which manufacturing output was flat whilst the output of the service industries rose slightly by 0.1%<sup>25</sup>.

### 2.3.2 England

#### Demographic

In mid-2010 England had a resident population of 52,234,000 and 64.8% of the population is of working age (aged 16 to 64) split by gender, 65.8% males and 63.8% females.

In 2010 the working age population breakdown was as follows:

- 77.2% were economically active;
- 70.5% of working age population were in employment; and
- 8.3% of working age population were unemployed<sup>26</sup>.

The working age population in 2010 had the following qualification breakdown:

- 31.1% have NVQ4 and above;
- 50.7% have NVQ3 and above;
- 67.0% have NVQ2 and above;
- 80.3% have NVQ1 and above;
- 8.6% have other qualifications; and
- 11.1% have no qualifications<sup>27</sup>.

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<sup>23</sup> ONS Labour Market Statistics, June 2012, <http://www.ons.gov.uk/ons/rel/lms/labour-market-statistics/june-2012/index.html>

<sup>24</sup> NOMIS, Official Labour Market Statistics, National Indicators, June-August 2009,  
<https://www.nomisweb.co.uk/articles/news/files/LFS%20headline%20indicators.xls>

<sup>25</sup> ONS, UK Snapshot, [http://www.ons.gov.uk/ons/dcp171778\\_264972.pdf](http://www.ons.gov.uk/ons/dcp171778_264972.pdf)

<sup>26</sup> ONS Economic activity time series [https://www.nomisweb.co.uk/reports/lmp/gor/2092957699/subreports/nrhi\\_time\\_series/report.aspx?](https://www.nomisweb.co.uk/reports/lmp/gor/2092957699/subreports/nrhi_time_series/report.aspx?)

In 2008/09, England had 24,737 schools:

- 438 nursery (37,200 students);
- 17,064 primary (4,074,900 students);
- 3,361 secondary (3,271,100 students);
- 1,058 special (85,500 students); and
- 458 pupil referral units (15,200 students)<sup>28</sup>.

### Socio-Economic

In 2010 England's per capita Gross Value Added (GVA) was 20,974.<sup>29</sup>

In 2011 the median full-time gross hourly pay in England was £12.85 (males' median being £13.44 and the female median being £12.00). This compares to £12.75 in 2010 and represents growth of 0.78% in nominal hourly total full time pay over the previous year<sup>30</sup>.

In 2010, England had a total of 26,295,000 jobs<sup>31</sup>.

In Feb 2008 - Jan 2010, England had an unemployment rate of 7.8% (all people of working age). This compares to the previous year when it had an unemployment rate of 6%<sup>32</sup>.

### 2.3.3 North West Region

#### Demographics

According to ONS figures, the North West had a population of 6.9 million in mid-2010 – the third largest English Region. In the period 2001-2010 the population of the region grew 2.4 per cent as shown in Figure 1.1, the lowest growth of all English regions. Within the North West, Manchester showed the largest population increase in the period 2001-2010 at 17.9 per cent; however the populations of Burnley and Sefton decreased by 4.7 and 3.5 per cent respectively during the same period. In 2009 there was a net migration to the region of just under 17,000 people resulting from a net international migration of 24,000 and a net inter-regional migration of -7,000, meaning that 7,000 people moved out of the region, elsewhere in the UK than arrived from other regions.

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<sup>27</sup> ONS <https://www.nomisweb.co.uk/reports/lmp/gor/2092957699/report.aspx>

<sup>28</sup> DCSF, Education and Training Statistics for the United Kingdom: 2009, <http://www.dfes.gov.uk/rsgateway/DB/VOL/v000891/Chapter1.xls>

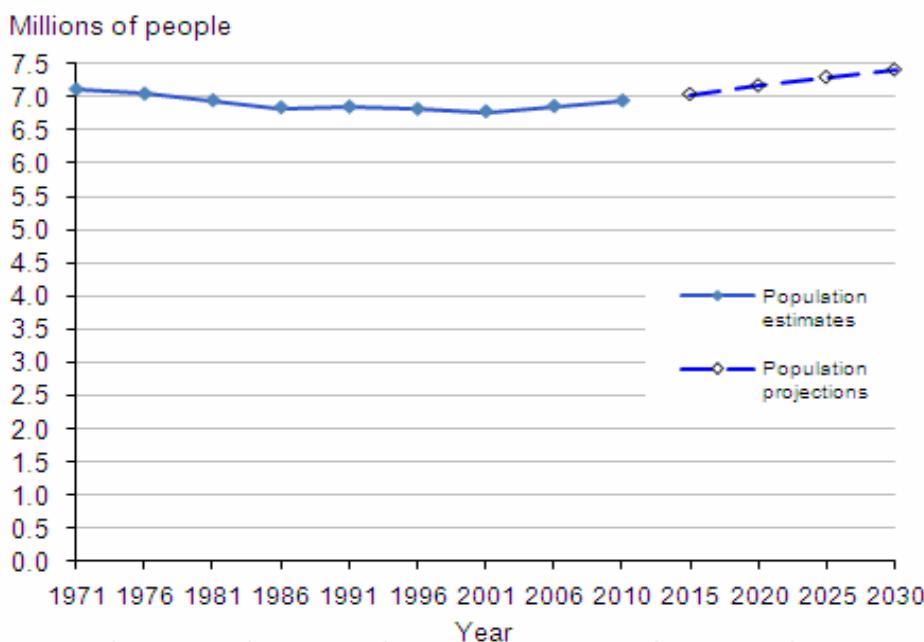
<sup>29</sup> Regional, sub-regional and local gross value added 2010, <http://www.ons.gov.uk/ons/rel/regional-accounts/regional-gross-value-added--income-approach-/december-2011/stb-regional-gva-dec-2011.html>

<sup>30</sup> ONS: Earning by workplace [https://www.nomisweb.co.uk/reports/lmp/gor/2092957699/subreports/gor\\_ashew\\_time\\_series/report.aspx](https://www.nomisweb.co.uk/reports/lmp/gor/2092957699/subreports/gor_ashew_time_series/report.aspx)

<sup>31</sup> ONS <https://www.nomisweb.co.uk/reports/lmp/gor/2013265930/report.aspx>

<sup>32</sup> ONS [https://www.nomisweb.co.uk/reports/lmp/gor/2092957699/subreports/nrhi\\_time\\_series/report.aspx](https://www.nomisweb.co.uk/reports/lmp/gor/2092957699/subreports/nrhi_time_series/report.aspx)

**Figure 2.1 North West Population and Population Projections<sup>33</sup>**



The North West has the second highest population density in England with 490 people per sq km in 2010, compared with the England average of 400. Within the North West the population density varied substantially ranging from 24 people per sq km in Eden local authority in Cumbria to 4,300 people per sq km in Manchester. The proportion of the population aged 65 and over was close to that for England as a whole at 16.7 per cent in 2010. The population of this age group for the North West is projected to increase to 22.5 per cent in 2030, slightly above the figure for England (21.7 per cent).

### Housing

Local authority statistical returns indicate that there were 3,111,257 dwellings in the North West in 2008. The main source of additions to the dwelling stock is new construction. Figure 2.2 shows starts and completions in the North West since 2000/01. Dwelling starts built up to a peak in 2005/06 but subsequently fell as housing market uncertainties increased, with a very sharp reduction to 7,140 in 2008/09. Starts in 2010 ran well below 2,000 for three consecutive quarters with no sign of revival.

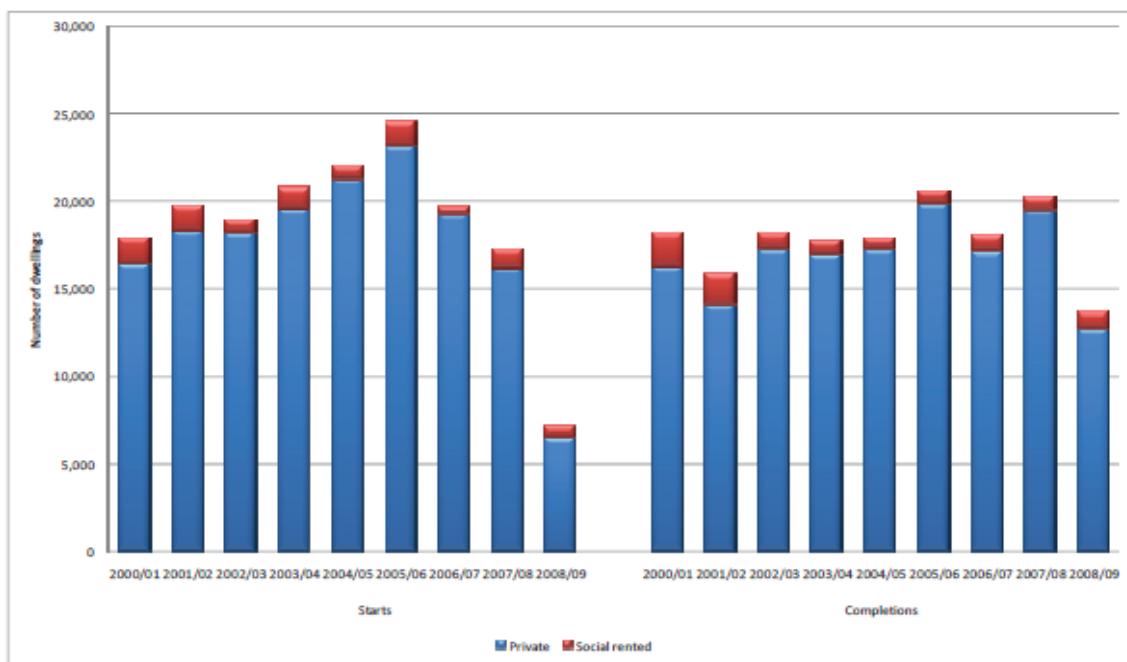
This two-stage decline reflects the initial problems faced by builders and developers in securing finance from banks as the credit crunch crisis developed late in 2007, followed by further reductions to reflect the impact of the subsequent reduction in mortgage lending and the fall in demand arising from the wider economic recession. These problems are national rather than regional in their impact and have also impacted completions which fell to only 13,700 in 2008/09. This reduction will become more apparent during subsequent years (see Figure 2.2).

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<sup>33</sup> Office for National Statistics

<http://www.ons.gov.uk/ons/rel/regional-trends/region-and-country-profiles/population-and-migration/population-and-migration---north-west.html>

**Figure 2.2 Dwelling starts and completions, North West 2000/01-2008/09<sup>34</sup>**



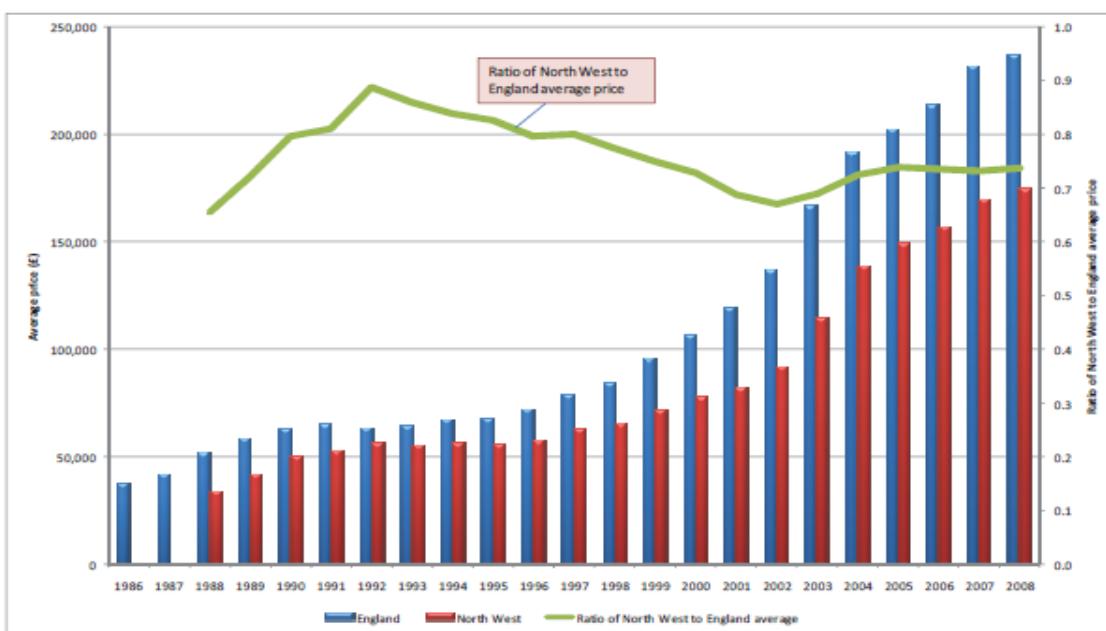
Source: CLG Live Tables 231 and 232

The average house price in the North West in 2008 was just under £175,000. Along with the North East and Yorkshire and the Humber, the North West is one of the lower priced regions in England. In 2008 the average price was about three-quarters of the average for the whole of England (Figure 2.3).

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<sup>34</sup> Nevin Leather Associates for 4NW (2009); Housing Evidence Paper.

**Figure 2.3 Average dwelling price, North West and England 1986-2008<sup>35</sup>**



Source: CLG Live Table 511

Figure 2.3 suggests that prices in the North West over the last two decades have broadly followed the national pattern but with a lag of one to two years. Prices in England rose from 1986 to 1991, then fell for two years before rising slowly again from 1994. In the North West, prices rose until 1992 but then fell and remained below this level until 1995 before rising slowly again. Prices in England as a whole rose more sharply from about 2000, but in the North West this rise was delayed until 2002.

Average prices across the North West also conceal significant differences between areas. Local authority administrative boundaries do not necessarily determine prices. There can be significant variations within local authorities. Recognising the complexity of price variations, local authorities and their partners in the North West identified 27 housing market areas covering the region. These have been widely used as the basis for local planning and housing analysis, in some cases they correspond with local authorities, but in others they are amalgamations of authorities or parts of them.

Table 2.2 shows average house prices in 2001, 2007 and 2008 for housing market areas in the North West, together with percentage changes over the 2001-2008 and 2007/08 periods. Housing market areas are ranked in descending order on average price in 2008. The average price in 2008 varied by over 300%, from nearly £338,000 in the Central Lakes area to only £107,000 in Burnley/Pendle. Average prices were much lower in 2001, but looking at changes across the 2001-2008 period there has been relatively little change in rankings, suggesting that these differences in prices are strongly entrenched. There was however a tendency for prices to increase most in percentage terms over the 2001-2008 period in lower value areas, closing the price gap to some extent. This was particularly apparent in Cheshire. Higher value housing market areas were more likely to have been unaffected by

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<sup>35</sup> Nevin Leather Associates for 4NW (2009); Housing Evidence Paper.

## Appendix E: SEA for the Revocation of the North West Regional Strategy

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price falls between 2007 and 2008, but the relationship between average price in 2007 and price change from 2007 to 2008 is relatively weak.

**Table 2.2 House price indicators by housing market area, North West 2008<sup>36</sup>**

	Average Price (£)				
	2001	2007	2008	% Change	% Change
				2001-2008	2007/2008
North West	77,359	159,882	156,863	103	-2
Central Lakes	161,164	329,653	337,665	110	2
Macclesfield	149,982	288,813	290,605	94	1
North Lakes	117,152	244,756	261,712	123	7
Ribble Valley	104,716	231,537	235,379	125	2
Dales/ Rural Kendal	105,916	224,235	230,925	118	3
Eden Valley	92,330	208,871	218,193	136	4
Ulverston/Cartmel	97,168	216,415	217,893	124	1
Greater Manchester/southern	107,091	211,494	208,144	94	-2
West Cheshire	105,684	197,101	196,791	86	0
Congleton	98,500	203,266	189,997	93	-7
Crewe/Nantwich	82,018	177,495	164,045	100	-8
Fylde Coast	71,170	159,442	159,436	124	0
Lancaster	67,565	158,046	154,002	128	-3
Central Lancashire	74,434	159,769	153,857	107	-4
Liverpool City Region East	79,671	155,423	151,492	90	-3
Alston Moor	76,334	179,950	150,813	98	-16
Liverpool City Region North	73,685	152,775	149,674	103	-2
Carlisle	64,160	148,910	146,960	129	-1
Greater Manchester Western	63,423	140,042	136,408	115	-3
Rosendale	59,107	133,069	136,277	131	2
Greater Manchester Centre	54,141	143,028	132,036	144	-8
Greater Manchester Northern	58,384	132,701	129,840	122	-2

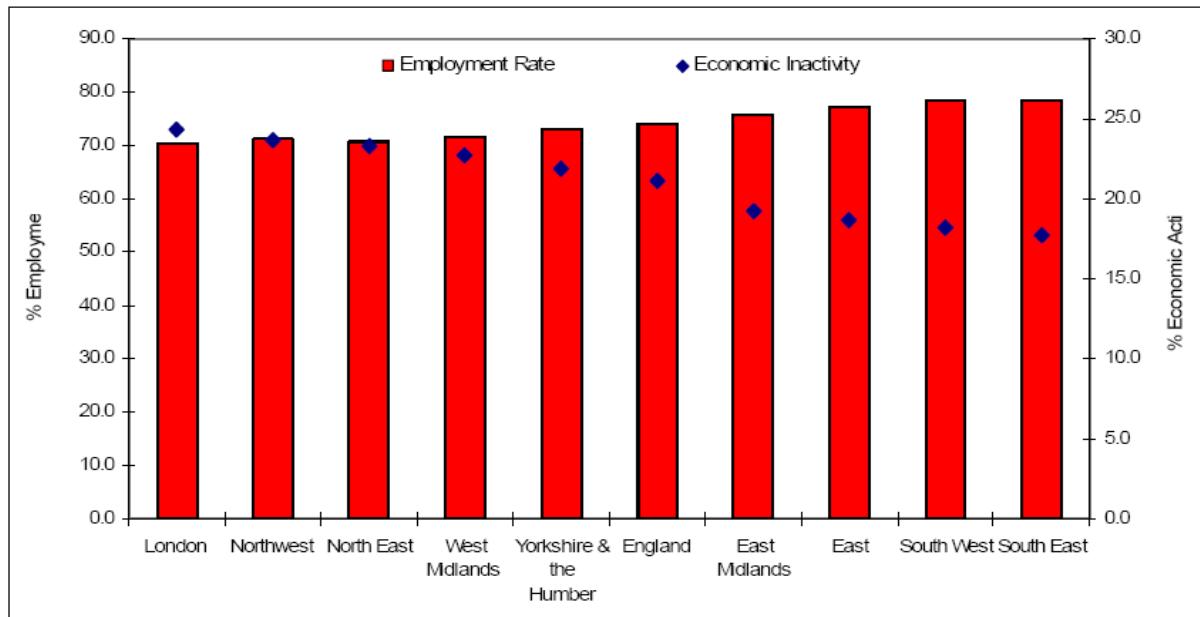
<sup>36</sup> Nevin Leather Associates for 4NW (2009); Housing Evidence Paper.

	Average Price (£)				
	2001	2007	2008	% Change	% Change
				2001-2008	2007/2008
Workington/Maryport	57,602	136,218	127,703	122	-6
Copeland	52,327	130,128	126,784	142	-3
Barrow, Dalton and Askham	48,028	113,477	116,125	142	2
Blackburn/Hyndburn	48,573	114,742	112,542	132	-2
Burnley/Pendle	45,071	104,831	107,137	138	2

## Socio-Economics

Figure 2.4 shows 71.3% of the working-age population in the North West are in employment compared with 78.5% in the South East region, 78.3% in the South West and 77.2% for the East of England<sup>37</sup>. In terms of economic inactivity the North West is ranked second behind London.

**Figure 2.4 Regional employment and economic inactivity rates**



Source: ONS Annual Population Survey

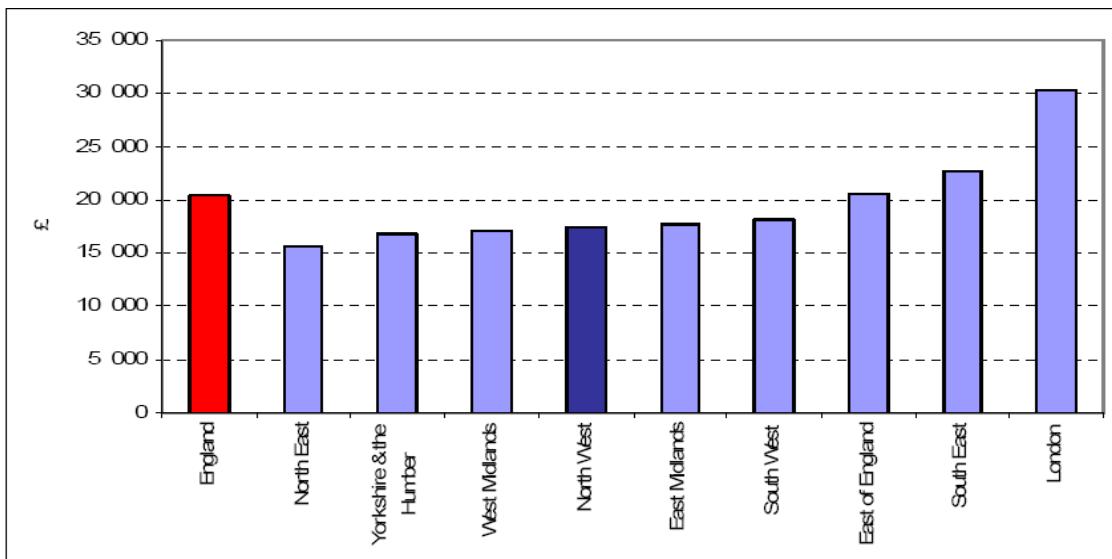
<sup>37</sup> Economic Performance evidence base RS2010; Northwest Regional Intelligence Unit 2010.

## Appendix E: SEA for the Revocation of the North West Regional Strategy

The broadest indicator of economic performance is Gross Domestic Product per capita, the total output of the economy relative to the total population; regionally this equates to Gross Value Added (GVA) per capita.

Within the UK there are persistent differences in GVA per capita performance. Official figures available at the regional level for 2007 show that although the North West has the third largest population (6.9million) and the third largest economy (£119bn), in GVA per capita terms it is ranked sixth out of the nine regions; at £17,433 it is 15% below the England average (Figure 2.5). Over the period 1997 to 2007 average annual GVA per capita growth in the North West of 4.7% lagged the England average of 4.9%.

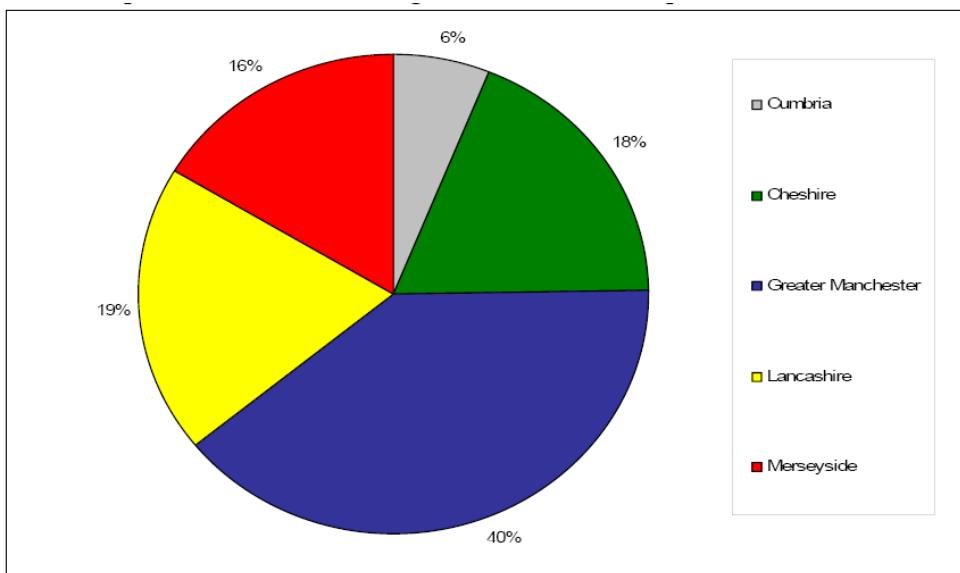
**Figure 2.5 Regional GVA per capita – 2007**



Source: ONS Regional Accounts

Figure 2.6 shows that performance across the region varies considerably, the latest sub-regional GVA data for 2006 shows that 40% of Northwest GVA originates from Greater Manchester followed by 19% from Lancashire, 18% from Cheshire, 16% from Merseyside and only 6% from Cumbria.

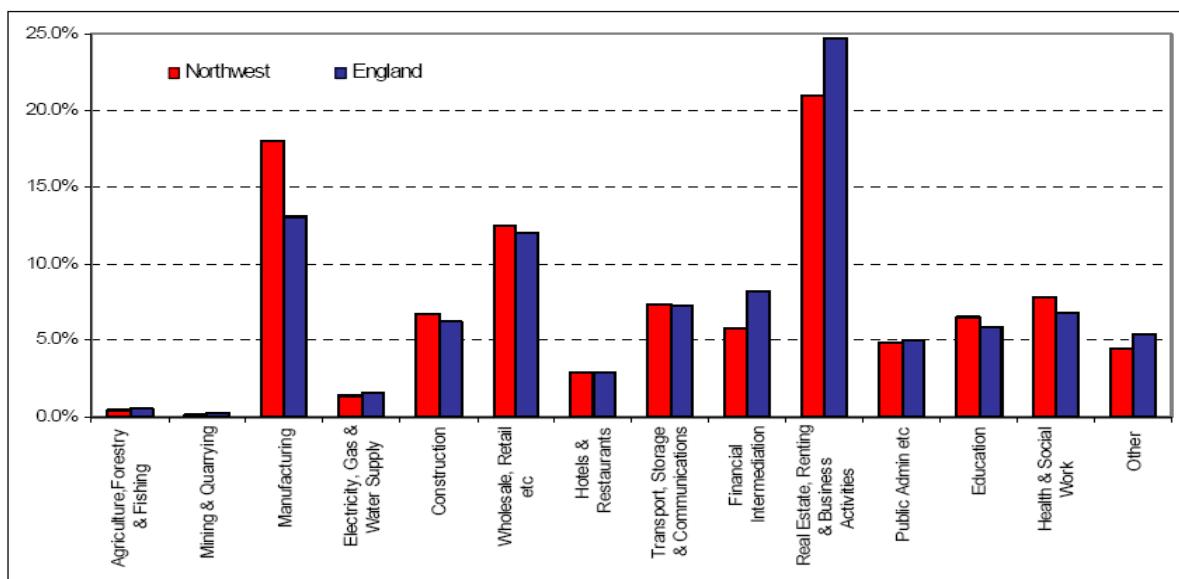
**Figure 2.6 Share of total regional GVA at sub-regional level, 2006**



Source: ONS Regional Accounts

GVA data for 2006 (see Figure 2.7) shows that the real estate, renting and business activities sector is the largest contributor to Northwest GVA equating to 21.0%, this is followed by manufacturing (18.0%) and Wholesale, retail etc (12.5%). The industrial structure of the region in GVA terms is broadly similar to the England average; however there is a greater concentration of GVA in production industries in the North West, whilst in England the financial intermediation and real estate, renting and business activities sectors contribute a greater proportion of GVA than regionally.

**Figure 2.7 Share of total GVA by broad sector 2006**

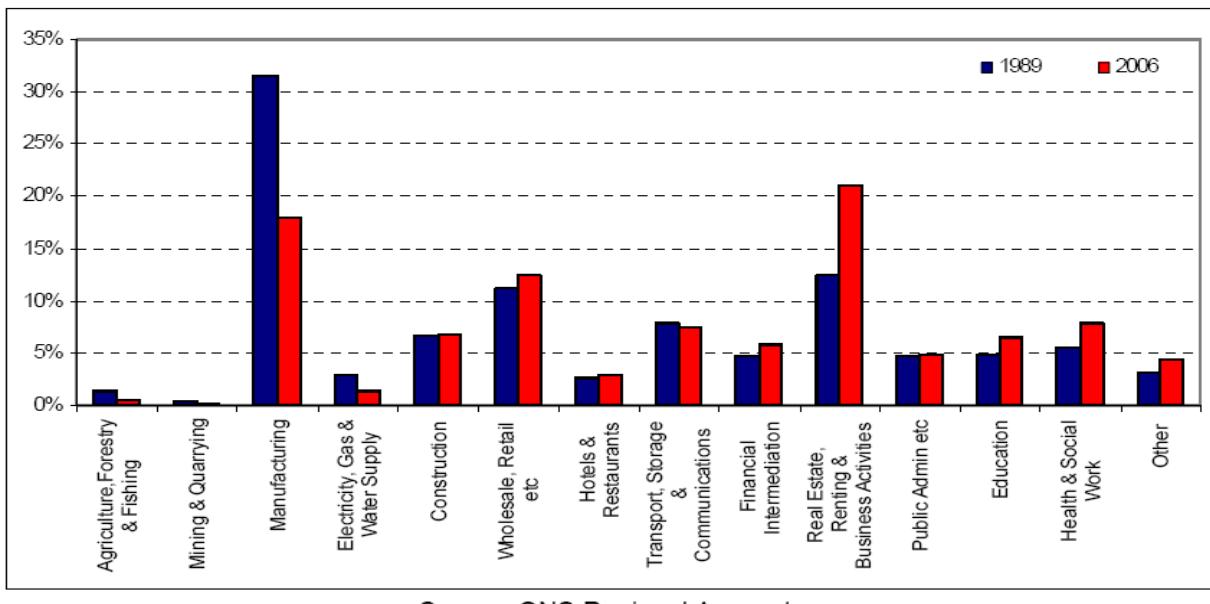


Source: ONS Regional Accounts

In terms of contribution to total GVA by sector the North West, like England overall, has experienced a significant shift from production industries to service industries over recent years. Since 1989, the earliest date for which

consistent data is available, the contribution to total GVA in the region from manufacturing has fallen from 31.5% to 18.0% in 2006 as illustrated in Figure 2.8. Over the same period the gap between GVA accounted for by manufacturing in the North West and in England narrowed from 8% to 5%, highlighting that the region's economic structure is becoming more like the "average". The share of regional GVA from service sectors has increased with real estate, renting and business activities, health and social work and education all experiencing significant growth in GVA share over the period.

**Figure 2.8 Sectoral contributions to total regional GVA, 1989 to 2006**



Source: ONS Regional Accounts

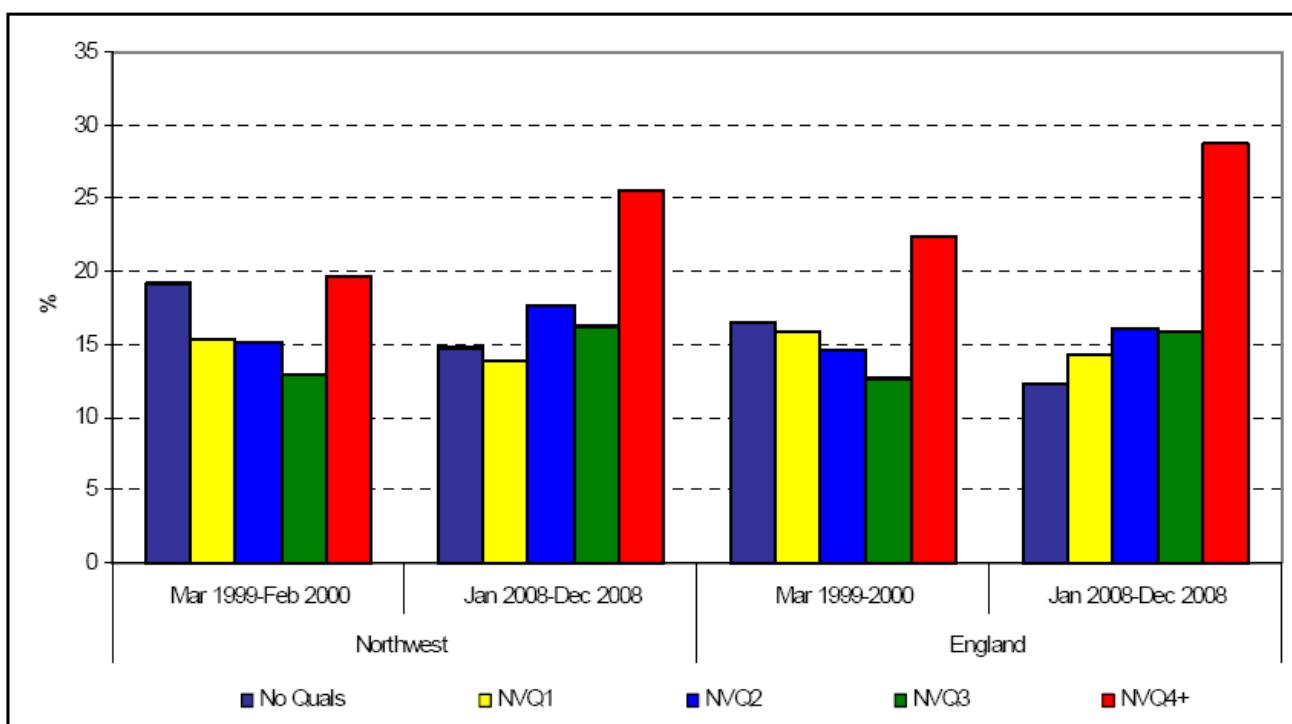
Analysing the split of total GVA growth between 1989 and 2006 highlights which broad sectors of the economy have been growth drivers. The North West has experienced both similarities and differences to England overall. For both the region and England overall, real estate, renting and business activities contributed the largest share of GVA growth, nearing 30%. Similar contributions to GVA growth in percentage share terms were experienced both regionally and nationally for education, public administration, hotels and restaurants, wholesale, retail trade etc and other services. The importance of GVA contributions from these sectors varies considerably.

The North West was the largest contributor to total manufacturing GVA in England in 1989, providing 17%, the West Midlands was second largest (13.6%) followed by the South East (13.5%). Whilst the North West has experienced a shift in its economic structure, away from production industries, manufacturing remains a sector of significant importance to the regional economy. In 2006 manufacturing accounted for 18% of regional GVA, second only to real estate, renting and business activities. Within the sector the manufacture of chemicals, chemical product and man-made fibres, food products; beverages and tobacco and transport equipment accounted

for 50% of manufacturing GVA in 2006. Impacts from the current recession are likely to have short to medium-term implications for this trend.

The overall level of education and skills in the workforce can have a critical impact on the output and productivity levels of an economy. The North West has tended to have relatively low recorded skills levels. In 1999/00, 19.1% of the working age population had no qualifications compared to 16.5% for England and Wales. The comparative proportion with the highest level qualifications (NVQ4+) was 19.6% in the North West and 22.4% in England and Wales. However skills in the region have improved in recent years, there are now more individuals holding NVQ4+ qualifications in the region and fewer individuals with no qualifications. Figure 2.9 shows the highest qualifications attained in the North West and England for 2000 and for 2008 demonstrating the low skill level in the North West in comparison with the average for England as a whole.

**Figure 2.9 Highest qualification attained**



Source: ONS Local Areas Labour Force Survey & Annual Population Survey

## 2.4 Environmental Characteristics of those Areas most likely to be Significantly Affected

### 2.4.1 National

Output in the UK economy has been largely flat for a year and half and was estimated to have contracted slightly in the past two quarters. There are weaknesses within domestic demand. Consumption fell, as the squeeze on real incomes continued and households saved more. And business investment remained significantly below its pre-

crisis level, held back by weak demand, heightened uncertainty and tight credit conditions. Growth in the rest of the economy was also estimated to be weak, with manufacturing and services output both broadly flat. But business surveys, labour market developments and Bank of England reports all point to somewhat stronger activity in the first quarter, suggesting that the underlying picture is less weak. Unemployment rates have been on a rising trend although in May 2012, this trend was abated slightly. Disadvantage continues to exist in communities, both in remote areas and inner cities.

### 2.4.2 North West England

North West has the lowest population growth of all regions in England, with ONS statistics showing population decreases in Burnley and Sefton and net inter-regional migration of -7,000. Population density is significantly higher in the south of the region than in the more rural north.

The North West has high levels of economic inactivity and is not punching its economic weight. Although the North west has the third largest regional population (6.9 million), and the third largest economy (£119 bn), in GVA per capita terms, it is ranked sixth out of nine regions at £17,443, 15% below the England Average. Economic performance across the region varies considerably, sub regional, GVA data for 2006 shows that 40% of North West GVA originates from Greater Manchester followed by 19% from Lancashire, 18% from Cheshire, 16% from Merseyside and only 6% from Cumbria.

The region's economic structure is changing, moving from an economy dominated by manufacturing to one with a more 'average' structure based around service industries. Service sectors including real estate, renting and business activities, health and social work and education have experienced significant growth in GVA in recent years.

## 2.5 Likely evolution of the baseline

### 2.5.1 National

#### Demographic

The current UK population is generally increasing, and projected to reach 73.2 million by 2035<sup>38</sup>.

The age structure of the UK population is moving towards an ageing population: those of pensionable age are projected to increase by 28% from 2010 to 2035 (note that the pensionable age is to change over this period). Those aged between 15-64 years are projected to decrease from 62.1% to 60.5% of the population, whilst those under 16 are projected to decrease from 18.7% to 17.9% of the population by 2033.

There are no formal targets for population growth in the UK (other than the recent intention to introduce non-EU immigration caps).

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<sup>38</sup> ONS, National Population Projections 2008-based, <http://www.ons.gov.uk/ons/rel/npp/national-population-projections/2010-based-projections/sum-2010-based-national-population-projections.html>

### Socio-Economic

There are current uncertainties over market conditions and the range of economic forecasts available indicates a number of future scenarios. The Bank of England recently concluded that “*underlying growth is likely to remain subdued in the near term before a gentle increase in households’ real incomes and consumption helps the recovery to gain traction. ... The possibility that the substantial challenges within the euro area will lead to significant economic and financial disruption continues to pose the greatest threat to the UK recovery*”.<sup>39</sup>

#### 2.5.2 England

##### Demographic

Between 2008 and 2033, the population of England is projected to increase from 51.46 million to 60.715 million, an increase of 17.9%. The number of children aged under 16 is projected to increase by 12.8% from 9.669 million in 2008 to 10.916 million by 2033; the number of people of working age is projected to increase by 7.7% from 33.503 million in 2008 to 36.101 million; the number of people of pensionable age is projected to rise by 65.2% from 8.289 million in 2008 to 13.697 million.<sup>40</sup>

### Socio-Economic

No GDP values for England were available but trends will closely match that of the UK as a whole.

#### 2.5.3 North West Region

##### Demographic

The projections indicate that growth will be highest among the older age cohorts both nationally and regionally. It is projected that by 2031 the Northwest will have an additional 842,700 people, which equates to a 12.3% proportional increase since 2006 (Figure 2.10).

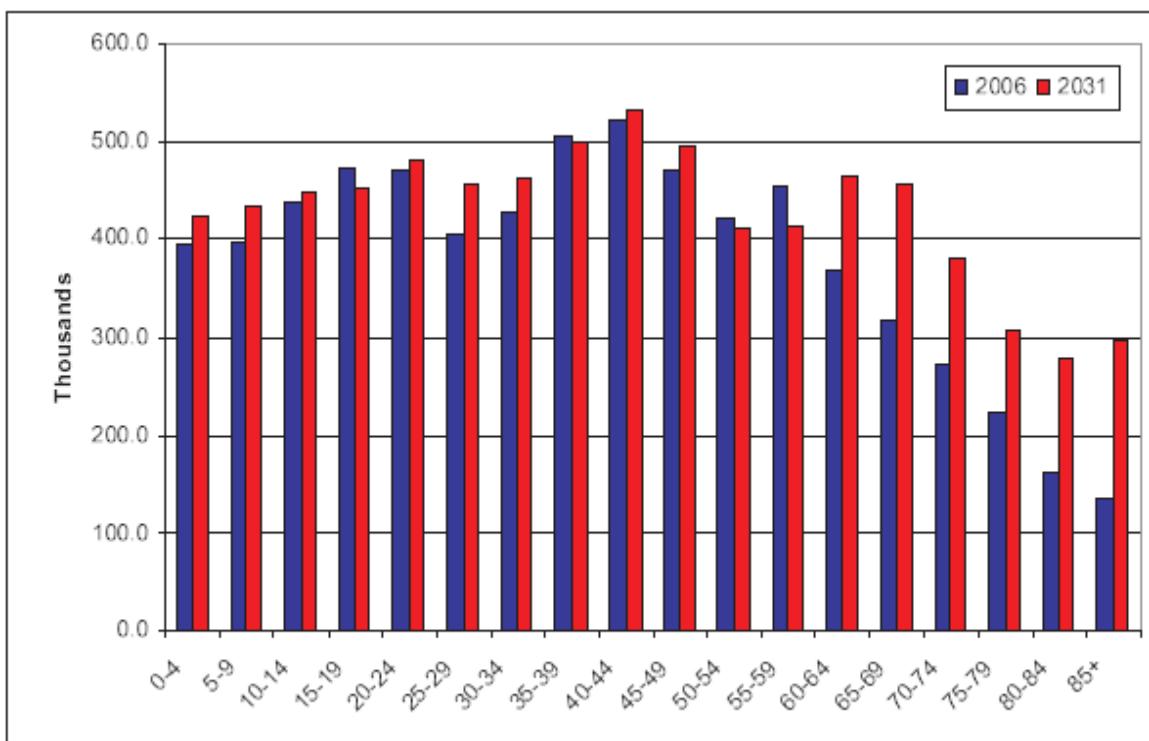
If current trends continue, it is projected that the greatest population increase will be among the 85+ age cohort with 162,400 more people; this equates to a proportional increase of 120.8%. By contrast, the 55-59 age cohort is projected to experience negative growth with 38,800 fewer people; a proportional loss of 8.6% (Figure 2.11).

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<sup>39</sup> Bank of England, Overview of the Inflation Report May 2012  
<http://www.bankofengland.co.uk/publications/Pages/inflationreport/infrep.aspx>

<sup>40</sup> General Register Office for Scotland population projections,  
[http://www.scotpho.org.uk/home/Populationdynamics/Population/DataPagesofPopulation/Population\\_scotprojections.asp](http://www.scotpho.org.uk/home/Populationdynamics/Population/DataPagesofPopulation/Population_scotprojections.asp)

**Figure 2.10 Northwest Population Projections by Quinary Age Cohort**



Source: Table 1, Sub-national Population Projections 2006, ONS

Analysis of population projections for 2006 and 2031 at sub-regional level indicates that there is likely to be little change in where people live with Greater Manchester and Merseyside continuing to have the highest proportion of the region's population.

**Figure 2.11 Proportion of Northwest Population, 2006 and 2031**

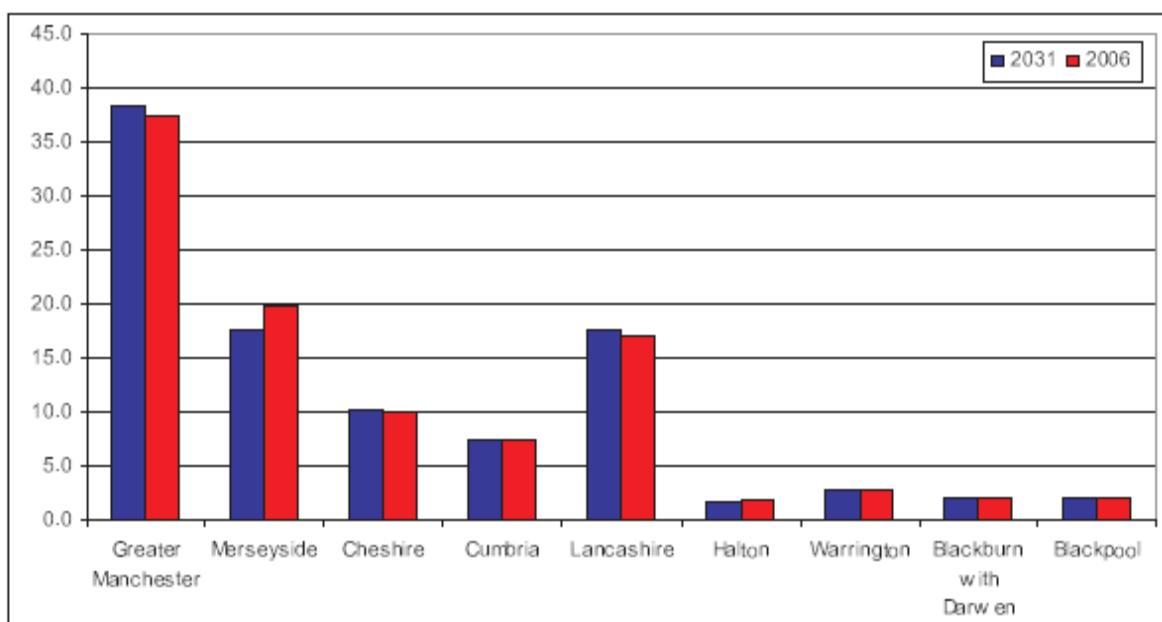


Table 5. Sub-national Population Projections, ONS

## Housing<sup>41</sup>

In the North West, the rate of net increase in the stock accelerated from only 10,000 in 2000/01 to over 25,000 in 2007/08. The Regional Strategy evidence base considered that the impact of the 'credit crunch' and the wider economic recession on net additions would be likely to reduce net growth substantially.

CLG published updated household projections in March 2009 covering the period 2006-2031. The projections are based on the most recent (also 2006-based) ONS sub-national population projections. The number of households in the North West is projected to grow by 686,000 to 3,617,000 by 2031. This is an average of 27,440 households per annum.

The current Regional Strategy provides for 23,111 additional dwellings per annum over the period 2003-2021. In 2008 the Government announced six growth points in the North West: in Greater Manchester (Manchester, Salford, Trafford and Bolton); Carlisle; Central Lancashire and Blackpool; West Cheshire; Halton/St Helens/Warrington; and Mersey Heartlands. In combination these are planned to deliver approximately 29,500 additional dwellings on top of current Regional provision up to 2016/17.

In addition to CLG household forecasts, the National Housing and Planning Advice Unit (NHPAU) provides advice to the Government on the level of housing provision which should be tested by regional planning bodies in producing regional spatial strategies. This is based on an assessment of housing demand using data from a demographic assessment (based on household forecasts, unmet need, the demand for second homes and vacancy levels) and an econometric affordability model. The most recent advice recommends the testing of a range of provision between 26,400 and 29,900 additional dwellings per annum over the period 2008-2031.

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<sup>41</sup> Nevin Leather Associates for 4NW (2009); Housing Evidence Paper.

The Regional Strategy evidence base stated that prices in the North West over the last two decades have broadly followed the national pattern but with a lag of one to two years. At present there is no consensus on the future trajectory of house prices in the region or nationally. From 2010 data prices appear to have stabilised or increased slightly since March 2009, but most commentators are unconvinced that this represents a sustainable price recovery. The range of peak-to-trough forecasts of house price decline extends from 15% to 45%, with many forecasters assuming a 20-25% reduction before prices level off and then begin to rise again. Most commentators are cautious about predicting sustained price rises until:

- The national economy emerges from recession and unemployment levels decline;
- The supply of mortgage finance increases and lending terms become less restrictive. Although the level of mortgage lending has stabilised, the number of transactions is still very low on a historic basis.

### Socio-economic

To successfully harness the opportunities that developments in the global economy provide will require increased skill levels in the regions workforce. The relative skills of the labour force will be an increasingly important factor in determining where businesses locate different parts of the production process; therefore investment is needed in the skills of the workforce. The North West has tended to have relatively low recorded skills levels, however skills in the region have improved in recent years, there are now more individuals holding NVQ4+ qualifications in the region and fewer individuals with no qualifications. Data shows that the employment rate is higher for individuals holding higher levels of qualifications, compared to those with fewer qualifications.

The North West was the largest contributor to total manufacturing GVA in England in 1989, however the GVA share in the North West has largely declined since then and the regional economy has shifted away from production industries to more service based sectors largely in line with the national average. The Regional Strategy evidence base predicted this trend would be likely to continue, however the manufacture of basic metals, food products, beverage and tobacco and the manufacture of chemicals, chemical products and manmade fibres, which have experienced growth over past years are still likely to be of importance to the regional economy.

The global trend in ageing population and projected changes to population sizes are likely to have significant effects on economic performance and the balance of global economic activity. Different growth rates in working age populations will result in different trend growth rates across areas. Those areas with declining workforces are likely to grow more slowly than other areas therefore to sustain rates of growth the region will require structural reform to counter the effect of its ageing population.

### 2.6 Assessing Significance

**Table 2.3** sets out guidance utilised during the assessment to help determine the relative significance of potential effects on the population objective. It should not be viewed as definitive or prescriptive; merely illustrative of the factors that were considered as part of the assessment process.

**Table 2.3 Approach to Determining the Significance of Effects on Population**

Effect	Description	Illustrative Guidance
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## Appendix E: SEA for the Revocation of the North West Regional Strategy

++	Significant positive	<ul style="list-style-type: none"> <li>Alternative will provide a significant increase to housing supply above the current completion rate in the region, providing a wide choice of high quality homes for communities.</li> <li>Alternative will provide a significant opportunity to create sustainable, inclusive and mixed communities.</li> <li>Alternative will generate significant employment opportunities per annum, a large proportion of which will benefit local communities.</li> <li>Alternative will facilitate significant long term investment in key regional sectors, specific localities or Nationally Significant Infrastructure Projects (NSIPs)</li> </ul>
+	Positive	<ul style="list-style-type: none"> <li>Alternative will lead to an increase to housing supply above the current completion rate in the region, providing a wide choice of high quality homes for communities.</li> <li>Alternative will provide opportunities to create sustainable, inclusive and mixed communities.</li> <li>Alternative will generate employment opportunities, some of which will benefit communities within the region.</li> <li>Alternative will facilitate long term investment in key regional sectors and specific localities.</li> </ul>
0	No (neutral effects)	<ul style="list-style-type: none"> <li>Alternative will not affect the current rate of housing supply within the region.</li> <li>Alternative will not affect the provision of opportunities to create sustainable, inclusive and mixed communities.</li> <li>Alternative will not affect the creation of employment opportunities within the region.</li> <li>Alternative will not affect long term investment in key regional sectors and specific localities.</li> </ul>
-	Negative	<ul style="list-style-type: none"> <li>Alternative will lead to a decrease in housing supply below the current completion rate in the region, affecting the choice of homes for communities.</li> <li>Alternative will reduce opportunities to create sustainable, inclusive and mixed communities.</li> <li>Alternative will lead to a minor increase in unemployment.</li> <li>Alternative will reduce the resilience and diversity of the regional and local economy.</li> <li>Alternative will reduce the long term investment in key regional sectors and specific localities.</li> </ul>
--	Significant negative	<ul style="list-style-type: none"> <li>Alternative will lead to a significant decrease in housing supply below the current completion rate in the region, affecting the choice of homes for communities.</li> <li>Alternative will significantly reduce opportunities to create sustainable, inclusive and mixed communities.</li> <li>Alternative will lead to a significant sustained increase in regional unemployment and worklessness.</li> <li>Alternative will significantly reduce the resilience and diversity of the regional and local economy</li> <li>Alternative will significantly reduce the long term investment in key regional sectors and specific localities.</li> </ul>
?	Uncertain	<ul style="list-style-type: none"> <li>From the level of information available the impact that the alternative would have on this objective is uncertain.</li> </ul>

### 2.7 Assessment of Significant Effects of Retention, Revocation and Partial Revocation

**Table 2.4** summarises the significant effects identified in the detailed assessment of the North West of England Plan policies against the population topic.

## Appendix E: SEA for the Revocation of the North West Regional Strategy

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**Table 2.4 Significant Effects against the Population Topic**

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy DP 1 - Spatial Principles Retention	++	++	++	<p>This high level policy seeks to promote environmental quality, and ensure that the best use is made of existing resources and infrastructure, resulting in significant social and economic benefits. The policy states that the principles listed may be appropriate to development management, and they are therefore capable of being taken into consideration by local planning authorities immediately.</p> <p>The RES is structured around a number of themes which are concerned with the protection and enhancement of the environment. As such they represent a broad approach to sustainable development similar to that represented by Policy DP1.</p>
Policy DP 1 - Spatial Principles Revocation	++	++	++	Sustainable development is the overarching principle behind the NPPF, which is also a material consideration for development management. As such the effects of revocation are considered to be the same as for retention.
Policy DP 2 – Promote Sustainable Communities Retention	+	+	++	<p>Policy DP2 sets out a series of principles for the promotion of sustainable communities, which include taking into account the economic, environmental, social and cultural implications of development, and improving the built and natural environment. DP2 states that building sustainable communities is a regional priority in both urban and rural areas. DP2 brings immediate social and economic benefits which become significant in the medium to long term.</p> <p>The RES supports this by seeking to set Housing Market Renewal (HMR) within a strong economic context and ensure key strategies &amp; investment plans align with HMR priorities.</p> <p>The NPPF provides strong support for sustainable development, and there are considered to be no differences between the implications of retention or revocation.</p>
Policy DP 2 – Promote Sustainable Communities Revocation	+	+	++	
Policy DP 3 - Promote Sustainable Economic Development Retention	0	+	++	<p>DP3 aims to support economic growth and reduce inequalities, including environmental inequality. Once this principle is established in plans economic and social benefits will accrue in the medium term and become significant in the long term.</p> <p>The RES Vision also supports a sustainable economy supporting the development of skills, delivery of intensive support for those groups with low employment rates and developing job brokerage to link employers with vacancies and workless individuals.</p>
Policy DP 3 - Promote Sustainable Economic Development Revocation	0	+	++	The overarching principles of the NPPF include that 'every effort should be made objectively to identify and then meet the housing, business and other development needs of an area'. This should lead to social and economic benefits, again in the medium to long term; therefore the assessment for revocation is as for retention.

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Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy DP4,5,6 Retention	+	++	++	<p>Policies DP4, DP5 and DP6 are closely related, and together underpin the broad spatial goals of the RS.</p> <p>DP policies are supported by the RES which seeks to maximise the use of existing infrastructure, promoting increased use of public transport and reducing peak traffic volumes. With regard to marrying opportunity and need it seeks under Action 52 to encourage employment creation in or near deprived areas.</p> <p>The linking of areas of economic opportunity with areas in greatest need of regeneration also brings economic and social benefits to residents. Effects in the short term are less significant, as it depends greatly on plans being in place which reflect the policies in the Regional Strategy.</p>
Policy DP4,5,6 Revocation	0	+	+	<p>Revoking the Regional Strategy will enable local authorities to work together, in accordance with the statutory duty to co-operate the Localism Act 2011, to determine their own strategic development needs. As part of this, authorities will need to assess available evidence to determine what those priorities should be, including the evidence base underpinning the regional strategy. The NPPF requires authorities to assess and plan for meeting their needs, and it is therefore reasonable to assume that the level of development will be broadly similar. This will take some time, making it likely that the benefits of a strategic approach will take longer to come through.</p>
Policy DP 7 - Promote Environmental Quality Retention	+	++	++	<p>DP7 sets out a range of measures by which environmental quality should be protected and enhanced, including promoting policies relating to green infrastructure and the greening of towns and cities, and maximising opportunities for the regeneration of derelict or dilapidated areas. This is likely to have social benefits which become significant in the medium and long term.</p> <p>The RES recognises the importance of a high quality environment to the economy. Under its 'Conditions for Sustainable Growth' it aims to invest in quality public realm, greenspace and environmental quality (Action 119).</p>
Policy DP 7 - Promote Environmental Quality Revocation	+	+	++	<p>Section 11 of the NPPF provides policies aiming to protect and enhance. It is reasonable to assume the local authorities, when assessing and addressing the needs of their areas, will seek to maximise opportunities for regeneration.</p>
Policy DP 9 - Reduce Emissions and Adapt to Climate Change Retention	+	++	++	<p>DP9 seeks reductions in carbon emissions as an urgent regional priority. Effective adaptation to the likely environmental, social and economic impacts of climate change is a key element of this policy. The strength of this policy is likely to result in immediate benefits.</p> <p>The RES recognises also the threats posed by climate change and supports under Action 24 the development and implementation of a regional Climate Change Action Plan.</p>
Policy DP 9 - Reduce Emissions and Adapt to Climate Change Revocation	+	++	++	<p>The NPPF also contains requirements which provide a strong framework for the mitigation of, and adaptation to, climate change impacts which, by addressing the most serious potential climate change effects, could bring about significant social and economic benefits to population if implemented by local authorities in the region.</p>

## Appendix E: SEA for the Revocation of the North West Regional Strategy

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy RDF 1 - Spatial Priorities Retention	+	++	++	<p>The regional spatial priorities for development are to concentrate development within the regional centres of Manchester and Liverpool, followed by second, third and fourth tier centres. This concentration approach to development ensures that benefits are placed in those locations most accessible to the greater number of people.</p> <p>The RES recognises the importance of the regional centres specifically under Action 54 which seeks to capitalise on the strengths and assets of Manchester, Liverpool and Preston as drivers of city-regional growth. It also supports complementary development in other centres relevant to this policy.</p>
Policy RDF 1 - Spatial Priorities Revocation	+	+	+	<p>The NPPF states that local planning authorities should support local business sectors and identify priority areas for economic regeneration, infrastructure provision and environmental enhancement (paragraph 21). Often the locations chosen as appropriate will correspond with the region's main centres - the Manchester Strategy recognises the importance of the City Centre for example. Effects are therefore considered to be similar but slightly less significant based upon the lack of explicit direction contained within the NPPF.</p>
Policy RDF 2 - Rural Areas Retention	0	+	++	<p>Policy RDF2 sets out the North West of England Plan priorities for rural areas, including supporting sustainable farming and ensuring fair access to services for rural communities. It aims to concentrate rural development around key service centres and local service centres. In remoter rural areas more innovative and flexible solutions should be implemented, to achieve more equitable access to housing, services, education, healthcare and employment and a more diverse economic base. The benefits of retaining this policy are significant in respect of population by improving the economic potential of rural areas and improving access to affordable housing and key services.</p> <p>The RES seeks to ensure that business start-up and survival provision is targeted certain under-performing sectors, including businesses in the rural economy, and provides support to the Regional Rural Delivery Framework. The Lake District Economic Futures Policy Statement is also to be implemented under Action 114.</p>
Policy RDF 2 - Rural Areas Revocation	0	+	++	<p>The NPPF provides guidance on rural economic development, and on the provision of housing in rural areas supporting sustainable development whilst protecting against inappropriate development. It will be for local authorities, based on an assessment of need in their areas, and working together where appropriate; to determine how the particular needs of their rural communities should be supported. This is likely to result in more land being used for development than would have been the case if RDF2 were retained, with economic and social benefits to population.</p>

## Appendix E: SEA for the Revocation of the North West Regional Strategy

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy RDF 3 - The Coast Retention	0	+	++	<p>Policy RDF3 sets out the non-spatial priorities to enhance the economic importance of the coast and the regeneration of coastal communities. Policies aimed at enhancing the economy and regenerating the developed coast with a particular view to attracting inward investment and tourism are likely to lead to economic and social benefits to the population.</p> <p>The RES provides indirect support to this policy through actions to grow the Port of Liverpool and support for coastal towns, which would support economic diversification. The RES also supports the tourism offer of the coast and in references regional parks which include the north west coastline.</p>
Policy RDF 3 - The Coast Revocation	0	+	+	<p>Paragraph 14 of the NPPF requires local authorities to assess and address the development needs of their areas, and this will necessarily apply to coastal areas as to any other. In addition the National Policy Statement for Ports sets out policy by which Port development should be taken forward.</p> <p>It is therefore reasonable to assume that a certain quantum of development will take place to improve economic performance and provide for additional homes as necessary. It is therefore reasonable to expect medium to long term social and economic benefits.</p>
Policy W 1 - Strengthening the Regional Economy Retention	0	+	++	<p>Policy W1 sets out the key priorities for strengthening the economy of the North West region, including supporting the diversification and development of the rural economy. Prospects for growth in tourism, food and energy sectors should be developed. Benefits accrue to population from economic diversification and growth, as well as enhanced skills.</p> <p>The policy is supported by a range of RES Actions which include the development of higher value added sectors within the regional economy examples including biomedical, advanced engineering and tourism under RES Actions 8-10. Other Actions include the implementation of the North West Science Strategy with its support for science clusters.</p>
Policy W 1 - Strengthening the Regional Economy Revocation	0	+	++	<p>The NPPF places significant weight on the need to support economic growth through the planning system, and there is a statutory duty for local authorities to co-operate to determine their strategic priorities. This, combined with the emphasis placed by the NPPF on supporting economic growth and identifying areas for economic regeneration, makes it unlikely that the revocation of this policy will have a significantly different effect from retention.</p>
Policy W 2 - Locations for Regionally Significant Economic Development Retention	++	++	++	<p>The thrust of policy W2 is that development should be located so as to maximise existing transport links and reduce the need for additional travel. Locating development sites close to areas of worklessness or in need of regeneration should bring about social and economic improvements for residents of those areas. Significant development has taken place in the major urban centres since the adoption of the RS hence benefits are considered significantly positive for population over the whole timeframe.</p> <p>The RES also supports the delivery of designated Strategic Regional Sites (Action 80). These sites provide a portfolio of opportunities to support knowledge-based growth, key sectors, sustainable freight distribution and economic restructuring.</p>
Policy W 2 - Locations for Regionally Significant Economic Development Revocation	+	+	+	<p>The NPPF provides high level policy support for the aims of W3. One of the core planning principles set out in paragraph 17 of the NPPF is that patterns of growth should be actively managed to make the fullest possible use of public transport, walking and cycling, and focus significant development in locations which are or can be made sustainable. The NPPF continues to support town centres as the heart of communities. It is reasonable to assume that, fully implemented; these policies will have a similar profile of impacts to W2, though to a lesser degree.</p>

## Appendix E: SEA for the Revocation of the North West Regional Strategy

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy W 3 - Supply of Employment Land	+	++	++	W3 aims to secure the supply of employment land, for significant economic development up to 2021. W4 sets out the principles guiding the release of allocated employment sites for other uses, in particular housing and retail development. The commercial (and other) growth envisaged is likely to bring economic benefits which become significant in the medium and long terms.
Policy W 4 - Release of Allocated Employment Land Retention	+	++	++	RES Actions 81 and 82 require the identification of reserve sites for major investment that would not otherwise take place in the North West together with the development of a portfolio of sub-regionally important employment sites.
Policy W 3 - Supply of Employment Land Policy W 4 - Release of Allocated Employment Land Revocation	?	+	++	The NPPF provides high level policy support for the identification of sites to meet the local authority's economic vision for an area. The NPPF also encourages the regular review of strategic site allocation, and re-allocation where there is no reasonable prospect of a site being used for the allocated employment use. The high level nature of the policy is likely to result in similar benefits as for retention, but it may take some time for local authorities to adjust to and implement new policy, and benefits may therefore take longer to come forward.
Policy W 5 - Retail Development Retention	+	+	++	Policy W5 promotes retail investment where this assists the regeneration and economic growth of the North West's towns and city centres. The policy seeks to restrict major new retail development to those cities and towns which are identified in the policy as regional centres and major town centres. A key purpose of the policy is to ensure that the retail sector is an important driver of the regional economy. Economic benefits are likely to arise immediately, becoming significant in the long term.  RES Action 54 supports this by seeking to capitalise on the strengths and assets of Manchester, Liverpool and Preston.
Policy W 5 - Retail Development Revocation	0	+	++	The NPPF also promotes economic development - paragraph 23 of the NPPF seeks to promote competitive town centres. Significant economic benefits are likely in the long term, though short term impacts are unlikely as local authorities adjust to new policy.
Policy W 6 - Tourism and the Visitor Economy Policy W 7 - Principles for Tourism Development Retention	+	+	++	Policy W6 seeks to strengthen the tourism economy in the North West, W7 sets out the principles for improving the tourism offer in the North West in a sustainable manner. Job creation across the region, and the regeneration of Blackpool and the coast are likely to be beneficial to the population, significantly so in the longer term.  The RES supports this by seeking to develop growth and innovation in the tourism sector through the continued implementation of the Regional Tourism Strategy. Specific actions include improvements to the product associated with tourism 'attack brands' and 'signature projects', the development of Southport as a "Classic Resort".
Policy W 6 - Tourism and the Visitor Economy Policy W 7 - Principles for Tourism Development Revocation	0	+	++	The NPPF also contains policy supporting sustainable rural tourism and leisure developments of benefit to rural areas which respect the character of the countryside. It can be assumed some further development of further tourist facilities would arise, bringing some economic benefits to population.

## Appendix E: SEA for the Revocation of the North West Regional Strategy

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy L 1 - Health, Sport, Recreation, Cultural and Education Services Provision Retention	++	++	++	<p>Policy L1 sets out principles for ensuring appropriate provision of health, cultural, recreational, sport, education and training provision for all members of the community, improving access and addressing spatial disparities in services/facilities provision, leading to significant social benefits by ensuring equal access to high quality services for all members of communities.</p> <p>The policy is complemented by the RES which includes actions to develop intermediate and higher level skills and linkages to workless people. It is considered within the RES that this will also ease recruitment and congestion, as employers are currently recruiting from ever greater distances.</p>
Policy L 1 - Health, Sport, Recreation, Cultural and Education Services Provision Revocation	++	++	++	<p>The final core planning principle of the NPPF is that plans should take account of and support local strategies to improve health, social and cultural wellbeing for all, and deliver sufficient community and cultural facilities and services to meet local needs. The NPPF supports community involvement in planning decisions, and provides protection for existing open space, sports and recreational buildings and land. It is concluded that, properly implemented, the policies in the NPPF match the objectives of policy L1.</p>
Policy L 2 - Understanding Housing Markets Policy L 3 - Existing Housing Stock and Housing Renewal Retention	++	++	++	<p>Policy L2 requires local authorities to develop an understanding of local and sub-regional housing markets by undertaking strategic housing market assessments.</p> <p>Policy L3 identifies a number of areas in need of housing market regeneration as part of a wider aim to regenerate local communities. Significant benefits are likely to arise to population in terms of improvements to health, social and economic conditions.</p> <p>The RES provides significant support towards regeneration in areas of housing market failure by seeking to set renewal within a strong economic context. Complementary Actions such as 52 - to encourage employment creation in or near deprived areas - are also supportive.</p>
Policy L 2 - Understanding Housing Markets Policy L 3 - Existing Housing Stock and Housing Renewal Revocation	+	+	++	<p>The NPPF requires local authorities to prepare Strategic Housing Market Assessments to identify local housing needs, and then to ensure that their Local Plan meets the full, objectively assessed needs for market and affordable housing in the housing market area. This dovetails with the overarching principle in paragraph 17 which states that every effort should be made objectively to identify and then meet the housing, business and other development needs of an area. It is therefore reasonable, to expect benefits to population which are similar to retention. However, it is likely to take local authorities some time to respond to the policies in the NPPF, and the effects of development may take longer to arise.</p>
Policy L 4 - Regional Housing Provision Policy L 5 - Affordable Housing Retention	+	++	++	<p>Policy L4 outlines the proposed housing provision for the region for 2003-2021, with a target over the plan period of additional housing provision of 416,000 over the plan period 2003-2021. The increased provision of high quality housing, including additional affordable housing as set out in policy L5, is likely to lead to significantly positive economic and social effects on the population and human health in the medium to long term.</p> <p>RES actions 85 and 86 seek to ensure that new housing provision is in locations which support wider regeneration or knowledge based economic growth, reflecting the considerable amount of housing identified by North West of England Plan policy to Manchester in particular. Policy L5 is supported by RES Action 86 which is to secure housing which is affordable to local people, in key locations, where this is critical to future growth prospects identifying in particular in areas of high economic growth such as South Manchester and Cheshire/Warrington.</p>

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Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy L 4 - Regional Housing Provision Policy L 5 - Affordable Housing Revocation	?	?	++	Paragraph 47 of the NPPF states that to boost significantly the supply of housing, local planning authorities should use their evidence base to ensure that their Local Plan meets the full, objectively assessed needs for market and affordable housing in the housing market area, as far as is consistent with the policies set out in the Framework, including identifying key sites which are critical to the delivery of the housing strategy over the plan period. The revocation of policy L4 does not, therefore, remove either the need for more homes, or the requirement for this need should be assessed and met. Significant benefits to population are therefore expected to arise, though some uncertainty in the wake of revocation of L4 and L5 makes it difficult to assess what the effect will be in the short to medium term.
Policy EM 3 - Green Infrastructure Retention	0	+	++	This is a high level policy setting out how green infrastructure should be planned for and actively preserved, enhanced and increased. Embedding the policy in local plans is likely to bring about a number of benefits in the medium to long term - the provision of new and more accessible open space is expected to result in social and health benefits to people which become significant in the longer term.  EM3 is supported by RES Action 117 which recognises that it is important to nurture the natural resources of the region and to develop a strategy for green infrastructure and transport corridors.
Policy EM 3 - Green Infrastructure Revocation	0	+	++	Paragraph 114 of the NPPF states that local planning authorities should plan positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure, and this is built on in more details in paragraphs 117 and 118. Paragraph 99 of the NPPF notes that the creation of green infrastructure could be a suitable adaptation measure where new development is brought forward in an area which is vulnerable to the range of impacts arising from climate change. Similar benefits to retention are likely.
Policy EM 5 - Integrated Water Management Retention	+	+	++	Policy EM5 outlines the roles of local authorities, the Environment Agency and water companies in meeting the requirements of the Water Framework Directive. Appropriate mitigation measures should be designed into any development which must take place in current or future flood risk areas, and new development should take advantage of sustainable drainage systems and water conservation and efficiency measures, with retrofitting of these encouraged for existing development. Mitigation measures will protect population for adverse impacts of flooding.  RES Action 122 seeks to protect existing areas of high economic value from flooding, to appropriate standards, whilst Action 90 seeks to ensure forward planning and investment for sustainable growth by the utilities companies and the planning system recognising that utility infrastructure could be a constraint on growth without appropriate planning and investment.
Policy EM 5 - Integrated Water Management Revocation	+	+	++	Broadly speaking, EM5 incorporates the requirements of the Water Framework Directive; the sequential test originally set out in PPS25 and now incorporated into the NPPF, and the Floods and Water Management Act 2010. The policy on phasing of development where necessary is judged to be a straightforward solution to problems that can arise where development is brought forward in areas of flood risk, and its revocation, and the revocation of EM5 more generally, is therefore unlikely to have any effect protecting population from the effects of flooding and ensuring adequate water supply in the longer term.
Policy EM 6 - Managing the North West's Coastline Retention	0	+	+	Policy EM6 promotes a strategic and integrated approach to the long term management of flood and coastal erosion. Benefits to population arise through the siting or re-siting of development to avoid the risk of future loss, unsustainable defence costs or damage to existing defences.

## Appendix E: SEA for the Revocation of the North West Regional Strategy

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy EM 6 - Managing the North West's Coastline Revocation	0	+	++	<p>Paragraph 105 of the NPPF states that local authorities should take account of the UK Marine Policy Statement and marine plans, and apply Integrated Coastal Zone Management. Paragraph 106 states that local planning authorities should avoid inappropriate development in vulnerable areas or adding to the impacts of physical changes to the coast, and should identify as a Coastal Change Management Area any area likely to be affected by physical changes to the coast. The new provision outlined in the Marine and Coastal Access Act 2009 for a continuous signed and managed route around the coastline is likely to lead to significant benefits to population and human health in the long term as access to the coast is improved.</p>
Policy EM 16 – Energy Conservation & Efficiency Retention	+	+	++	<p>EM16 sets out a high level approach to energy, based on minimising consumption and demand, promoting maximum efficiency and minimum waste. This policy is only partly deliverable through the Planning system. However, the encouragement to local authorities to plan for network upgrades and actively support national policy is likely to deliver economic benefits which become significant in the longer term.</p> <p>The RES seeks to undertake cluster programmes in priority sectors to develop higher value activity, improve productivity and identify future growth opportunities from converging markets/technologies, including energy and Environmental Technologies. RES Action 91 also supports the promotion of energy efficiency.</p>
Policy EM 16 – Energy Conservation & Efficiency Revocation	+	+	++	<p>Paragraph 95 of the NPPF states that local planning authorities should plan for new development in locations and ways which reduce greenhouse gas emissions, actively support energy efficiency improvements to existing buildings. Paragraph 96 states that, in determining planning applications, local planning authorities should expect new development to take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption. These policies are likely to provide similar economic benefits to EM16.</p>
EM17 Renewable Energy Retention	+	+	++	<p>EM17 expands on the targets for renewable energy outlined in policy EM15, for at least 10% of the electricity which is supplied within the Region to be provided from renewable energy sources by 2010, rising to at least 15% by 2015 and 20% by 2020. This will have positive benefits for population through improving the nation's security of supply and combating climate change.</p>
EM17 Renewable Energy Revocation	+	+	++	<p>The effects of revoking EM17 are broadly similar to the effects of revoking EM15, as set out above. The NPPF sets out detailed policies in support of the move to a low carbon future, which are supported by targets for renewables and carbon reductions deriving from EU and UK legislation. The revocation of EM17 and its higher target for renewables provision over and above the national 15% target for 2020 would probably have an impact upon the significance of the amount of renewable energy to be provided.</p>
RT2 Managing Travel demand Retention	+	+	++	<p>There is an emphasis on improving and promoting the use of public transport and walking and cycling which should support access to services and facilities.</p> <p>The relevant RES Theme sets out to improve and better manage road and rail infrastructure. Specific infrastructure projects supported by the RES include rail, light rail and bus enhancements together with limited road improvements in support of key gateways such as the Port of Heysham, improved access into Liverpool and better links between Barrow and the Furness peninsular.</p>
RT2 Managing Travel demand Revocation	+	+	++	<p>Whilst the NPPF advocates sustainable modes of transport, it recognises that different solutions will be required for different areas. It does not explicitly emphasise reducing the number of car journeys (and instead talks about meeting travel demand) but it does encourage developments to be planned so that they promote public transport use, walking and cycling so it could be assumed that demand is to be met in sustainable ways (paragraphs 35, 38).</p>

## Appendix E: SEA for the Revocation of the North West Regional Strategy

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
RT 3: Public Transport Framework Retention	++	++	++	<p>The policy aims to make the best use of existing public transportation resources. The policy identifies a requirement to enhance walking and cycling in regional centres and to improve accessibility from rural areas into key settlements by public transport. This is considered to be significantly positive for population.</p> <p>The RES lists some public transport improvements such as the continued upgrade of the West Coast Mainline (complete) and provides support for under Action 69 to enhance public transport services between Liverpool/Manchester/Central Lancashire/Leeds/Sheffield.</p>
RT 3: Public Transport Framework Revocation	++	++	++	<p>One of the core planning principles of the NPPF set out in paragraph 17 of the NPPF that patterns of growth should be actively managed to make the fullest possible use of public transport, walking and cycling. This, alongside support in the NPPF for sustainable transport modes to be preferred, is likely to result in similar benefits to population as with retention of Rt3.</p>
Integrated RT4: Management of the Highway Network Retention	+	++	++	<p>The policy recognises the importance of the region's road network and encourages local highway authorities and the Highways Agency to co-operate in the preparation of Route Management Plans. Traffic congestion is identified in the Strategy as a significant barrier to economic growth, and addressing congestion is likely to result in significant economic benefits.</p>
Integrated RT4: Management of the Highway Network Revocation	+	+	++	<p>Support for the reduction in the need to travel and reduction in congestion is to be found in paragraph 30 of the NPPF, but its higher level nature may mean that significant benefits take longer to come forward.</p>
RT 8: Inter-Modal Freight Terminals Retention	0	+	++	<p>This policy encourages plans and strategies to identify sites for inter-modal freight terminals, with positive effects in that it seeks to facilitate the movement of freight by rail and/or water. Benefits in terms of population are economic, stemming from the more efficient movement of goods.</p>
RT 8: Inter-Modal Freight Terminals Revocation	0	0	+	<p>Revoking the policy may remove a strategic level of policy that would otherwise have been provided by local authorities when developing sub-regional freight strategies. However, the RS policy requirement to work with operators is reflected by the national interchange policy guidance listed above. Overall it is concluded that should there be demand, interchange facilities will still come forward bringing with them the benefits and disbenefits listed for the retention alternative albeit at a potential slower timeframe.</p>
RT 9: Walking and Cycling Retention	+	++	++	<p>This policy has significant benefits for human health and the environment as it both seeks to develop integrated networks of continuous, attractive and safe walking and cycling routes, linking, in particular, residential areas, and places of employment and schools and leisure facilities. Dedicated cycleways can also act as ecological corridors as part of a wider green infrastructure programme. Providing that these paths can be built quickly, the benefits could start to be realised quickly.</p>
RT 9: Walking and Cycling Revocation	+	++	++	<p>The NPPF also strongly encourages sustainable modes of transport giving priority to pedestrian and cycle movements. It also encourages the linking of residential areas and key facilities such as schools and shops. It is therefore concluded that the revocation of RT 9 is likely to maintain the positive effects associated with the retention of RT9.</p>

## Appendix E: SEA for the Revocation of the North West Regional Strategy

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy MCR1 – Manchester City Region Priorities Retention	+	++	++	<p>MCR1 sets out the high level policy for the Manchester city region. It is aimed at achieving a significant improvement in the economic performance of the Manchester city region by encouraging investment and sustainable development in the Regional Centre, surrounding inner areas, the towns/cities and accessible suburban centres. The development envisaged by MCR1 is likely to lead to benefits to population through economic growth and improvements to homes and transport networks.</p> <p>The RES recognises the importance of Manchester which, together with Liverpool is considered to be the economic driver for the region. Reference is made to projects which would improve accessibility into the city and improve connections to other parts of the region and beyond.</p>
Policy MCR1 – Manchester City Region Priorities Revocation	+	+	++	<p>The Manchester Core Strategy is likely to be adopted shortly. The Core Strategy was drawn up in the context of the Regional Strategy, and envisages housing delivery similar to that set out in the regional Strategy. Impacts of revocation are therefore likely to be similar to those for retention.</p>
Policy MCR2 – Regional Centre and Inner Areas of Manchester City Region Retention	++	++	++	<p>MCR2 seeks to ensure that the Regional Centre of the Manchester City Region continues to develop as the primary economic driver, providing the main focus for business, retail, leisure, cultural and tourism development in the City Region, alongside the regeneration of the Inner Areas. The development envisaged by MCR2 is likely to have significant social and economic benefits.</p> <p>The RES supports this policy through a number of actions: 54, a key driver to economic growth, 79, to link areas of need with opportunity, 83, development of workspace in areas of deprivation and Housing Market renewal areas, 84 re-use of brownfield land and 87, setting HMR within the context of a strong economy. The RES supports also growth and innovation in the tourism sector through the continued implementation of the Regional Tourism Strategy.</p>
Policy MCR2 – Regional Centre and Inner Areas of Manchester City Region Revocation	+	++	++	<p>The Manchester Core Strategy meets the objectives of MCR2, implementing the vision of the Regional Centre as the focus for economic and commercial development, retail, leisure and cultural activity, alongside high quality city living. The majority of new residential development will be in the Inner Areas. Core Strategy Strategic Objective 3 seeks a significant increase in high quality housing provision at sustainable locations throughout the City, to both address demographic needs and to support economic growth. Again, significant benefits to population are likely to arise although in the absence of an adopted core strategy for Salford, they may be delayed slightly.</p>
Policy MCR3 – Southern Part of the Manchester City Region Retention	+	++	++	<p>MCR3 pulls together a number of policies in the Regional Strategy including support for residential development that supports local regeneration strategies and meets identified local needs, and support for the diversifying the rural economy and improving access to services in the rural areas. Significant social and economic benefits are likely to arise.</p> <p>In addition to policies in the RES supporting the economic importance of Manchester, this policy is also supported by actions such as 118 which seek to support sustainable agriculture in rural areas.</p>
Policy MCR3 – Southern Part of the Manchester City Region Revocation	+	+	++	<p>Stockport has an adopted Core Strategy (2011) which reflects the policies of the North West. However, in view of the current policy status of plans in Salford and east Cheshire it is concluded that the benefits of revocation ascribed under population may take slightly longer to deliver than under the RS policy framework.</p>

## Appendix E: SEA for the Revocation of the North West Regional Strategy

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy MCR4 – South Cheshire Retention	+	++	++	<p>MCR4 pulls together policies affecting Crewe and its surrounding area, seeking to, promote the role of Crewe as a regional public transport gateway/interchange to the region, and provide for its regeneration. MCR4 also seeks to protect and enhance the historic environment of Nantwich and outlines the need to support and diversify the rural economy and improve access to services in the rural areas. Significant economic and social benefits are likely to arise.</p> <p>The RES supports development at Crewe, which forms part of its vision for the north west which is to ensure that Growth opportunities around Crewe, Chester, Warrington, Lancaster and Carlisle are fully developed. The RES sets out a number of Actions some of which overlap with other sub-regions, in order to deliver this objective.</p>
Policy MCR4 – South Cheshire Revocation	0	+	++	<p>The NPPF provides clear support for the types of development envisaged by MCR4. Paragraph 17 states that every effort should be made objectively to identify and then meet the housing, business and other development needs of an area. It is therefore assumed that where an assessment of needs supports the need for development (whether residential, commercial, or transport) in Crewe and other parts of Cheshire, this is likely to be reflected in local plans. It is likely that in the absence of the strategic direction provided by both the Regional Strategy and an up to date Core Strategy that revocation of MCR4 is likely to result in a similar pattern of development to its retention, but with the impacts arising more slowly.</p>
Policy MCR5 – Northern Part of the Manchester City Region Retention	+	++	++	<p>MCR5 seeks to set out high level strategy for economic growth and regeneration this sub-region, encouraging appropriate sites to be brought forward for commercial and housing development. New housing should be matched by economic development in order to avoid any dramatic rise in the need to travel to work. The main impacts arising from MCR5 result from new commercial and residential development. The, high quality, well designed development is likely to result in economic and health benefits to residents.</p> <p>The RES supports Policy MCR5 through Actions which support economic development in areas suffering deprivation, including HMRs (Actions 52 and 53) development of Metrolink (Action 77) investing in quality business accommodation in HMRs (Action 83) and in reducing areas of housing market failure (Action 87).</p>
Policy MCR5 – Northern Part of the Manchester City Region Revocation	+	+	++	<p>Paragraph 17 of the NPPF sets out an expectation that that every effort should be made objectively to identify and then meet the housing, business and other development needs of an area. This, together with the duty to co-operate and the co-operation of authorities through the Greater Manchester LEP mean that the development envisaged by MCR5 is likely to come forward, though possibly in a longer timeframe given that the local authorities concerned are in different stages of core strategy preparation, with only two of the six with adopted strategies.</p>
Policy MCR6 – Strategic Framework for Warrington Retention	+	++	++	<p>MCR6 aims to support sustainable economic growth in Warrington and its role as a source of employment for an area. MCR6 also supports the regeneration and restructuring of the older urban areas, supports Warrington's role as a regional transport gateway/interchange, and aims to support and diversify the rural economy and improve access to services in the rural areas. Economic growth and regeneration is likely to bring about significant economic and social benefits in the medium to long term.</p> <p>The policy is supported by the RES vision for the sub-region which is to deliver growth opportunities in certain centres including Warrington. Actions include managing demand on the Chester/Warrington motorway network, exploiting the science base (Daresbury) and improving environmental quality.</p>

## Appendix E: SEA for the Revocation of the North West Regional Strategy

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy MCR6 – Strategic Framework for Warrington Revocation	0	+	++	The NPPF states that every effort should be made objectively to identify and then meet the housing, business and other development needs of an area, and also contains strong policies supporting economic and housing growth and regeneration. The implementation of these policies, especially in the context of the Greater Manchester LEP, makes it unlikely that development coming forward in Warrington will be significantly different from that envisaged by MCR6. The profile of impacts is therefore similar. In the absence of the strategic direction provided by the Regional Strategy new development may take longer to be delivered.
Policy LCR1 – Liverpool City Region Priorities Retention	+	++	++	<p>LCR1 sets out high level policy seeking a significant improvement in the sub-region's economic performance by encouraging investment and sustainable development in the Regional Centre, surrounding inner areas, and other towns and other areas. Significant numbers of additional homes are anticipated, as are improvements in public transport and transport links between disadvantaged areas and key employment, education and healthcare locations should be improved. More high quality homes, together with regeneration and economic development are likely to bring about significant benefits to residents.</p> <p>The policy is supported by the RES Vision and Actions. The Vision states that Manchester and Liverpool are vibrant European cities and, with Preston, are key drivers of city regional growth. Actions include building on the strengths of cities as drivers of regional growth (Action 54), improving the product associated with key tourism assets (Action 101) encouraging employment in deprived areas (Action 52) providing intensive support for areas with low employment rates (Actions 43, 44), improving road access to Liverpool City Centre (Action 63) and ensuring that new housing supports regeneration (Action 83).</p>
Policy LCR1 – Liverpool City Region Priorities Revocation	0	+	++	As set out above, the expectation in the NPPF that needs should be identified and addressed mean that the development envisaged by LCR1 is likely to come forward if the policy itself is revoked, though possible in a longer timeframe given that none of the authorities have adopted core strategies, delaying benefits slightly.
Policy LCR2 – The Regional Centre and Inner Areas of Liverpool City Region Retention	+	++	++	<p>LCR2 seeks to support the role of the Regional Centre as the primary economic driver of City Region, with appropriate commercial, retail, leisure, cultural and tourism development supported. Mixed use schemes are envisaged in the regional Centre, with a particular focus on residential development in the Inner Areas adjacent to the Regional Centre to secure a significant increase in population and to support regeneration. Significant social and economic benefits are likely.</p> <p>The RES supports the Policy through a number of actions including those listed under LCR1 above. These include support for tourism (Action 101) and supporting knowledge transfer between business and higher education institutions such as the Liverpool Universities, (Action 13).</p>
Policy LCR2 – The Regional Centre and Inner Areas of Liverpool City Region Revocation	0	+	++	Liverpool City and Wirral do not yet have a core strategy in place. As for other sub-regional policies in the same position, the policy vacuum left by LCR2 is filled by policy set out in the NPPF, which sets out a high level expectation that that every effort should be made objectively to identify and then meet the housing, business and other development needs of an area. The development envisaged by LCR2 is likely to come forward, but in the absence of the strategic approach set out in LCR2, it may take longer for development to come forward.

## Appendix E: SEA for the Revocation of the North West Regional Strategy

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy LCR3 Outer Part of the Liverpool City Region  Policy LCR4 The remaining rural parts of the Liverpool City Region  Retention	+	++	++	Policy LCR3 supports economic development in town/cities as set out in RDF1 and at other locations which accord with policies DP1-9, W2, W3 and LCR1. These policies require that particular attention should be given to addressing the issue of worklessness. LCR4 provides similar support for economic development appropriate to rural areas. As such positive effects for population are identified.
Policy LCR3 Outer Part of the Liverpool City Region  Policy LCR4 The remaining rural parts of the Liverpool City Region  Revocation	0	+	++	The effects of revocation are likely to be the same as for retention but with the potential for delay whilst the Councils refocus following the abolition of HMR and the NWDA and review update evidence base leading to the preparation of their core strategies. None of the affected Council's have adopted Core Strategies in place.
Policy CLCR 1 – Central Lancashire City Region Priorities  Retention	+	++	++	Policy CLCR1 aims to focus investment and sustainable development in the City of Preston and 3 towns of Blackburn, Burnley and Blackpool. Significant economic and social benefits are likely.  The RES is supportive of economic regeneration in central Lancashire, and recognises that Preston is one of the three regional centres that drive economic growth in the region.  The expectation in paragraph 14 of the NPPF that Local Plans should meet objectively assessed needs, with sufficient flexibility to adapt to rapid change mean that the development envisaged by CLCR1 is likely to come forward if the policy itself is revoked. Some initial delay may be evident, however, as authorities adjust to the new policy.
Policy CLCR 1 – Central Lancashire City Region Priorities  Revocation	0	+	++	Without an NPPF policy direction for sustainable development to take place in major settlements (Preston, Blackburn, Burnley and Blackpool), there is a prospect that opportunities make come forward elsewhere. The Core Strategy for Blackburn locates the larger proportion of growth to the urban areas Blackpool however Core Strategies for Blackpool and Burnley are not close to adoption and, whilst it is likely that development would be promoted within urban areas of the authorities, it is uncertain whether it would be primarily directed to the towns of Blackpool and Burnley. The submission stage Core Strategy for Central Lancashire (Preston, South Ribble and Chorley) directs growth to the urban areas of Preston and South Ribble. Overall a level of economic development is likely to come forward, supported also by the Lancashire LEP, but the timeframe may be slower.
Policy CLCR 2 – Focus for Development and Investment in Central Lancashire City Region  Retention	0	++	++	CLCR2 provides that development in the Central Lancashire City Region will be located primarily in the city of Preston and the three towns of Blackburn, Blackpool and Burnley, giving priority to sites in and around their centres. Development should be pursued in a manner that addresses worklessness, enhances urban quality, and contributes to the enhancement of the natural setting of the city/towns. Significant social and economic benefits are likely to arise in the medium to long term.  The RES complements this strategy by seeking to target areas of economic opportunity to areas of economic need referencing improved transport links between East Lancs and Preston (Action 78). It also sets out to deliver innovative solutions to link people with jobs (Action 79). Support for the Blackpool Masterplan (Action 48) is also provided.

## Appendix E: SEA for the Revocation of the North West Regional Strategy

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy CLCR 2 – Focus for Development and Investment in Central Lancashire City Region Revocation	0	+	++	<p>The expectation in paragraph 14 of the NPPF that Local Plans should meet objectively assessed needs, with sufficient flexibility to adapt to rapid change mean that the development envisaged by CLCR2 is likely to come forward if the policy itself is revoked. Some initial delay may be evident; however, as authorities adjust to the new policy and the population benefits from economic development are felt.</p>
Policy CLN 1 – Overall Spatial Policy For Cumbria Retention	+	++	++	<p>The policy seeks to focus major development within key settlements, with appropriate support for lower order development in other areas. The policy also seeks to improve transport links within the sub-region and promotes improved accessibility by public transport to employment and education opportunities. Sustainable tourism and higher value knowledge based and specialist industry based employment is promoted. Social and economic benefits are likely to be evident immediately, increasing to significant in the medium and long term as the remaining core strategies come forward.</p> <p>The RES provides complementary support for the policy by supporting the development of the University of Cumbria (Action 38), encouraging employment (Action 52), the Lake District Economic Futures Policy Statement, and delivering plans that promote sustainable growth within and outside the LDNP (Action 89) enhancing road access to Barrow and the Furness peninsular (Action 68), and completing the West Coast Mainline upgrade in Cumbria (Action 70).</p>
Policy CLN 1 – Overall Spatial Policy For Cumbria Revocation	0	+	++	<p>The NPPF aims to build strong, competitive economies and is supportive of economic strengths, which is assumed to include the Cumbrian nuclear industry. The NPPF also supports a strong rural economy. The dispersed nature of development within the county and low density of population makes a different pattern of development unlikely. Benefits are therefore similar as for retention, though benefits may be subject to minor delay resulting from the policy gap for those authorities which do not have adopted core strategies. Support provided by the Cumbria LEP will be important in delivering significant effects.</p>
Policy CLN 2 – Sub-area Development Priorities For Cumbria Retention	+	++	++	<p>CNL2 supports sustainable growth in Cumbria, particularly regeneration in West Cumbria and Barrow, focussing upon existing skills in nuclear and ship building and meeting the needs of local people in south and east Cumbria. The policy builds upon work and projects previously commissioned by the different local authorities therefore reflecting local needs and aspirations. The focus of the policy is economic led- with the exception of south and east Cumbria, therefore there are significant positive benefits associated with population and health.</p> <p>RES provides a level of support listed under CLN1 but in addition promote the establishment of the National Nuclear Skills Academy (Action 27) and the development of a skilled workforce in rural areas to support diversification (Action 30).</p>
Policy CLN 2 – Sub-area Development Priorities For Cumbria Revocation	0	+	++	<p>CLN2 aims to support the regeneration priority areas for west Cumbria and Barrow. Though these have now been curtailed it is anticipated that local evidence and policy will continue to support similar initiatives. In the short to medium term at least economic benefits arising from the regeneration activities of this policy may be reduced whilst other sources of funding are identified and delivered. The establishment of the Cumbria LEP will be an important vehicle to deliver economic regeneration.</p>

## Appendix E: SEA for the Revocation of the North West Regional Strategy

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy CLN 3 – Spatial Policy for the Lake District Retention	+	++	++	<p>Policy requires that plans and strategies give priority to the protection of the landscape and cultural heritage of the Lake District whilst supporting the diversification of its economic base, supporting the provision of local needs housing, improving public transportation, managing traffic in tourism hotspots and promoting sustainable tourism and improvements to the public realm. The SA of this policy identified significant positive benefits to population (rural renaissance, affordable housing) and with a core strategy in place since 2010 these significant effects is likely to be in the medium and long term.</p> <p>The RES provides support to the Lake District both directly, for example the Lake District Economic Futures Policy Statement, and delivering plans that promote sustainable growth within and outside the LDNP (Action 89) and through indirect Actions for example that which encourages the provision of affordable housing that is available for local people (Action 86).</p>
Policy CLN 3 – Spatial Policy for the Lake District Revocation	+	++	++	<p>NPPF paragraph 115 requires that great weight should be given to conserving the landscape and scenic beauty of national parks. Furthermore it allows local authorities to develop policy based upon robust local evidence which would allow the Lake District National Park to continue to support policies aimed at promoting local needs and affordable housing. Because there is an adopted Core Strategy it is likely that the benefits of retention will remain in the event of its revocation.</p>
Policy CLN 4 – Spatial Policy for North Lancashire Retention	++	++	++	<p>The policy seeks to secure the regeneration of Morecambe, support sustainable growth in Lancashire, build on the strengths of Lancaster University, increase the supply of affordable housing, support the Port of Heysham and manage traffic in Lancaster and Morecambe. The SA of the North West of England Plan concluded that there would be positive economic (population) benefits arising from this policy, through support for tourism, raising the image of the area and recognition of the issue of affordable housing particularly in the rural areas.</p> <p>The RES sets out actions to improve the linkages between the Port of Heysham and the M6. It also recognises the importance of Lancaster University and seeks to develop plans to capitalise on ongoing private sector investment around Lancaster in addition to other towns in the region, (Action 55).</p>
Policy CLN 4 – Spatial Policy for North Lancashire Revocation	++	++	++	<p>The revocation of the RS is unlikely to result in any significant change in the effects identified for the retention option. The NPPF paragraph 28 provides policy support for rural sustainable tourism, whilst town centres are identified as appropriate for larger tourism attractions. Education within the NPPF is related more towards delivering sustainable provision to support residential development but support for the economy (of which establishments such as Lancaster University form a key part) is provided. The Lancaster Core Strategy is adopted.</p>

### 2.7.1 Effects of Revocation

The assessment indicates that no significant negative effects would arise as a result of the revocation of the Regional Strategy policies. In the main, the benefits to population arise as a result of economic development, regeneration of areas where this has been identified as necessary, and through improvements in the design of new homes and neighbourhoods. Revocation of the Regional Strategy would remove top down targets, such as for housing supply, enabling local authorities, working independently and collaboratively, to assess and plan to meet their own needs. However, particularly in certain sub-areas where a high proportion of local authorities have not yet adopted core strategies or up to date local plans, and are therefore relying more heavily on the Regional Strategy than those who have recently adopted core strategies, revocation may result in a short term lacuna as these local authorities adjust to the NPPF. This may lead to a short delay in the realisation of the benefits (and impacts) of arising from development upon the population.

### 2.7.2 Effects of Partial Revocation

The effects of partial revocation concern either

- Revoking all the quantified and spatially specific policies (for instance where a quantum of development, land for development or amounts of minerals to be extracted or waste disposal is allocated to a particular location in the region) and retaining for a transitional period the non spatial policies, ambitions and priorities; or
- Retaining for a transitional period all the spatially specific policies where a quantum of development or land for development is allocated to a particular location in the region and revoking the non spatial policies, ambitions and priorities; or
- Retaining for a transitional period policies, ambitions and/or priorities, the revocation of which may lead to likely significant negative environmental effects.

The assessment has indicated that there are no quantified or spatially specific policies where revocation would lead to a significant negative impact for population (considered separately from Human Health). Similarly revocation of the non spatial policies would result in no significant negative effect.

There are no Regional Strategy policies where revocation would lead to a likely significant negative effect upon the population receptor.

### 2.7.3 Effects of Retention

Assessment of the effects of retention of the Regional Strategy with regard to population are broadly similar to retention but for the reasons stated above, may come forward sooner given that many authorities are yet to develop up to date development plan policy and therefore continue to rely upon the RS.

## 2.8 Mitigation Measures

Because the assessment has not identified any significant effects of revocation, no mitigation measures are proposed.

## 3. Human Health

### 3.1 Introduction

The overview of plans and programmes and baseline information contained in this section provides the context for the assessment of potential effects of the proposals to revoke the regional strategies on human health. Information is presented for both national and regional levels.

There are links between the human health and wellbeing topic and other topics in the SEA, specifically air, climate change and material assets (waste management).

### 3.2 Summary of Plans and Programmes

#### 3.2.1 International

The World Health Organization (WHO)<sup>42</sup> states that “*health promotion goes beyond health care. It puts health on the agenda of policy makers in all sectors and at all levels*; consequently, healthy public policy has been a main goal of health development in many countries. The **Canadian Lalonde Report (1974)** identified four health fields independently responsible for individual health: environment, human biology, lifestyle and health care organisation.

The WHO **Children’s Environment and Health Action Plan for Europe (CEHAPE) (2004)** was launched in June 2004 and signed by all 53 Member States of the WHO European Region, including the UK. The aim of the CEHAPE is to protect the health of children and young people from environmental hazards.

The European Union has a Programme for Community action in the field of Health (2008-2013) and, on the 23/4R<sup>d</sup> October 2007 the Commission adopted a new overarching Health Strategy '**Together for Health - A Strategic Approach for the EU 2008-2013**'. Community Action focuses on tackling health determinants which are categorized as: personal behaviour and lifestyles; influences within communities which can sustain or damage health; living and working conditions and access to health services; and general socio-economic, cultural and environmental conditions.

The **SEA Directive** adopted in 2001 specifically requires the consideration of “*the likely significant effects on the environment, including on issues such as ..., human health, ...*” (European Parliament and the Council of the European Union, 2001). The SEA Protocol (United Nations Economic Commission for Europe, 2003) implements the political commitments made at the Third European Conference on Environment and Health and uses the term ‘environment and health’ throughout. It indicates that health authorities should be consulted at the different stages of the process and so goes further than the SEA Directive. Once ratified, it will require changes to the SEA Directive to require that health authorities are statutory consultees.

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<sup>42</sup>See the Ottawa Charter adopted at the First International Conference on Health Promotion in 1986..

The WHO publication ***Health Impact Assessment in Strategic Environmental Assessment (2001)*** provides a review of Health Impact Assessment concepts, methods and practice to support the development of a protocol on Strategic Environmental Assessment to the Espoo Convention, which adequately covers health impacts.

### 3.2.2 National

#### UK

Many of the national level policies and strategies regarding health are aimed at understanding the trends and nature of health issues within the country, understanding the links between health issues and other related factors (such as economic status, etc.), and, primarily, at reducing the inequalities in health outlooks that are evident between different parts of the country and different sections of the population. Whilst some applicable policies/strategies are contained within adopted strategies, many of the Government's objectives and intended actions are contained within White Papers and guidance papers.

The Health Protection Agency's Children's Environment and Health Action Plan, a summary of current activities which address children's environment and health issues in the UK (2007) applies the objectives of CEHAPe (2004) to the UK context and A Children's Environment and Health Strategy for the United Kingdom (2009) provides recommendations from the Health Protection Agency to the UK Government as to how it best can meet its commitment to the CEHAPe.

#### England

In England, the Department of Health is the government department responsible for public health issues. Its work includes setting national standards, shaping the direction of health and social care services and promoting healthier living.

The NHS White Paper, ***Equity and excellence: Liberating the NHS (2010)*** sets out the Government's long-term vision for the future of the NHS and consists of three mutually-reinforcing parts:

- putting patients at the heart of the NHS;
- focusing on improving outcomes; and
- empowering local organisations and professionals.

*Liberating the NHS: Legislative framework and next steps (2010)* is the Government's response to the consultation on the implementation of the White Paper and three further consultations: *Commissioning for patients (2010)*, *Local democratic legitimacy in health (2010)* and *Regulating healthcare providers (2010)*. In this document the Government's commitment to the White Paper reforms are reaffirmed and described in detail how developments in light of the consultation will be put into practice across the three parts identified in the white paper above.

The ***Health and Social Care Act 2012*** enacts the proposals set out in the White Paper and the subsequent rounds of consultation. The changes are designed to make the NHS more responsive, efficient and accountable, and capable of responding to future challenges. Key elements of the Act include: clinically led commissioning, service innovation, giving greater voice for patients, providing a new focus for public health, ensuring greater accountability and streamlining arms-length bodies.

The Government's White Paper, ***Healthy Lives, Healthy People: Our strategy for public health in England (2010)*** recognises that the quality of the environment, including the availability of green space and the influence of poor air quality and noise, affects people's health and wellbeing. It details plans for a shift of power to local communities, including new duties and powers for local authorities to improve the health of local people. From April 2013, Directors of Public Health will be employed within upper tier and unitary local authorities. They will be able to influence local services, for example joining up activity on rights of way, countryside access and green space management to improve public health by connecting people with nature.

### 3.2.3 North West Regional Plans

The **North West Regional Workplace Health Strategy** was launched in 2007. It recognised that improving and protecting health in the workplace is an important contribution to overall health in the North West. The **North West Food and Health Action Plan** was also launched in 2007. Led by the North West Food and Health Task Force and funded by the Department of Health and the Northwest Development Agency. The Action Plan provides a focus for coordinated action to improve food and nutrition across the region and provides a framework linking national policy with local and sub-regional interventions. Other documents include the **Sector Sports Strategy for England's North West 2010-2012** and **The North West Regional Framework for Ageing**, together with strategies designed to tackle individual causes of poor health.

## 3.3 Overview of the Baseline

### 3.3.1 National

#### UK

In the UK, during 2006-2008, life expectancy at birth was 77.4 years for males and 81.6 years for females.<sup>43</sup>

In 2006-2008, 37% of males and 38% of females in the UK rated their health as good; 44% of males and 41% of females rated their health as very good. Consequently, around 19% to 21% of males and females in the UK felt that their health was less than good.**Error! Bookmark not defined.**

In 2007 the main causes of death in the UK were diseases of the circulatory system, and neoplasms (cancers). There are high levels of hypertension and overweight/obesity in the UK. Public health trends often correlate with deprivation and these figures for illness are invariably far less favourable in deprived areas.<sup>44</sup>

Deaths from respiratory diseases (including influenza, pneumonia, chronic lower respiratory disease, bronchitis, emphysema and other chronic obstructive pulmonary diseases and asthma) are higher in the UK than in any other

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<sup>43</sup> ONS, United Kingdom Health Statistics 2010, [http://www.statistics.gov.uk/downloads/theme\\_health/ukhs4/ukhs4-2010.pdf](http://www.statistics.gov.uk/downloads/theme_health/ukhs4/ukhs4-2010.pdf)

<sup>44</sup> Health Survey for England 2007 Healthy lifestyles: knowledge, attitudes and behaviour Summary of key findings, Office of National Statistics, <http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=6637>

EU Member State. In the UK there are 87.7 deaths per 100,000 males and 64.0 deaths per 100,000 females from respiratory diseases, compared to an EU average of 63.4 and 32.5<sup>45</sup>.

### England

In England, during 2006-2008, life expectancy at birth was 77.93 years for males and 82.02 years for females.

In 2006-2008, 38% of males and 39% of females in England rated their health as good; and 44% of males and 41% of females rated their health as very good<sup>46</sup>.

The Health Survey for England, published in 2010, includes the following key findings for 2009<sup>47</sup>:

- In 2009 men and women reported a similar prevalence of longstanding illness according to the Health Survey for England; 41% of men, 43% of women, and almost a quarter reported an illness limited their activity in some way; 22% of men and 23% of women;
- For adults aged 16 and over, self-reported cigarette smoking prevalence was 24% for men and 20% for women. Cigarette smoking prevalence varied by age, being higher among younger adults (32% for men and 26% for women aged 25-34) and lower among older adults (11% for men and 8% for women aged 75 and over);
- High blood pressure was 32% in men and 27% in women. The prevalence significantly increased with age in both sexes;
- The percentage of adults who were obese has gradually increased over the period examined by the HSE, from 13% of men in 1993 to 22% in 2009 and from 16% of women in 1993 to 24% in 2009.

#### 3.3.2 North West Region

Life expectancy is a broad measure of the health of an area. Where a person is born influences, largely, how long they will live. In England, the average life expectancy at birth rate in 2005/07 was 79.7 years compared with 78.2 years in the North West for all persons.

Figures 3.1 and 3.2 below compare life expectancy at birth rate trends for the region compared with England, by gender. The trend line for both genders has shown a steady increase in average life expectancy at birth rates, however, the region continues to lag slightly behind the England average.

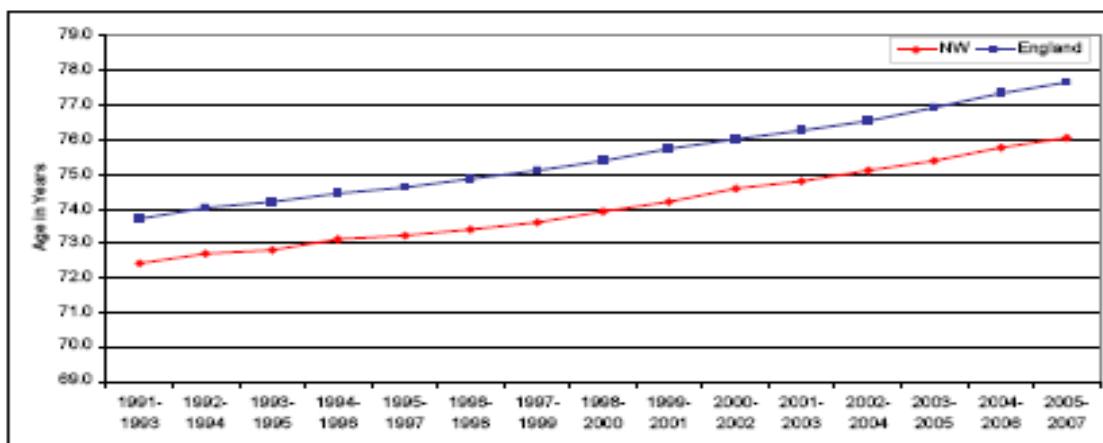
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<sup>45</sup> ONS, United Kingdom Health Statistics 2010, [http://www.statistics.gov.uk/downloads/theme\\_health/ukhs4/ukhs4-2010.pdf](http://www.statistics.gov.uk/downloads/theme_health/ukhs4/ukhs4-2010.pdf)

<sup>46</sup> ONS, United Kingdom Health Statistics 2010, [http://www.statistics.gov.uk/downloads/theme\\_health/ukhs4/ukhs4-2010.pdf](http://www.statistics.gov.uk/downloads/theme_health/ukhs4/ukhs4-2010.pdf)

<sup>47</sup> Health Survey for England 2010, <http://www.ic.nhs.uk/statistics-and-data-collections/health-and-lifestyles-related-surveys/health-survey-for-england/health-survey-for-england--2009-health-and-lifestyles>

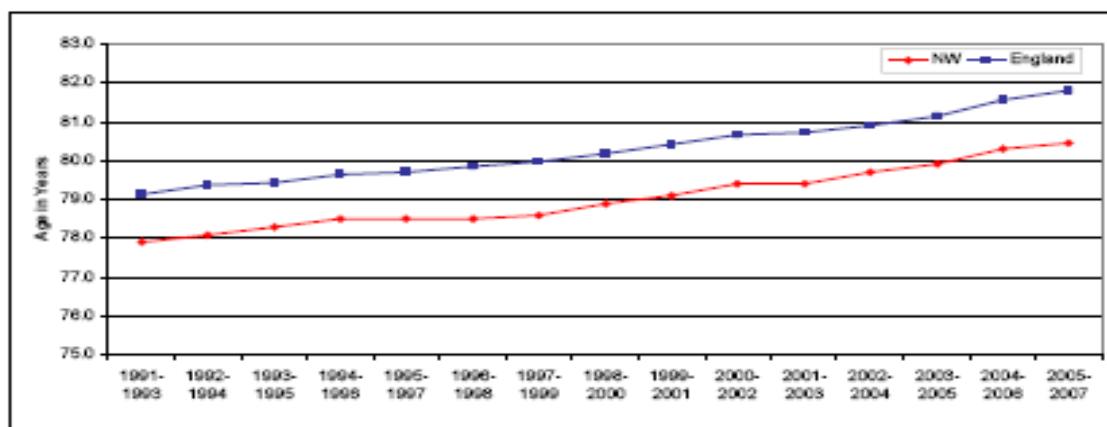
**Figure 3.1 Life Expectancy at Birth - Males**



Source: Life Expectancy at Birth (years) by Government Office Region, Office for National Statistics

In 2005/07, the average life expectancy at birth rates for the female population was 80.4 years, 1.4 years lower than the England average of 81.8 years as shown in Figure 3.2.

**Figure 3.2 Life Expectancy at Birth - Females**

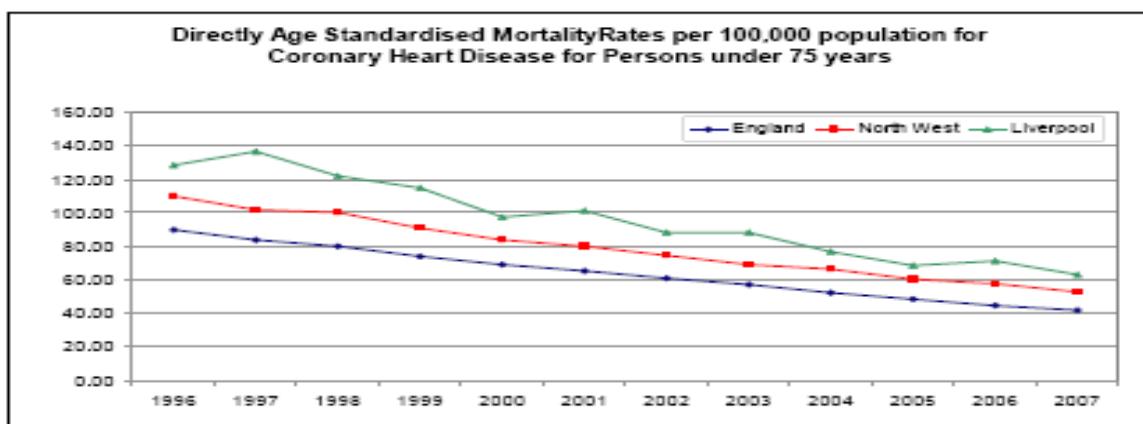


Source: Life Expectancy at Birth (years) by Government Office Region, Office for National Statistics

The most common cause of death in North West is coronary Heart Disease. Figure 3.3 below shows that mortality rates related to coronary heart disease are reducing, however, the North West continues to record higher rates of mortality than the national average.

**Figure 3.3 Directly Age Standardised Mortality Rates per 100,000 population for Coronary Heart Disease for persons under 75 years England, North West and Liverpool**

## Appendix E: SEA for the Revocation of the North West Regional Strategy



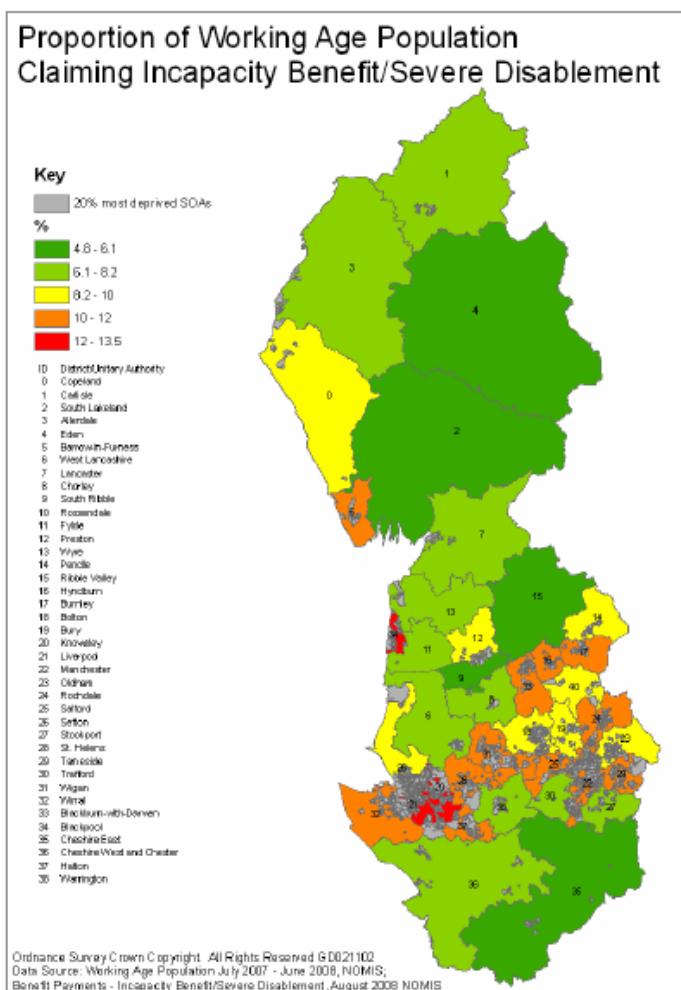
Source: The Information Centre for Health and Social Care

In 2008 the Regional Director of Public Health for the North West<sup>48</sup> reported that in comparison with other regions in England the North West demonstrated the highest rate for deaths from heart disease and stroke, long-term mental health problems, alcohol related hospital stays, hospital admissions for depression, anxiety disorders and for schizophrenia, self-reported violence, violent injuries serious enough to require hospital treatment, incapacity benefit claimants for mental and behavioral disorders as well as the second highest rate for deaths from cancer and smoking related illnesses, death from suicide and injuries of undetermined intent, reported levels of feeling in poor health.

People of working age who cannot work due to illness or disability, not entitled to statutory sick pay can claim Incapacity/ Severe Disablement Benefit (IB/SDA). In August 2008, there were 397,190 IB/SDA claimants in the North West. This equates to 9.4% of the working age population compared with 6.7% in England (Figure 3.4). In absolute terms there are more IB claimants in the North West than any other region (397,190) – the North West accounts for 18.6% of all IB claimants in England. Within the region there are significant pockets of high claimants, particularly in parts of West Cumbria, East Lancashire, Merseyside and North Manchester (many local authorities in these areas have incapacity benefit claimant counts well over 10%).

<sup>48</sup> Our Life in the North West: A Report by the Regional Director of Public Health (2008)  
<http://www.nwph.net/nwpho/publications/ourlife.pdf>

**Figure 3.4 Proportion of Working Age Population claiming IB/SDA**



The North West has a high proportion of people suffering from disability, many of whom are unable to work because of it. There is some correlation between high levels of deprivation and the proportion of the population with a disability. 19.9% of the working age population in the North West are classified as disabled – the figure for England is 18%. Only the North East has a higher proportion (22.3%). Furthermore 3.1% of the working age population are work limiting disabled, and 4.1% are Disability Discrimination Act (DDA) disabled.

## Deprivation

The Index of Multiple Deprivation (IMD) drills further down than most other quality of life indexes. The IMD 2007 is made up of seven domains; each illustrating a different aspect of deprivation: income; employment; health; education; skills and training deprivation; barriers to housing and services; crime and the living environment.

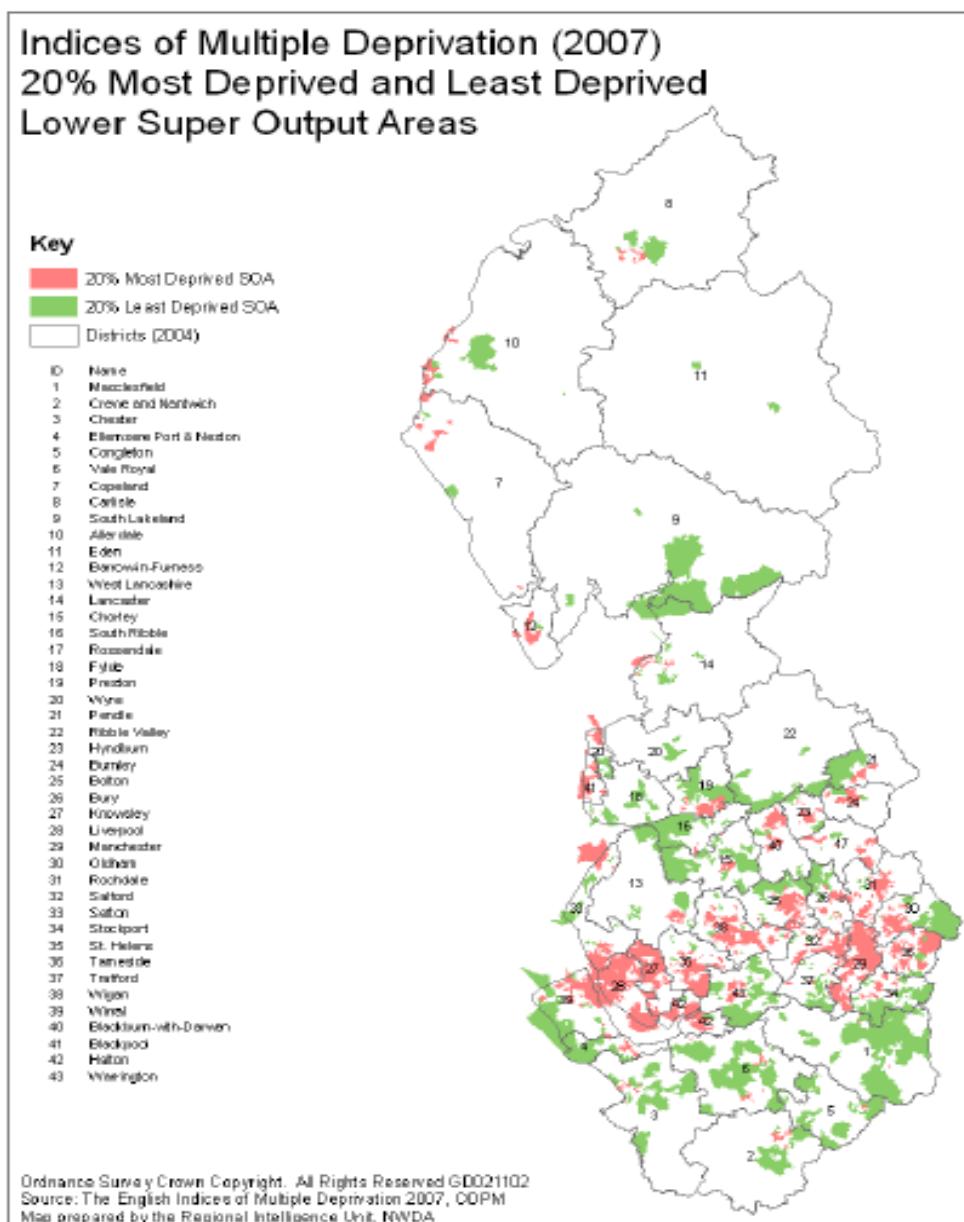
The North West has 579 Super Output Areas (SOA's) in the worst 5% deprived in England. Furthermore the North West has 911 of the 10% most deprived Lower Super Output Areas (LSOAs) in England. There are 4459 LSOAs in total in the North West, therefore over a fifth (20.4%) of all its LSOAs are in the 10% most deprived. The North West has a greater proportion of its LSOAs in the most deprived 10% than any other Region.

Severe deprivation is evident in most of the districts across the North West. Concentrations of LSOAs showing deprivation in the most deprived decile are found in the urban areas in and around Liverpool and Manchester. As with the IMD 2000 and ID 2004 the Merseyside districts of Liverpool, Sefton, Knowsley, and St Helens, along with the area of Birkenhead on the Wirral stand out as containing large concentrations of LSOAs with high levels of deprivation, as do many of the local authorities in Greater Manchester including Manchester, Wigan, Bolton, Salford and Oldham. Further concentrations of deprived areas can be seen in the coastal resort town of Blackpool and also in the series of towns running from the head of the Ribble Valley at Preston through Blackburn, Hyndburn, Burnley and Pendle.

The North West has the largest number of people living in one of the 20% most deprived LSOAs (2.17 million), followed by London which has 2.13 million people living in one of these LSOAs. 4.3% of people in England live in LSOAs in the North West which fall in the most deprived 20% of LSOAs in England. This is followed by London which has 4.2% of the England population which live in the most deprived 20% of LSOAs in England. Of those who live in the 20% most deprived LSOAs in England, over a fifth (21.6%) live in the North West, and over a fifth (21.2%) live in London.

Figure 3.5 below shows the 20% most deprived and 20% least deprived lower super output areas (SOAs) based on overall rank of the Index of Multiple Deprivation 2007. The 20% most deprived lower SOAs fall predominantly within the more urbanised districts in Merseyside and Greater Manchester. The 20% least deprived lower super output areas fall within the more rural districts of Cumbria and Cheshire.

**Figure 3.5 20% most deprived and 20% least deprived lower super output areas (LSOA)**



### 3.4 Environmental Characteristics of those Areas most likely to be Significantly Affected

#### 3.4.1 UK

Health inequalities exist in many communities, often exacerbated by poor access to or use of health services. Any future funding constraints on health services are likely to affect this situation.

At present, respiratory illness places a significant burden on the health service which is partly attributable to existing air pollution. According to Occupational Health and Safety Information Service (2006), death rates from respiratory disease are higher in the UK than both the European and EU average. The report also suggests that

respiratory disease costs the NHS and society £6.6 billion.

### 3.4.2 North West

Life expectancy in the region lags slightly behind the England average and the North West region has the highest rate for deaths from heart disease and stroke, long-term mental health problems, alcohol related hospital stays, hospital admissions for depression, anxiety disorders and for schizophrenia, self reported violence and violent injuries serious enough to require hospital treatment.

The number of IB/SDA claimants in the region is higher than any other region in England with significant pockets of claimants in parts of West Cumbria, East Lancashire, Merseyside and North Manchester.

There are pockets of severe deprivation in the North West, particularly in urban areas around Liverpool and Manchester. The North West has the largest number of people living in one of the 20% most deprived LSOAs of any region.

## 3.5 Likely Evolution of the Baseline

### 3.5.1 National

#### UK

Life expectancy at birth in the UK has reached its highest level on record for both males and females. A newborn baby boy could expect to live 77.7 years and a newborn baby girl 81.9 years if mortality rates remain the same as they were in 2007-2009. Females continue to live longer than males, but the gap has been closing.

Although both sexes have shown annual improvements in life expectancy at birth, over the past 27 years the gap has narrowed from 6.0 years to 4.2 years. Based on mortality rates in 1980-1982, 26% of newborn males would die before age 65, but this had reduced to 15% based on 2007-2009 rates. The equivalent figures for newborn females were 16% in 1980-1982 and 10% in 2007-2009. Life expectancy at age 65, the number of further years someone reaching 65 in 2007-2009 could expect to live, is also higher for women than for men. Based on 2007-2009 mortality rates, a man aged 65 could expect to live another 17.6 years, and a woman aged 65 another 20.2 years.

Within the UK, life expectancy varies by country, with the highest life expectancy at birth and at age 65 is higher for England than for the other countries of the UK.<sup>49</sup>

#### England

The current general trend in human health is generally towards improved health, greater life expectancy and reduced mortality from treatable conditions.<sup>50</sup>

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<sup>49</sup> Office for National Statistics, <http://www.statistics.gov.uk/cci/nugget.asp?id=168>

For example, life expectancy for males in England increased from 76.9 years in 2003-05 to 78.3 years in 2007-09, an increase of 1.4 years. For females, life expectancy increased by 1.2 years from 81.1 to 82.3 years over the same period<sup>51</sup>. Trends in respiratory illness are downwards and are expected to continue like this, although a significant factor to be considered is that measured pollution is also affected by the weather, and hot summers in 2003 and 2006 significantly increased these levels<sup>52</sup>.

### 3.5.2 North West Region

#### Health<sup>53</sup>

Life expectancy rates in the North West have been increasing reflecting advances in medical technologies and treatments for previously life threatening illnesses, although regional life expectancy is slightly less than the national average. As with national health, the trend is towards improved health and greater life expectancy.

Despite a trend of decline in cigarette smoking among people aged 16 years and over, the Northwest has the joint highest prevalence rate of cigarette smoking for all persons - 23%, above the England figure of 21%. This trend is likely to continue to decline whilst lagging behind the national figure.

#### Deprivation<sup>54</sup>

Severe deprivation is evident in most of the districts across the North West. Concentrations of LSOAs showing deprivation in the most deprived decile are found in the urban areas in and around Liverpool and Manchester. As with the ID 2000 and ID 2004 the Merseyside districts of Liverpool, Sefton, Knowsley, and St Helens, along with the area of Birkenhead on the Wirral stand out as containing large concentrations of LSOAs with high levels of deprivation, as do many of the local authorities in Greater Manchester including Manchester, Wigan, Bolton, Salford and Oldham. Further concentrations of deprived areas can be seen in the coastal resort town of Blackpool and also in the series of towns running from the head of the Ribble Valley at Preston through Blackburn, Hyndburn, Burnley and Pendle.

The map above demonstrates relative change in rankings between the IMD 2004 and 2007 with notable declines in Pennine Lancashire, parts of Greater Manchester, Blackpool, West Cumbria and Congleton. Whilst large areas of the region showed overall improvement in deprivation, pockets of deprivation are likely to remain in the region, particularly around the urban areas in and around Liverpool and Manchester which have historically shown high levels of deprivation.

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<sup>50</sup> Health Survey for England 2007 Healthy lifestyles: knowledge, attitudes and behaviour Summary of key findings, Office of National Statistics, <http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=6637>

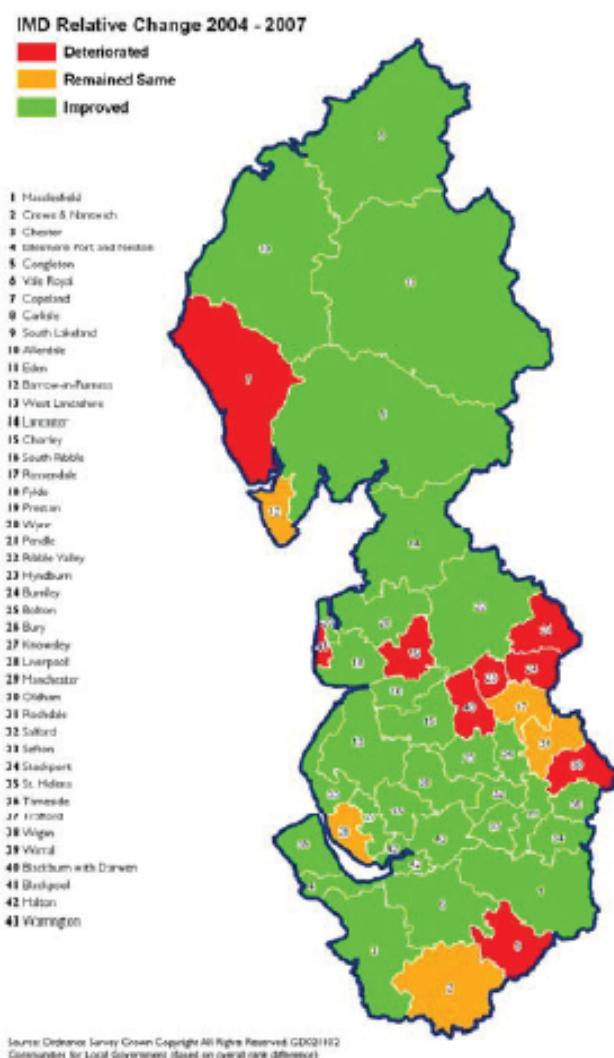
<sup>51</sup> ONS (2009) <http://www.statistics.gov.uk/pdfdir/liex0611.pdf>

<sup>52</sup> Defra 2008.

<sup>53</sup> Regional Intelligence Unit (2010) Health and Wellbeing Evidence Base RS2010.

<sup>54</sup> Regional Intelligence Unit (2010) Quality of Life Evidence Base RS2010.

**Figure 3.6 IMD relative change 2004 - 2007**



Within the region there are significant pockets of high IB claimants, particularly in parts of West Cumbria, East Lancashire, Merseyside and North Manchester (many local authorities in these areas have incapacity benefit claimant counts well over 10%). The areas identified in a recently published report on worklessness as having problems, like Liverpool and Manchester, also have very high levels of incapacity benefit claimants. This could be one explanatory factor why areas at the centre of jobs growth still experience significant levels of worklessness. The Government has a long-term goal of reducing IB claimants by 1m; this would mean 190,000 more people off IB into employment in the North West. One of the findings from the Worklessness study was that IB claimants have fallen but in reality this is only due to some claimants being reclassified as disabled.

### 3.6 Assessing Significance

**Table 3.1** sets out guidance utilised during the assessment to help determine the relative significance of potential effects on health. It should not be viewed as definitive or prescriptive; merely illustrative of the factors that were

considered as part of the assessment process.

**Table 3.1 Approach to determining the significance of effects on health**

Effect	Description	Illustrative Guidance
<b>++</b>	Significant positive	<ul style="list-style-type: none"> <li>Alternative has a significant positive effect on the likely determinants of good health in the region (including housing provision, employment opportunity, level of deprivation, physical activity, access to open space and recreational activities, improvements to environmental quality and community safety)</li> <li>Alternative has a strong and sustained positive effect on health and wellbeing and acknowledges the health needs of specific groups in society (children, mums to be and the elderly).</li> <li>Alternative supports the provision of healthcare facilities (i.e. as a result of an increase in the local population linked with employment provision).</li> </ul>
<b>+</b>	Positive	<ul style="list-style-type: none"> <li>Alternative has a positive effect on the likely determinants of good health in the region (including housing provision, employment opportunity, level of deprivation, physical activity, access to open space and recreational activities, improvements to environmental quality and community safety)</li> <li>Alternative has a positive effect on health and wellbeing and acknowledges the health needs of specific groups in society (children, mums to be and the elderly).</li> <li>Alternative may support the provision of healthcare facilities (i.e. as a result of an increase in the local population linked with employment provision).</li> </ul>
<b>0</b>	No (neutral effects)	<ul style="list-style-type: none"> <li>Alternative has no observable effects on health and wellbeing of regional communities.</li> </ul>
<b>-</b>	Negative	<ul style="list-style-type: none"> <li>Alternative has a negative effect on the likely determinants of good health in the region (including housing provision, employment opportunity, level of deprivation, physical activity, access to open space and recreational activities, improvements to environmental quality and community safety)</li> <li>Alternative has a negative effect on health and wellbeing and acknowledges the health needs of specific groups in society (children, mums to be and the elderly).</li> <li>Alternative results in some nuisance and/or disruption to communities, such that some complaints could be expected</li> </ul>
<b>--</b>	Significant negative	<ul style="list-style-type: none"> <li>Alternative has a significant negative effect on the likely determinants of good health in the region (including housing provision, employment opportunity, level of deprivation, physical activity, access to open space and recreational activities, improvements to environmental quality and community safety)</li> <li>Alternative has a significantly negative effect on health and wellbeing and acknowledges the health needs of specific groups in society (children, mums to be and the elderly).</li> <li>Alternative causes statutory nuisance or a sustained and significant nuisance and/or disruption to communities.</li> </ul>
<b>?</b>	Uncertain	<ul style="list-style-type: none"> <li>From the level of information available the impact that the alternative would have on this objective is uncertain.</li> </ul>

### 3.7 Assessment of Significant Effects of Retention, Revocation and Partial Revocation

Table 3.2 summarises the significant effects identified in the detailed assessment for health.

## Appendix E: SEA for the Revocation of the North West Regional Strategy

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**Table 3.2 Summary of significant effects of retention and revocation on health**

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
DP 1 Spatial Principles Retention	++	++	++	Policy DP1 is a high level framework tying together the sustainable development principles expanded on in policies DP2-DP9. It points to more detailed policies elsewhere, but states that all principles listed may be appropriate to development management. As the principles can be used in development management they are potentially applicable straight away and will maintain significance as core strategies take them into consideration in policy development. Significant health effects are identified given the references to support for sustainable communities, marrying opportunity and need and improving infrastructure and increasing accessibility. RES support for economic growth should lead to more jobs with a consequential decline in worklessness which will have indirect positive effects for health.
DP 1 Spatial Principles Revocation	++	++	++	The RS principles set out a regional approach to sustainable development. Sustainable development is the overarching principle behind the NPPF. The NPPF defines the social role of sustainable development (paragraph 7) as supporting communities, providing accessible services that reflect the community's needs and supports its health, social and cultural well-being. The effects of revocation are considered to be the same as for retention. LEPS in the region support economic growth and development which is indirectly supportive of health.
DP2 Promote Sustainable Communities Retention	+	++	++	Policy DP2 sets out a series of principles for the promotion of sustainable communities and states that building sustainable communities is a regional priority in both urban and rural areas. It is therefore assumed that Core Strategies will have to put into place a policy framework which meets this regional priority. Reference is made to improving the health of the region's population.
DP2 Promote Sustainable Communities Revocation	+	++	++	The NPPF supports development that is sustainable and there are considered to be no differences between the implications of retention or revocation. Whilst there is no reference to regional inequalities, the duty to co-operate matched by the cross-boundary working of many health authorities should ensure that improvements to the population's health continue to be delivered.
DP7 Promote Environmental Quality Retention	0	++	++	DP7 sets out high level policy on promoting environmental quality, which should be protected and enhanced. DP7 sets out a range of measures by which this should be achieved, such as maximising opportunities for the regeneration of derelict or dilapidated areas, promoting policies relating to green infrastructure and the greening of towns and cities. Mitigating the impacts of road traffic on health is also referenced. This policy is likely to have an effect, increasing as the number of plans are adopted within the region. It is therefore unlikely to have a significant short term effect, but the effect could be significant in the medium and longer term.  The RES recognises the importance of a high quality environment to the economy. Under its 'Conditions for Sustainable Growth' it aims to invest in quality public realm, greenspace and environmental quality (Action 119). Environmental improvements may cut pollution and encourage greater levels of recreational activities which indirectly contribute to health.

## Appendix E: SEA for the Revocation of the North West Regional Strategy

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
DP7 Promote Environmental Quality Revocation	<b>0</b>	<b>+</b>	<b>++</b>	<p>Section 11 of the NPPF provides clear and robust policies of protection and enhancement of the natural environment which in most cases matches or improve in the policies set out in DP7.</p> <p>Paragraphs 123-125 seek to mitigate the impact on health arising from new development, including achieving UE and national air quality policies and targets</p> <p>Whilst the NPPF does not directly require an assessment of the impact of managing traffic growth, as per bullet 7 of DP7, it is reasonable to assume that the requirements of paragraph 123 of the NPPF could not be properly implemented without such an assessment.</p>
RDF2 Rural Areas Retention	<b>0</b>	<b>+</b>	<b>++</b>	<p>Policy RDF2 sets out the Plan priorities for rural areas, including supporting sustainable farming and food, ensuring fair access to services for rural communities and enhancing the value of the rural environmental inheritance.</p> <p>It aims to concentrate rural development around key service centres and local service centres, which should act as hubs for the provision of services, facilities and public transport. These will be defined in local development frameworks.</p> <p>In remote rural areas more innovative and flexible solutions to meet particular development needs should be implemented, to achieve more equitable access to housing, services, education, healthcare and employment and a more diverse economic base, whilst maintaining support for agriculture and tourism. Reference to access to health facilities scores significant positive for health in the long term.</p>
RDF2 Rural Areas Revocation	<b>0</b>	<b>+</b>	<b>++</b>	<p>The NPPF provides clear guidance on rural economic development, and on the provision of housing in rural areas supporting sustainable development whilst protecting against inappropriate development. This is supported by the Defra Rural Development Programme for England, which supports aims to develop the connections between agricultural and economic development, environmental stewardship and community sustainability.</p> <p>Beyond this, it will be for local authorities, based on an assessment of need in their areas, and working together where appropriate; to determine how the particular needs of their rural communities should be supported. Meeting these needs is likely to result in more land being used for development than would have been the case if RDF2 were retained. This is likely to bring benefits to population and potentially health.</p>
Policy L1 Health Sport Recreation Culture and Education services Provision retention	<b>++</b>	<b>++</b>	<b>++</b>	<p>Policy L1 sets out principles for ensuring appropriate provision of health, cultural, recreational, sport, education and training provision for all members of the community in the region (including older people, disabled people and the black &amp; minority ethnic population), improving access and addressing spatial disparities in services/facilities provision.</p> <p>This high level policy is likely to lead to social and health benefits by ensuring equal access to high quality services for all members of communities.</p>
Policy L1 Health Sport Recreation Culture and Education services Provision Revocation	<b>++</b>	<b>++</b>	<b>++</b>	<p>One of the core planning principles of the NPPF is that plans should take account of and support local strategies to improve health, social and cultural wellbeing for all, and deliver sufficient community and cultural facilities and services to meet local needs.</p> <p>The Framework also provides protection for existing open space, sports and recreational buildings and land, including playing fields which can support healthy lifestyles.</p> <p>It is concluded that, properly implemented, the policies in the NPPF match the objectives of policy L1.</p>

## Appendix E: SEA for the Revocation of the North West Regional Strategy

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy L3 Existing Housing Stock and Housing renewal retention	++	++	++	<p>Policy L3 identifies a number of areas in need of housing market regeneration. It sets out the principles for managing and improving the conditions of existing housing stock in the region, focusing on market renewal/pathfinder areas and areas in need of housing regeneration/market restructuring. L3 also seeks to reduce health inequalities.</p> <p>The RES provides significant support towards regeneration in areas of housing market failure by seeking to set renewal within a strong economic context. Complementary Actions such as 52; to encourage employment creation in or near deprived areas are also supportive.</p> <p>Significant benefits are likely to arise to population in terms of improvements to health, social and economic conditions.</p>
Policy L3 Existing Housing Stock and Housing renewal revocation	+	+	++	<p>Paragraph 159 of the NPPF states that local planning authorities should have a clear understanding of housing needs in their area. They should prepare Strategic Housing Market Assessment to assess their full housing needs, working with neighbouring authorities where housing market areas cross administrative boundaries. This evidence based approach is already being adopted by authorities in the region.</p> <p>Strategic Housing Market Assessments should identify the scale and mix of housing and the range of tenures that the local population is likely to need over the plan period. This should address the need for all types of housing, including affordable housing and the needs of different groups in the community, and cater for housing demand and the scale of housing supply necessary to meet this demand.</p> <p>The potential to increase the supply of new houses, replacing those considered to be unfit has the potential to lead to significant, indirect health benefits.</p>
Policy RT4 Management of the Highway Network Retention	+	++	++	<p>Management of traffic is to focus on road safety, reducing traffic growth and maintaining a high quality environment with new road building only coming forward after all other options have been examined. Significant positive effects for population and health due to explicit recognition of need to reduce traffic growth to the benefit of health.</p>
Policy RT4 Management of the Highway Network Revocation	+	+	++	<p>Similar support for the reduction in the need to travel and reduction in congestion is to be found in the NPPF, paragraph 30. It also references the requirement for local authorities to work together with transport providers. Frequent reference to sustainable transport modes which appear to be defined as low carbon transportation including walking, cycling and public transport. These activities support healthy lifestyles.</p>
Policy RT9 Walking and Cycling Retention	+	++	++	<p>This policy has significant benefits for human health wider population (access to services) and the environment as it both seeks to develop integrated networks of continuous, attractive and safe walking and cycling routes, linking, in particular, residential areas, and places of employment and schools and leisure facilities.</p>
Policy DP9 walking and Cycling Revocation	+	++	++	<p>The NPPF also strongly encourages sustainable modes of transport giving priority to pedestrian and cycle movements. It also encourages the linking of residential areas and key facilities such as schools and shops.</p> <p>It is therefore concluded that the revocation of RT9 is likely to maintain the positive effects associated with the retention of RT9.</p>
EM3 Green Infrastructure retention	0	+	++	<p>This is a high level policy setting out how green infrastructure should be planned for and actively preserved, enhanced and increased. Embedding the policy in local plans is likely to bring about a number of benefits in the medium to long term. Green infrastructure can provide additional opportunities for outdoor activity which can support improvements in health. EM3 is also supported by RES Action 117 which recognises that it is important to nurture the natural resources of the region and to develop a strategy for green infrastructure.</p>

## Appendix E: SEA for the Revocation of the North West Regional Strategy

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
EM3 Green Infrastructure Revocation	0	+	++	Paragraph 114 of the NPPF states that local planning authorities should plan positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure. The same health benefits will therefore apply.
MCR2 Regional Centre and Inner Areas of Manchester City Region retention	+	++	++	<p>MCR2 seeks to ensure that the Regional Centre of the Manchester City Region continues to develop as the primary economic driver, providing the main focus for business, retail, leisure, cultural and tourism development in the City Region.</p> <p>The development envisaged by MCR2 is likely to have significant benefits to population and human health, whilst the regeneration of inner areas plus the provision of new, high quality commercial development should bring improvements to the urban landscape. RES provides complementary support to this policy.</p>
MCR2 Regional Centre and Inner Areas of Manchester City Region revocation	+	++	++	<p>The Manchester Core Strategy, The Greater Manchester Strategy, the Trafford Core Strategy and published albeit not adopted Salford Core Strategy support the policy framework set out within the North West Plan. Substantial regeneration of the inner areas will lead to improvements in housing condition, environmental benefits and bring jobs to the area which all have indirect benefits for health.</p>
MCR5 Northern part of the Manchester City Region Retention	+	++	++	<p>MCR5 seeks to set out high level strategy for economic growth and regeneration in the Northern Part of the Manchester City Region. It encourages appropriate sites to be brought forward for development – in employment development as set out in RDF1, through expanding the quality and choice of housing in line with the approach set out in Policy L4, and through improvements in infrastructure where necessary.</p> <p>MCR5 also sets out a high level aim to support and diversify the rural economy and improve access to services in the rural areas of the city-region. Improved access to services, including health together with the indirect health benefits that arise from the regeneration and environmental improvements of traditional urban cores are considered to create significant health benefits in the longer term.</p> <p>The RES supports Policy MCR5 through Actions which support economic development in areas suffering deprivation.</p>
MCR5 Northern part of the Manchester City Region Retention	+	+	++	<p>Policy guidance in the NPPF supports the assessment and meeting of economic and housing needs, together with the duty to co-operate and the co-operation of authorities through vehicles such as the Greater Manchester LEP and Greater Manchester Combined Authority (GMCA) means that the development envisaged by MCR5 is likely to come forward. This will have direct economic, social and environmental benefits which will lead to indirect health benefits. However, only two of the six local authorities within this part of the City region have adopted core strategies, therefore there is yet to be provided a conclusive picture of what will emerge. The profile of impacts is therefore assumed to be similar, but a longer timescale is reflected in the assessment.</p>
LCR2 The Regional centre and Inner City Areas of Liverpool City region retention	+	++	++	<p>LCR2 seeks to support the role of the Regional Centre as the primary economic driver of City Region.</p> <p>Outside areas of housing market renewal, residential development in the Regional Centre should form part of mixed use employment schemes that comprise a good range of housing sizes, types tenures and affordability, and contribute to the vitality and viability of the Regional Centre. There is a particular focus on residential development in the Inner Areas adjacent to the Regional Centre to secure a significant increase in population and to support regeneration, including maintaining and enhancing the roles of Birkenhead and Bootle to provide community facilities, services and employment. This redevelopment will all bring indirect benefits for health.</p>

## Appendix E: SEA for the Revocation of the North West Regional Strategy

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
LCR2 The Regional centre and Inner City Areas of Liverpool City region revocation	+	+	++	Liverpool City, and Wirral (policy reference is made to Birkenhead), do not yet have a core strategy in place. The NPPF sets out a high level expectation that that every effort should be made objectively to identify and then meet the housing, business and other development needs of an area. The detailed policies in the NPPF which support the assessment and meeting of economic and housing needs, together with the duty to co-operate and the establishment of the Liverpool City Region LEP means that the development envisaged by LCR2 is likely to come forward. It may take longer for development plans to adjust to NPPF policy, and the absence of initiatives quoted within the RS policy such as the New Heartlands Housing Market Pathfinder (Disestablished 31 <sup>st</sup> March 2011). The profile of impacts is therefore similar, but a longer timescale is reflected in the assessment.
CLN1 Overall Spatial Policy for Cumbria Retention	+	++	++	The policy seeks to focus major development within the settlements of Carlisle, Barrow Workington and Whitehaven with appropriate support for lower order development within other key settlements.  Recognition of the particular issues and opportunities facing Cumbria, including the differences inherent in this sub-region in comparison to other parts of the north-west is noted. Policy encouragement to develop recognised economic strengths in the region with new economic development focussed upon major and key settlements should lead to positive population and health benefits. The SA Report of the North West of England Plan identified that the implementation of this policy (in conjunction with those other policies which it cross references) would positively support urban and rural renaissance. A focus of development on brownfield sites bringing environmental benefits and in time address economic and social conditions. Four of the seven Cumbria planning authorities have core strategies adopted post North West of England Plan, therefore the positive benefits arising from this policy are likely to be delivered now, increasing to significant in the medium and long term as the remaining core strategies come forward.
CLN1 Overall Spatial Policy for Cumbria Revocation	0	+	++	Revocation will not change the immediate policy stance of the four local planning authorities which have adopted core strategies in the short and medium term. Therefore any significant differentiation in environmental performance between the two alternatives is only likely to manifest itself in the medium to long term depending upon the extent to which the remaining local authorities change their direction of travel away from the North West of England Plan in response to what they determine to be local needs. The NPPF aims to build a strong and competitive economy and policy is supportive of economic strengths which is assumed to include the Cumbrian nuclear industry. NPS EN 6 also identifies Sellafield as a potentially suitable site for new nuclear development. Strong economic conditions should indirectly support health.

### 3.7.1 Effects of Revocation

Within the region there is difference in the health of the population depending upon where people are located and whether they are economically active. The poorest health conditions tend to be found within the Mersey/Manchester belt which stretches across the lower third of the region although there are other pockets of bad health in local authority areas such as Blackpool. The health of Blackpool was a particular concern of the previous SA of the RS, particularly with regard to the regional casino proposal which was being promoted at the time. RS policy which would lead to an improvement in economic and social conditions, with measures to protect and often enhance local environments therefore have the potential to provide indirect health benefits. Health is therefore a particular beneficiary of the sub-regional policies. In addition, some of the less spatially specific policies concerned with creating conditions to enable people to lead healthy lifestyles, improving the environment for walking and cycling, improving access to sport and recreation for example can be beneficial.

The NPPF provides strong policy guidance in support of economic development. Development in support of the economy must also be balanced within the wider concept of sustainability such that it is accompanied by social and environmental gains. Often these gains are linked, improving the quality of the environment can create a location that is more attractive to inward investment; health is also a linked benefit.

The revocation of the RS is unlikely to lead to any change in the overall significance of effects identified for retention. The effect of revocation is more one of timescale and this is as a result of the potential for delay as the majority of local authorities within the region are still to have an adopted Core Strategy in place. There is a potential for uncertainty as these authorities should now take time to review their evidence base and approach to policy as a result of the NPPF, however the lack of any significant divergence between the NPPF and the RS and the evidence that health remains an issue in the region (where 20% of the working-age population are defined as disabled and life expectancy is below the national average) suggests that policy will continue to support better health outcomes.

### 3.7.2 Effects of Partial Revocation

The effects of partial revocation concern either

- Revoking all the quantified and spatially specific policies (for instance where a quantum of development, land for development or amounts of minerals to be extracted or waste disposal is allocated to a particular location in the region) and retaining for a transitional period the non spatial policies; or
- Retaining for a transitional period all the spatially specific policies where a quantum of development or land for development is allocated to a particular location in the region and revoking the non spatial policies, ambitions and priorities; or
- Retention for a transitional period of policies, the revocation of which may lead to likely significant negative environmental effects.

The policy assessment has not identified any qualitative policies specifically related to health. The positive effects of spatial policies, (the sub-regional policies listed in the above table) would be maintained albeit with some effects delayed given the time necessary to deliver up to date local plans that reflect the NPPF.

There are non-spatial policies which also lead to positive effects upon health. Again, the significant benefits to health may be deferred as a result of revocation, primarily as a result of the time taken for local authorities to respond to the new planning policy framework. However effects will still be positively significant in the longer term.

The assessment has found that there are no policies in the Regional Strategy where the act of revocation will cause a significant negative effect on health whilst retaining the same policy will maintain a significant benefit.

### 3.7.3 Effects of Retention

Retention of the regional strategy would result in continuation of an improving baseline although indirect benefits linked to improvements in housing stock may have begun to slow in certain areas of regeneration as a result of the end of the Housing Market Pathfinder Programme.

### 3.8 Mitigation Measures

As revocation is not identified to have any significant negative effects on health no mitigation measures are proposed.

## 4. Soil and Geology

### 4.1 Introduction

The overview of plans and programmes and baseline information contained in this section provides the context for the assessment of potential effects of revoking the regional strategy on soil, geology and land use. Information is presented for both national and sub-regional levels.

Soil and geology within this context is concerned with important geological sites, and the contamination of soils. Land use in this context is concerned with the effective use of land i.e. by encouraging the reuse of land that has been previously developed (brownfield land) as well promoting sustainable patterns of land use e.g. in relation to the protection of open spaces and green infrastructure.

There are links between the soil and geology topic and other topics in the SEA, including material assets.

### 4.2 Summary of Plans and Programmes

#### 4.2.1 International

The **European Thematic Strategy on Soil Protection (2006)** sets out the European Commission's strategy on soils and includes a proposal for an EU wide **Soils Directive**. The overall objective of the strategy is the protection and sustainable use of soil, based on the following guiding principles:

- preventing further soil degradation and preserving its functions;
- when soil is used and its functions are exploited, action has to be taken on soil use and management patterns;
- when soil acts as a sink/receptor of the effects of human activities or environmental phenomena, action has to be taken at source; and
- restoring degraded soils to a level of functionality consistent at least with current and intended use, thus also considering the cost implications of the restoration of soil.

The **EU Waste Incineration Directive (2000/76/EC)** aims to introduce measures to prevent or reduce as far as possible air, water and soil pollution caused by the incineration of waste, as well as the resulting risk to human health. The measures set out under the Directive include a prior authorisation requirement for incineration and co-incineration plants, and emission limits for certain pollutants released to air or to water. The requirements of the Directive have been developed to reflect the ability of modern incineration plants to achieve high standards of emissions control.

The **EU Integrated Pollution, Prevention and Control (IPPC) Directive (2008/1/EC)** defines the obligations to which industrial (including waste management) and agricultural activities with a high pollution potential must comply, through a single permitting process. It sets minimum requirements to be included in all permits, particularly in terms of pollutants released. The aim of the Directive is to prevent or reduce pollution being released to the atmosphere, water and soil, as well as reducing the quantities of waste arising from industry and agriculture.

In order to gain an IPPC permit, operators must demonstrate that they have systematically developed proposals to apply the ‘Best Available Techniques’ (BAT) to pollution prevention and control and that they address other requirements relevant to local factors.

The European Commission reviewed European legislation on industrial emissions in order to ensure clearer environmental benefits, remove ambiguities, promote cost-effectiveness and to encourage technological innovation. The review led to the commission proposing and adopting a recast ***Directive on Industrial Emissions (IED) (2010/75/EU)*** which came into force on 6 January 2011.

A number of other European Directives contribute indirectly to soil protection including on ***Habitats (92/43/EEC), Air (2008/50/EC), Water (2000/60/EC)*** and ***Nitrates (91/676/EEC)***.

The ***World Summit on Sustainable Development (2002)*** in Johannesburg proposed broad-scale principles which should underlie sustainable development and growth including an objective on greater resource efficiency. Reusing previously developed land is a good example of resource efficiency of land.

The conservation of resources is one of the underlying objectives of the ***European Spatial Development Perspective (ESDP) (1999)*** the framework for policy guidance to improve cooperation among community sectoral policies. There also exists a range of legislation in relation to resources.

### UK

The ***Environmental Protection Act 1990*** defines within England, Scotland and Wales the legal framework for duty of care for waste, contaminated land and statutory nuisance.

The ***Environment Act 1995*** seeks to protect and preserve the environment and guard against pollution to air, land or water. The Act adopts an integrated approach to environmental protection and outlines where authorisation is required from relevant authorities to carry out certain procedures as well as outlining the responsibilities of the relevant authorities. The Act also amends the Environment Protection Act 1990 with regard compulsory remediation of contaminated land. Environmental Protection Act was also modified in 2006 to cover radioactivity, and then a further modification made in 2007 to cover land contaminated with radioactivity originating from nuclear installations.

The ***Wildlife and Countryside Act 1981*** allows the designation of SSSIs for sites with geological importance.

### England

The ***Contaminated Land (England) Regulations 2006*** sets out provisions relating to the identification and remediation of contaminated land. It identifies sites requiring regulation as ‘special sites’ and adds land contaminated by radioactive substances to this classification.

In June 2011, the Government outlined its vision for England’s soils in the ***Natural Environment White Paper (NEWP)***. This set a clear target that by 2030 all of England’s soils will be managed sustainably and degradation threats tackled successfully, in order to improve the quality of soil and to safeguard its ability to provide essential ecosystem services and functions for future generations. As part of this vision, the Government committed to undertaking further research to explore how soil degradation can affect the soil’s ability to support vital ecosystem services; and how best to manage lowland peatlands in a way that supports efforts to tackle climate change. This

will inform our future policies and the direction of future action towards 2030.

The Government has recently reviewed the contaminated land regime in England for the first time since its introduction in 2000. Following the review of the contaminated land regime including public consultation, revised **Statutory Guidance has now been issued under Part 2A of the Environmental Protection Act 1990**. This revised Statutory Guidance while still taking a precautionary approach allows regulators to make quicker decisions about whether or not land is contaminated under Part 2A preventing costly remediation operations being undertaken unnecessarily. It also offers better protection against potential health impacts by concentrating on the sites where action is actually needed.

The **National Planning Policy Framework** (NPPF) states that the planning system should contribute to and enhance the natural and local environment by protecting and enhancing valued landscapes, geological conservation interests and soils; preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil pollution or land instability; and remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate (paragraph 109). Local planning authorities should take into account the economic and other benefits of the best and most versatile agricultural land. Where significant development of agricultural land is demonstrated to be necessary, local planning authorities should seek to use areas of poorer quality land in preference to that of a higher quality (paragraph 112). The NPPF also states that planning policies should encourage the effective use of land by reusing land that has been previously developed, provided that it is not of high environmental value (paragraph 111). The NPPF also reaffirmed the Government's commitment to maintaining Green Belts. It states that local planning authorities with Green Belts in their area should establish Green Belt boundaries in their Local Plans which set out the framework for Green Belt and settlement policy. Once established, Green Belt boundaries should only be altered in exceptional circumstances.

### North West Regional Plans

No relevant plans were identified within the region for this topic.

## 4.3 Overview of the Baseline

### 4.3.1 National

#### UK - Soils and Geology

The geology of the UK is diverse and has resulted in over 800 soil types. As a broad overview the following rock types exist in a progression from North West to South East (predominant rock types): Tertiary Volcanic Rocks; Crystalline Rock of Pre-Cambrian and later age; Lower Carboniferous to Cambrian; Triassic and Permian; Early Precambrian and Devonian; Jurassic; Cretaceous; Tertiary and Marine Pleistocene; and finally a return to Cretaceous.<sup>55</sup>

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<sup>55</sup> Agricultural Land Classification, protecting the best and most versatile agricultural land, Natural England, January 2009.

The quality of the land across the UK varies, with the best and most versatile agricultural land generally situated in the lowland and valley areas of England. Due to the topography and terrain, much of Scotland and Wales is classified as lower grade land. An estimated 21% of all farmland in England is Grade 1 and 2 land, with a similar percentage graded as subgrade 3a land. These grades are the best and most versatile land grades as classified under the Agricultural Land Classification System.<sup>56</sup>

The UK has a diversity of mountain ranges and flood plains. In England, the southern part of the country is predominantly lowland, with mountainous terrain north-west of the Tees-Exe line (the Lowland-Upland divide across England), which includes the Cumbrian Mountains of the Lake District, the Pennines and limestone hills of the Peak District, Exmoor and Dartmoor.<sup>57</sup>

There are an estimated 2,050 geological SSSIs in UK.<sup>58, 59, 60</sup>

Across the UK there are also a number of non-statutory geological and geomorphological sites designated at a local level, i.e. often known as Local Geological Sites (formerly Regionally Important Geological and Geomorphological Sites (RIGS)). There are over 50 Local Sites groups in the UK<sup>61</sup>.

In 2005 there was estimated to be around 413,906 hectares of land affected by industrial activity in England and Wales which may be contaminated, (around 2% of the land area in England and Wales)<sup>62</sup>.

### UK - Land Use

The UK covers an area of 2,472,900 hectares (242,514km<sup>2</sup>). England comprises the largest land area in the UK, covering an area of 13,028,100 hectares (130,281km<sup>2</sup>). The smallest land area in the UK is Northern Ireland, which covers an area of 1,357,600 hectares (13,576km<sup>2</sup>).

Average population density of UK is 247 people per km<sup>2</sup>.

Table 4.1 shows land cover in the UK as it stood in 2007 and shows that arable and horticulture and improved grassland are the most common land cover types in the UK, constituting 20.4% and 19.9% of total land area in the UK respectively.

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<sup>56</sup> England's geology, Natural England, <http://www.naturalengland.org.uk/ourwork/conservation/geodiversity/englands/default.aspx>

<sup>57</sup> State of the Environment Report 2008, Natural England, 2008, <http://naturalengland.etraderstores.com/NaturalEnglandShop/NE85>

<sup>58</sup> Geoconservation Sites, <http://www.geoconservation.com/sites/sssi.htm>

<sup>59</sup> Natural England RIGS, <http://www.naturalengland.org.uk/ourwork/conservation/designatedareas/lgs/default.aspx>

<sup>60</sup> The Scottish Soil Framework, Scottish Government, May 2009, <http://www.scotland.gov.uk/Publications/2009/05/20145602/13>

<sup>61</sup> Geoconservation Sites, <http://www.geoconservation.com/sites/sssi.htm>

<sup>62</sup> Indicators for Land Contamination, Science Report SC030039/SR, Environment Agency, August 2005.

**Table 4.1      Estimated Area of Broad Habitats in the UK in 2007<sup>63</sup>**

Land Type	'000 hectares	% land area
Broadleaved, mixed and yew woodland	1406	6.2
Coniferous woodland	1319	5.8
Linear features	496	2.2
Arable and horticulture	4608	20.4
Improved grassland	4494	19.9
Neutral grassland	2176	9.6
Calcareous grassland	57	0.3
Acid grassland	1589	7.0
Bracken	260	1.1
Dwarf shrub heath	1343	5.9
Fen, Marsh, Swamp	392	1.7
Bog	2232	9.9
Standing open waters <sup>1</sup>	204	0.9
Rivers and streams <sup>1</sup>	58	0.3
Montane	42	0.2
Inland rock	84	0.4
Built-up areas and gardens	1323	5.8
Other land	113	0.5
Unsurveyed land <sup>2</sup>	522	2.3
<b>Total<sup>3</sup></b>	<b>22627</b>	

## England - Soils and Geology

In England there was estimated to be around 307,672ha of land that may be contaminated. A total of 659 sites had been determined as 'contaminated land' in England by the end of March 2007. At the time of reporting, no site has been determined as contaminated land due to radioactivity<sup>64</sup>.

Natural England (2008) report that there are 1,214 SSSIs designated for their geodiversity features covering 1,704 Geological Conservation Review (GCR) sites (which identified nationally important features of geological interest). Many SSSIs have more than one GCR feature and some GCR features extend over more than one SSSI, giving a total of 1,735 SSSI-GCR combinations, or 'geo-features'. The proportion of GCRs in favourable/recovering status varied between 76-94% depending on its category of GCR (each category is reported separately).

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<sup>63</sup> ONS (2009) <http://www.statistics.gov.uk/STATBASE/Exodata/Spreadsheets/D5325.xls> (accessed 22.10.2009).

<sup>64</sup> Dealing with contaminated land in England and Wales A review of progress from 2000-2007 with Part 2A of the Environmental Protection Act, Environment Agency, January 2009.

Within England, 87.7% of the land area is classed as agricultural land<sup>65</sup>. Of the remainder, 5% is non agricultural and 7.3% is urban. Of the 87.7% of land classed as agricultural, 65.1% is classed as moderate or better.

There are no formal international designations for geodiversity sites equivalent to the SPA and SAC designations for biological features, although the geodiversity of the Dorset and East Devon Coast is recognised through designation as a World Heritage site.

England contains two Geoparks: the English Riviera in Devon and the North Pennines AONB. These are areas considered by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) to be of international importance for geological heritage that should be safeguarded and sustainably managed and include strong local involvement. Two further areas in England (Abberley and Malvern Hills and the Cotswold Hills) identify themselves as Geoparks.

### England – Land Use

The average population density of England is 385 people per km<sup>2</sup><sup>66</sup>.

Table 4.2 shows land cover in England as it stood in 2007 and highlights arable and horticulture and improved grassland as the most common land use covers (covering 30.4% and 21.7% of total land in England respectively).

**Table 4.2      Land Cover in England in 2007<sup>67</sup>**

England Land Cover 2007	'000 ha	% area
Broadleaved, Mixed and Yew Woodland	981	7.4
Coniferous Woodland	257	1.9
Boundary and Linear Features	353	2.7
Arable and Horticulture	4,002	30.4
Improved Grassland	2,856	21.7
Neutral Grassland	1,453	11.0
Calcareous Grassland	30	0.2
Acid Grassland	396	3.0
Bracken	91	0.7
Dwarf Shrub Heath	331	2.5
Fen, Marsh and Swamp	117	0.9
Bog	140	1.1
Standing Open Water and Canals	97	0.7

<sup>65</sup> Agricultural land classification (ALC) Statistics from the digital 1:250,000 scale Provisional ALC map ([www.magic.gov.uk](http://www.magic.gov.uk))

<sup>66</sup> Office of National Statistics, [http://www.statistics.gov.uk/geography/uk\\_countries.asp](http://www.statistics.gov.uk/geography/uk_countries.asp)

<sup>67</sup> ONS (2009) <http://www.statistics.gov.uk/STATBASE/Expoadata/Spreadsheets/D5325.xls> (accessed 22.10.2009).

England Land Cover 2007	'000 ha	% area
Rivers and Streams	29	0.2
Built-up Areas and Gardens	1,038	7.9
Other land	580	4.4
Unsurveyed Urban Land	428	3.5
TOTAL	13,180	100

The majority of land in England (around 72%) is in agricultural use. A further 8.6% is used for woodland and forestry. Whilst developed land accounts for around 10% of the total area, only a very small proportion of the land (1.14%) is occupied by domestic buildings (e.g. houses), with domestic gardens accounting for almost half of the 'developed area' (over 4% of the national land area). Roads account for around 2% and rail 0.14% of the total.

## North West Region

### *North West Soil*

The Regional Strategy evidence base (2010)<sup>68</sup> states that there is very little information available about soils at the regional level. However North West has a diverse range of soilscapes, from blanket peat, to dune sands, to calcareous gley soils.

### *Peat*<sup>69</sup>

The North West is home to 29% of England's wetlands (by area) including around 28% of England's Blanket Bog resource and 56% of its lowland raised bog. Peat forms three of the protected UK Biodiversity Action Plan habitats:

- Fens - formed where peat accumulates due to high ground water levels.
- Raised bogs - which may start as fens but the build up of organic matter raises their surface above the ground water, and they become dependent on rainfall to remain waterlogged.
- Blanket bogs - are so called for the way they cover the land. High rainfall causes surface water logging.

Peat is of great importance regionally and nationally. Not only does peat provide a rich habitat and a means of improving water quality (by removing sediment) and flood management (by absorbing heavy rainfall), it provides a means of carbon storage, reducing the loss of carbon as greenhouse gas CO<sub>2</sub>. The UK's peatlands contain more carbon than all of the forests in France and the UK combined. And over a quarter of England's peatland lies in the North Pennines, an area that straddles parts of Cumbria.

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<sup>68</sup> Regional Intelligence Unit (2010) Environment Evidence Base RS2010.

<sup>69</sup> Regional Intelligence Unit (2010) Environment Evidence Base RS2010.

The main use of peat in the UK is in horticulture as a growing media. There are currently 17 raised bog sites (totaling around 5,793 ha) in England with planning permission granted for commercial peat extraction, 28% of these sites (1,607 ha) are located in the North West.

### North West - Land use<sup>70</sup>

In the North West, agricultural land covers the majority of the region. 80% of this is graded agricultural land whilst the remaining land is urban and non-agricultural (20%). The majority of the region's urban and non-agricultural areas are concentrated around Merseyside and Greater Manchester – 88% of the population lives in urban areas. The current dominant land cover is shown in figure 4.1 and table 4.3 provides an idea of the land area (in hectares) given to particular land cover types.

**Table 4.3 Northwest land use Profile**

Land use type	Area in hectares (ha)
Rough grazing*	247,200
Managed Pasture*	612,100
Field Vegetables, Potatoes & Horticulture*	12,970
Arable and Stock feed*	117,030
Woodland**	96,171
Urban and suburban*	162,130
Green Space*	159,820
Previously Developed Land (inc. Derelict land)***	26,385

Source: Arup and Promar (2008) Re-engaging with the land report\*

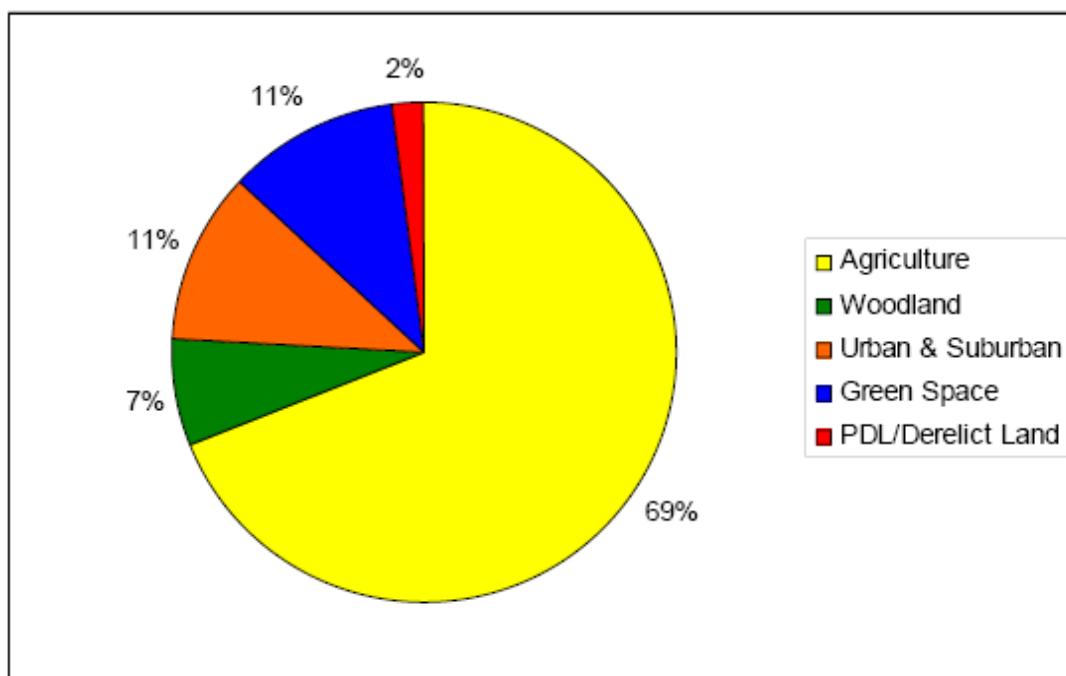
Forestry Commission (data from 2000 survey)<sup>48 \*\*</sup>

NWDA and Forestry Commission (2002) DUN land survey\*\*\*

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<sup>70</sup> Regional Intelligence Unit (2010) Environment Evidence Base RS2010.

**Figure 4.1 North West Land use Profile**



The quality of the agricultural land varies (see Table 4.4 below). Of the total landmass in the region, 31% is grade 3 and 25% is grade 5 agricultural land (on a grading system where 1 is most and 5 least versatile for long-term use). The Best and Most Versatile (BMV) agricultural land is made up of grades 1, 2 & 3a.

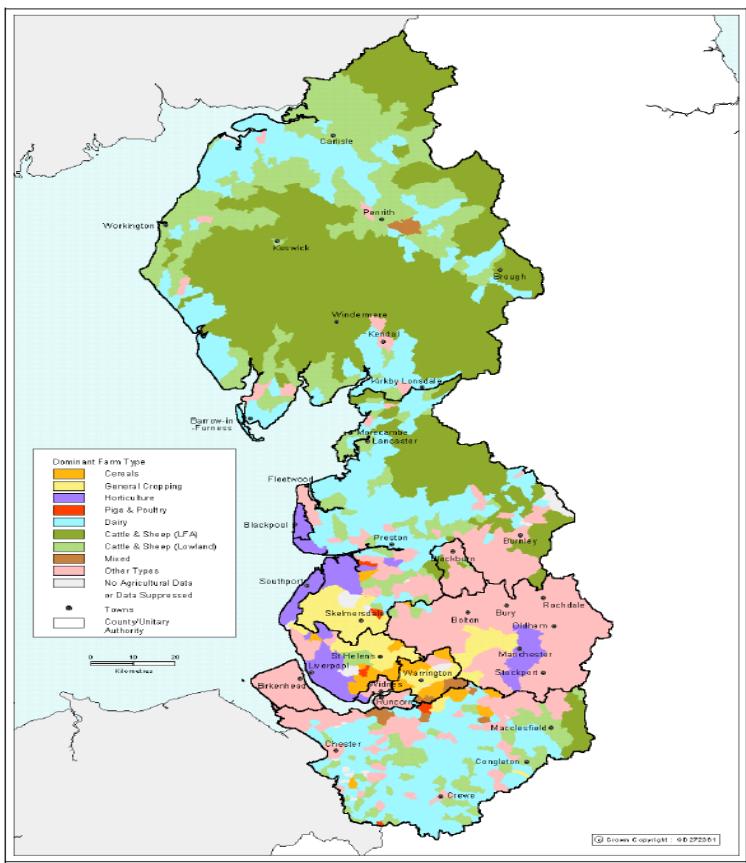
**Table 4.4 Agricultural Land Classification distribution in the Northwest (2006)**

	Northwest	Cumbria	Lancashire	Greater Manchester	Merseyside	Cheshire
Grades 1 & 2	7.1%	1.5%	13.8%	3.9%	20.3%	12.5%
Grade 3	30.8%	26.8%	27.7%	16.1%	15.2%	59.2%
Grade 4	17.7%	20.7%	22.6%	16.1%	1.8%	8%
Grade 5	24.6%	39.4%	20%	7.6%	3.1%	2.8%
Non Agric	11.9%	9.5%	4.9%	9%	11.1%	5.7%
Urban	7.9%	2.1%	11%	47.3%	48.5%	11.8%

Source: Rural Development Programme for England 2007 - 2013 (2007)

Most of the very best quality land (grade 1 and 2) is in southern Lancashire. With regard to agricultural land uses, cattle and sheep farming dominates farm types in Cumbria and Lancashire whilst horticulture, general cropping and 'other' farm types are most prevalent in locations around Manchester and Merseyside, and in Cheshire. Figure 4.2 shows the dominant farm types in the North West.

**Figure 4.2 Dominant Farm Types in the North West**



Source: Rural Development Programme for England 2007 – 2013 (2007)

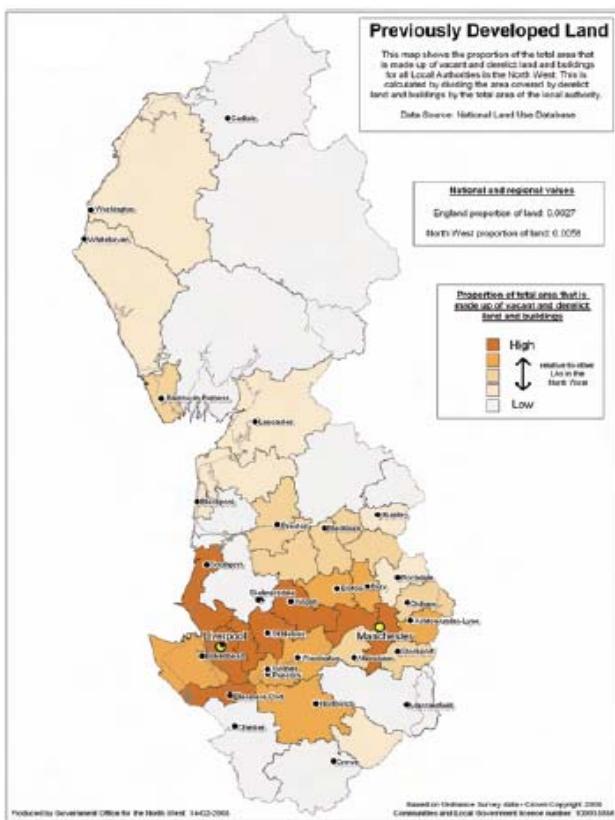
Environmental Stewardship is an agri-environment scheme that provides funding to farmers and other land managers in England who deliver effective environmental management on their land. More than 68% of land area in the North West is managed under some form of voluntary environmental scheme. This includes:

- Entry Level Stewardship (ELS) including Organic ELS – 390,096 ha worth £11.07 million in annual payments in 2008/09;
- Higher Level Stewardship – 44,188 ha worth £5.08 million in annual payments in 2008/09;
- Classic schemes (Countryside Stewardship Scheme and Environmentally Sensitive Areas) – 222,035 ha with £14.06 million in annual area payments in 2008/09;
- Wildlife Enhancement Scheme – 52,750 ha enhanced.

### *Previously Developed Land*

There are 11,606 ha of Previously Developed Land (PDL) in the North West; this is the highest of all the English regions. The region is also home to a quarter of England's Derelict, Underused and Neglected (DUN) land, 26,385ha in total according to the 2002 Land Survey in the Northwest. Figure 4.3 shows the distribution of previously developed land.

**Figure 4.3 Distribution of previously developed land (2008)**



## 4.4 Environmental Characteristics of those Areas most likely to be Significantly Affected

#### 4.4.1 National

UK - Soil and Geology

Human activity has left a legacy of soil contamination and pollution that pose a risk to water quality, ecosystems and human health as well as to land and property value.

- Significant areas across the UK carry a burden of contamination from industrial activity, although this is progressively being cleaned up as sites are redeveloped. Whilst contamination is remediated during redevelopment, the process can be expensive;
  - Disturbance of contaminated sites carries the risk of pollution pathways being created or re-opened for any existing ground contamination;
  - There is currently increasing pressure on rural and agricultural land from developers as urban areas expand. Future population growth leading to an increase in the need for housing and related urban development infrastructure will put more pressure on protected land including important geological sites;
  - Soils in England continue to be degraded by human actions including intensive agriculture, historic levels of industrial pollution and urban development, making them vulnerable to erosion (by wind and

water), compaction and loss of organic matter<sup>71</sup>. Effects include:

- Soil erosion by wind and rain: erosion affects both the productivity of soils but also water quality and aquatic ecosystems;
- Compaction of soil reduces agricultural productivity and water infiltration, and increases flood risk through higher levels of run-off;
- Organic matter decline: the loss of soil organic matter reduces soil quality, affecting the supply of nutrients and making it more difficult for plants to grow, and increases emissions to the atmosphere.

As the climate (including temperature and rainfall patterns) changes in the future, it is likely that soils have the potential to be further degraded, both as a result of the direct and indirect impacts of climate change, for example as land managers adapt their practices and the crops that they grow. Climate change and loss of organic matter are the most significant threats to Scottish soils<sup>72</sup>. The effect of industry, agricultural practices, forestry and climate change upon soils, particularly carbon rich peat soils, is also a key issue. Key pollutants include chemicals, oil or waste. Organic waste, including sewage sludge, is one of the main sources of heavy metal contamination of soils from human activities.

In Wales the small proportion of land that is classified as ‘best and most versatile’ agricultural land needs to be conserved. There is also a need to protect soils in uplands and wetlands which contain high amounts of carbon and are vulnerable to acidification<sup>73</sup>.

The main pressures in Northern Ireland are development, infrastructure, mineral extraction industries, and tourism. A major problem in farmland is the over-accumulation of phosphorus in the soil, due to agricultural fertilisers. The intensification and expansion of agriculture is a key pressure on soil quality and erosion<sup>74</sup>.

### UK - Land Use

Of UK land 5.6% is currently classed as ‘built up.’ Development pressure remains a constant factor in parts of the country, and it is not expected that previously-developed land will be able to fully deliver the UK’s future needs. This will continue to place development pressures in rural areas and the urban fringe.

When greenfield land is used for development, it is likely to result in the permanent loss of that land from other uses such as agriculture. There are similar pressures to build across each of the UK administrations; however the details differ slightly between each.

The 2008 State of the Natural Environment report<sup>75</sup> noted that within rural England, the area of developed land had increased by about 4% since 1990, largely by using agricultural land and that between 1998 and 2003 substantial

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<sup>71</sup> <http://www.defra.gov.uk/food-farm/land-manage/soil/>

<sup>72</sup> State of the environment and trends – Scotland, <http://www.seaguidance.org.uk/11/State-of-the-Environment.aspx>

<sup>73</sup> Environment Strategy for Wales, Welsh Assembly Government, 2006, <http://wales.gov.uk/topics/environmentcountryside/epq/envstratforwales/strategy/?lang=en>

<sup>74</sup> Planning and Land Contamination, Northern Ireland Environment Agency, <http://www.ni-environment.gov.uk/land-home/land-quality.htm>

<sup>75</sup> Natural England (2008) <http://www.naturalengland.org.uk/publications/sone/default.aspx>

greenfield development has occurred near many urban areas, notably at key growth points, but also in former coalfield belts. It said the pace of development within England was increasing, particularly for housing in response to demand and a historic shortfall in housing provision and that this was expected to have a dramatic effect on a large part of central and southern England through the series of the then identified Growth Areas and Growth Points.

### 4.4.2 North West England

The key issues for the region are identified as:

- loss of, and damage to the best and most versatile agricultural land;
- the North West has a high proportion of less versatile agricultural land;
- large proportion (1/4) of England's derelict, underused and neglected land reserve is in the North West;
- the North West has the highest proportion of previously developed land of all English regions.
- Climate change: This will greatly affect the region's agriculture – in terms of the type of crop grown and irrigation required.

## 4.5 Likely Evolution of the Baseline

### 4.5.1 National

#### UK - Soils and Geology

There is little data on the long term trends associated with soil. In 2010, the Foresight Project completed the Land Use Futures Project to take a long-term view of all types of land use to analyse future land use challenges through looking at pressures and trends and developing scenarios and models, including the consideration of soil issues<sup>76</sup>. The Natural Environment White Paper commits the Government to undertake a significant research programme over the next four years to explore how soil degradation can affect the soil's ability to support vital ecosystem services such as flood mitigation, carbon storage and nutrient cycling; and how best to manage lowland peatlands.

There is a steady loss of soils to development, contaminated sites, damage by muddy floods and water pollution by silt and fertilisers. Continued pressure of development will result in the loss of productive soil, although it is also likely to lead to the remediation of contaminated soils. As more brownfield land is developed there may be more pressure for development on greenfield land which is likely to increase loss of soil resources. Climate change means that the UK is likely to see an increase in rainfall intensity which could lead to increased soil loss due to erosion.

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<sup>76</sup> [http://www.bis.gov.uk/assets/foresight/docs/land-use/luf\\_report/8614-bis-land\\_use\\_futures\\_exec\\_summ-web.pdf](http://www.bis.gov.uk/assets/foresight/docs/land-use/luf_report/8614-bis-land_use_futures_exec_summ-web.pdf)

However, the increase in public and policy awareness regarding geological SSSI sites and Geoparks may lead to an increase in the number of sites protected and managed. As quarries come to the end of their working lives there is potential for their identification and conservation as geologically important sites.

As there are now more stringent statutory controls on land contamination and remediation, increased areas of historic contamination are being remediated and fewer areas are being left in a contaminated state following decommissioning of commercial and industrial sites. Major remediation, regeneration and development projects, such as the Olympic Park and Thames Gateway developments in London are likely to further decrease the total area of contaminated land within the UK.

There are a number of European directives that are either currently being implemented or are under discussion that may influence the way in which land contamination is managed in the future (i.e. the Environmental Liabilities, Soil, Water, Groundwater and the Waste Framework Directives). The implementation of these regimes into UK legislation is likely to affect how contaminated land is dealt with<sup>77</sup>.

## UK – Land Use

The estimated broad habitat type in the UK and how it has changed from 1984 to 2007 was calculated by the Office of National Statistics<sup>78</sup> and is shown in **Table 4.5**. It shows that the area of land cover under arable and horticulture has decreased by 9.1% between 1998 and 2007. The area of grassland land cover has generally increased with improved grassland increasing by 5.7%. Built-up areas and gardens have increased by 3.4% between 1998 and 2007.

**Table 4.5      Estimated Area ('000 ha) of Broad Habitats in the UK in 1984, 1990, 1998 and 2007**

Land Type	1984	1990	1998	2007	% change between 1998 and 2007
Broadleaved, mixed and yew woodland	1317	1343	1328	1406	5.9
Coniferous woodland	1243	1239	1386	1319	-4.8
Linear features	491	581	511	496	-2.9
Arable and horticulture	5283	5024	5067	4608	-9.1
Improved grassland	5903	4619	4251	4494	5.7
Neutral grassland	467	1669	2007	2176	8.4
Calcareous grassland	75	78	61	57	-6.6
Acid grassland	1476	1821	1503	1589	5.7
Bracken	439	272	315	260	-17.5
Dwarf shrub heath	1388	1436	1299	1343	3.4
Fen, Marsh, Swamp	428	427	426	392	-8.0
Bog	2303	2050	2222	2232	0.5

<sup>77</sup> Dealing with contaminated land in England and Wales A review of progress from 2000-2007 with Part 2A of the Environmental Protection Act, Environment Agency, January 2009.

<sup>78</sup> <http://www.statistics.gov.uk/STATBASE/Exodata/Spreadsheets/D5325.xls> (accessed 22.10.2009).

## Appendix E: SEA for the Revocation of the North West Regional Strategy

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Land Type	1984	1990	1998	2007	% change between 1998 and 2007
Standing open waters	284	200	196	204	4.1
Rivers and streams	70	70	65	58	-10.8
Montane	41	n/a	41	42	2.4
Inland rock	38	76	111	84	-24.3
Built-up areas and gardens	1268	1266	1279	1323	3.4
Other land	n/a	57	107	113	n/a
Unsurveyed land	n/a	522	522	522	n/a
<b>Total<sup>3</sup></b>	<b>22514</b>	<b>22632</b>	<b>22601</b>	<b>22627</b>	

It is not known whether the decrease in arable and increase in improved grassland is likely to continue at the same rate in the future although it does seem likely that the extent of built up areas will continue to increase as some development will inevitably take place on greenfield land.

The area land occupied by agricultural holdings and the area in actual use for agriculture has changed very little across the UK in the past 25 years. The total area of land in agricultural holdings in the UK fell on average by about 15,400ha per annum between 1983 and 2008. This was equivalent to a rate of 0.09% per annum, or about 1% per decade, although over the latter 10 years of that period the reduction in land area was minimal<sup>79</sup>.

The clearest trend in land use change in the UK over the past quarter of a century has been the conversion of land from agriculture to forestry and woodland. Forestry Commission estimates of the area of forest and woodland cover in the UK imply an average annual net increase of 25,000ha since 1980, equivalent to 1.05% per year. There seems to have been some reduction in the rate of growth from 2000 to 2008 with the net increase in tree cover in this period being about 7,000ha per annum (or 0.24%). These recent patterns of woodland expansion continue a very clear upwards trend, which has led to a doubling of the area of UK woodland since World War II.

New planting has predominantly responded to subsidy and has involved the expansion of small broadleaved woodlands within agricultural holdings. The average annual increase in woodland on farms (14,500ha per annum) accounts for more than half of the net increase in the wooded area as a whole. The area of woodland within agricultural holdings has thus more than doubled since the early 1980s.

In 2008, there was an estimated 63,750ha of previously-developed land in England, up from 2.6% from 62,130ha in 2007. An estimated 32,400ha of previously-developed land was vacant or derelict, 51% of the total. The remaining 31,350ha was in use but with potential for redevelopment<sup>80</sup>. The conversion of previously undeveloped land accounted for about 5,000ha per annum between 2000 and 2006. This is equivalent to 0.04% of England's land area, and about one-third of the average annual flow of 15,700ha estimated for the period 1945-1975. Of all greenfield land developed between 2000 and 2006, roughly 57% was for residential uses, with 20% being for

<sup>79</sup> Foresight Land Use Futures Project (2010). Final Report.

<sup>80</sup> Previously Developed Land that may be Available for Development: Results from the 2008 National Land Use Database of Previously-Developed Land in England, Homes and Communities Agency, February 2010, <http://www.homesandcommunities.co.uk/nlud-pdl-results-and-analysis.htm>

industrial, commercial and related activities, and the remaining 23% for other developed uses, predominantly transport.

### England - Soils and Geology

The Natural Environment White Paper (2011) established an ambition that by 2030 all of England's soils will be managed sustainably and degradation threats tackled successfully, in order to improve the quality of soils and to safeguard their ability to provide essential ecosystem services and functions for future generations.

### England - Land Use

In 2008, there was an estimated 63,750ha of previously-developed land in England, up from 2.6% from 62,130ha in 2007. This reversed a trend that occurred in the previous five years, where the total amount of previously-developed land in England declined by 6%. Between 2002 and 2007, the amount of vacant and derelict land declined by 17.5% while land currently in use with potential for redevelopment increased by 12%<sup>81</sup>.

There have also been changes in the changes to land use related to broad habitat types. Between 1998 and 2007 in England there was a significant increase in the area of Broadleaved Woodland (5.8%), Neutral Grassland (12.6%), Dwarf Shrub Heath (15.1%) and Standing Open Water and Canals (5.3%). The increase in the area of Dwarf Shrub Heath between 1998 and 2007 followed a decrease in area between 1990 and 1998. The increase in the area of Standing Open Water and Canals recorded in England between 1998 and 2007 continued the increases recorded by Countryside Survey since 1990<sup>82</sup>.

On the other hand, there was a significant decrease in the area of Arable and Horticulture Broad Habitat (8.8%) in England across the same period. No statistical change in extent was detected in the Coniferous Woodland, Improved Grassland, Bracken, Bog, Fen, Marsh and Swamp and Calcareous Grassland Broad Habitats in England between 1998 and 2007.

#### 4.5.2 North West Region

The importance of soils as a non-renewable multi-functional resource and the potential damage to their condition through inappropriate management has only recently been given attention and there is currently no direct legislation protecting our soil environments, although they are often protected indirectly through other legislation. This recent appreciation of soils is likely to lead to more stringent protection measures for the most valuable soil landscapes regionally.

The amount of derelict land has increased since 1998 but has begun to decline in the last few years. The number of houses built on previously developed land is increasing in the region and the amount of agricultural land lost to development is decreasing.

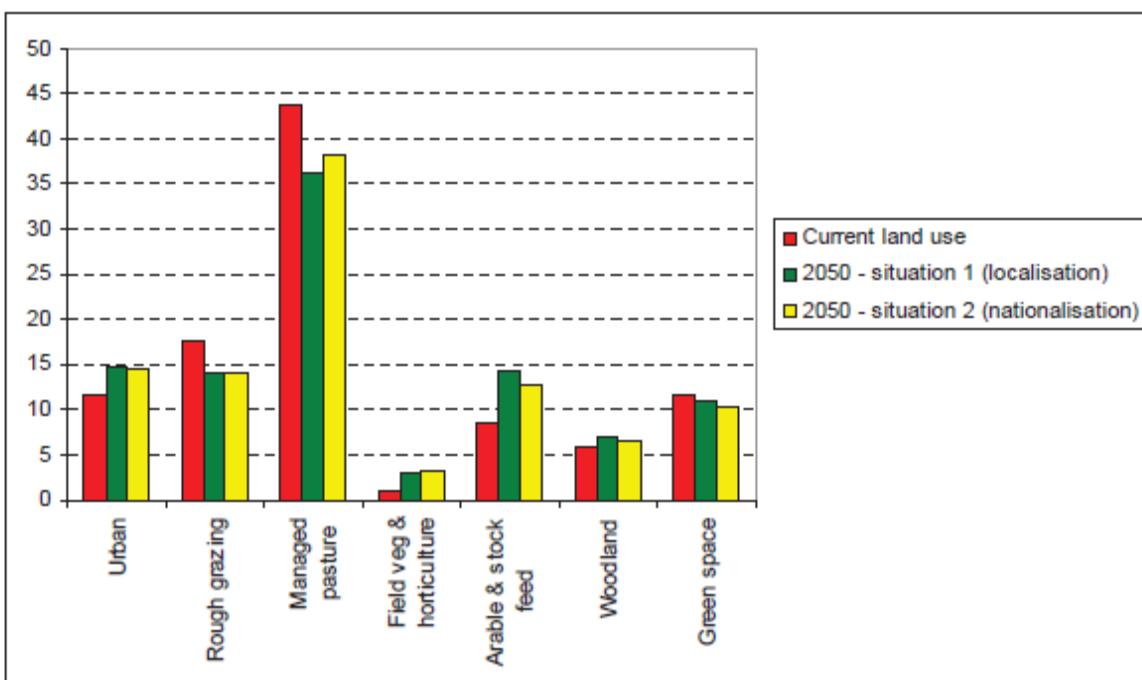
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<sup>81</sup> Communities and Local Government 2008.

<sup>82</sup> Countryside Survey for England (2007) <http://www.countrysidesurvey.org.uk/sites/default/files/pdfs/reports2007/england2007/CS-England-Results2007-Chapter02.pdf>

The Regional Strategy evidence base states that the general trend for future land use could see increased pressure on agricultural land to be developed. Figure 4.4 shows that there is predicted to be a general trend towards an increase in land used for urban development, arable farming, woodland and field vegetables/horticulture. The evidence base further reports that climate change is likely to mean that agriculture will have to adapt to drier summers and more intensity in weather events but the livestock sector is likely to still dominate with strong world demand for food.

**Figure 4.4    Expected Land Use Change in the North West to 2050<sup>83</sup>**



## 4.6 Assessing Significance

**Table 4.6** sets out guidance utilised during the assessment to help determine the relative significance of potential effects on the soil and geology. It should not be viewed as definitive or prescriptive; merely illustrative of the factors that were considered as part of the assessment process.

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<sup>83</sup> Regional Intelligence Unit (2010) Environment Evidence Base RS2010.

## Appendix E: SEA for the Revocation of the North West Regional Strategy

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**Table 4.6 Approach to determining the significance of effects on soils and geology**

Effect	Description	Illustrative Guidance
++	Significant positive	<ul style="list-style-type: none"> <li>Alternative would restore and significantly improve soil quality and land stability to conditions beyond current levels and remove all soil contamination so that soil functions and processes would be significantly improved in the long term.</li> <li>Alternative would minimise, and protect from irreversible damage high quality agricultural land (i.e. best and most versatile, grades 1, 2, and 3a of the Agricultural Land Classification).</li> <li>Alternative would have a significant and sustained positive impact on a national designated geological site.</li> <li>Alternative would seek to minimise use of any undeveloped land, and look to preferentially reclaim and redevelop significant areas of previously-developed or derelict land.</li> </ul>
+	Positive	<ul style="list-style-type: none"> <li>Alternative would cause minor improvements in soil quality and land stability so that soil functions and processes would be improved in the long term.</li> <li>Alternative would reduce any potential damage to high quality agricultural land (i.e. best and most versatile, grades 1, 2, and 3a of the Agricultural Land Classification).</li> <li>Alternative will reduce any potential hazard associated with existing soil contamination.</li> <li>Alternative would have a minor and temporary positive impact on a national designated geological site.</li> <li>Alternative would seek to preferentially make use of previously developed land; however, would allow for development of undeveloped.</li> </ul>
0	No (neutral effects)	<ul style="list-style-type: none"> <li>Alternative would not cause damage or loss to soil such that soil function and processes will not be affected.</li> <li>Alternative would not affect land stability.</li> <li>Alternative would not involve significant loss of any undeveloped or developed land.</li> </ul>
-	Negative	<ul style="list-style-type: none"> <li>Alternative would lead to an increase in pollutant discharges to soil, however these would be less than permitted limits, such that there will be minor short term increases in land contamination.</li> <li>Alternative would cause minor increases in potential hazards associated with existing soil contamination.</li> <li>Alternative would cause a temporary loss of soil so that soil function and processes would be negatively affected in the short/medium term.</li> <li>Alternative would cause minor short term negative effects on geological conservation sites/important geological features or soils of high importance.</li> <li>Alternative would lead to the majority of development using undeveloped land or land that has reverted to a 'wild' state.</li> </ul>
--	Significant negative	<ul style="list-style-type: none"> <li>Alternative would lead to a statutory limit being reached or exceeded in relation to land contamination, such that there would be a major and sustained increase in land contamination.</li> <li>Alternative would cause major and sustained increases in potential hazards associated with existing soil contamination.</li> <li>Alternative would cause considerable loss of soil quality, such that soil function and processes will be irreversibly and significantly affected.</li> <li>Alternative would cause a substantial and permanent loss of or damage to soil of high importance and/or designated geological conservation sites/important geological features.</li> <li>Alternative would not develop derelict or previously-developed land, but would lead to development of significant areas of undeveloped land/ land that has reverted to a 'wild' state.</li> </ul>
?	Uncertain	<ul style="list-style-type: none"> <li>From the level of information available the impact that the alternative would have on this objective is uncertain.</li> </ul>

## 4.7 Assessment of Significant Effects of Retention, Revocation and Partial Revocation

Table 4.7 summarises the significant effects identified in the detailed assessment of the North West of England plan policies against the soil and geology topic.

**Table 4.7 Summary of significant effects of retention and revocation on Geology and Soils**

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy DP 9 - Reduce Emissions and Adapt to Climate Change Retention	+	+	++	<p>DP9 seeks reductions in carbon emissions as an urgent regional priority. Effective adaptation to the likely environmental, social and economic impacts of climate change is a key element of this policy. The strength of this policy is likely to result in immediate benefits, which are likely to be significant in the long term in terms of protecting high quality agricultural land.</p> <p>The RES supports the development and implementation of a Regional Climate Change Action Plan which if successfully implemented should reduce incidences of extreme weather, reducing erosion and flooding and the drying out of areas of peat.</p>
Policy DP 9 - Reduce Emissions and Adapt to Climate Change Revocation	+	+	++	<p>The NPPF also contains requirements which provide a strong framework for the mitigation of, and adaptation to climate change impacts, including the protection of the most versatile agricultural land.</p>
Policy RDF 1 - Spatial Priorities Retention	+	++	++	<p>The regional spatial priorities for development are to concentrate development within the regional centres of Manchester and Liverpool, followed by second, third and fourth tier centres. This concentration approach limits the need to take new greenfield land for development, particularly in conjunction with other relevant RS policies.</p> <p>The RES also recognises the importance of the regional centres specifically under Action 54 which seeks to capitalise on the strengths and assets of Manchester, Liverpool and Preston as drivers of city-regional growth.</p>
Policy RDF 1 - Spatial Priorities Revocation	+	+	+	<p>The NPPF states that development should be located in areas where they can support local business, respond to the needs of the market and support existing business centres. Often these areas will correspond with the region's main centres - the Manchester Strategy recognises the importance of the City centre. Effects are therefore considered to be similar but slightly less significant based upon the lack of explicit direction contained within the NPPF and the time taken, particularly within Merseyside to adopt core strategies/local plans.</p>
Policy EM 1 - Integrated Enhancement and Protection of the Region's Environmental Assets Retention	+	+	++	<p>A high level strategic approach to the conservation, restoration and enhancement of environmental assets should lead to an improvement in their overall management. Benefits increase over time, reflecting the time taken for core strategies to be adopted (28 authorities in the region are still to adopt their core strategies). Fewer benefits are evident in the short term, but significant long term benefits are expected to soils as a result of this protectionist policy. The RES seeks also to improve the Quality of Life in the region which is indirectly complementary.</p> <p>Geological, and geomorphological resources are further supported through the delivery of national, regional and local objectives and targets.</p>

## Appendix E: SEA for the Revocation of the North West Regional Strategy

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy EM 1 - Integrated Enhancement and Protection of the Region's Environmental Assets Revocation	+	+	++	The NPPF places great importance on the protection of the natural environment. Paragraph 9 of the NPPF sets out a strategic policy approach, stating that the planning system should contribute to and enhance the natural and local environment by protecting and enhancing valued landscapes, geological conservation interests and soils.
Policy MCR1 – Manchester City Region Priorities Retention	0	++	++	MCR1 sets out the high level policy for the Manchester City Region. It is aimed at achieving a significant improvement in the economic performance of the Manchester City Region by encouraging investment and sustainable development in the Regional Centre, surrounding inner areas, the towns/cities and accessible suburban centres. Policies on environmental improvements, especially the high proportion of brownfield land take, are likely to bring benefits to biodiversity and soil.  The RES supports investment in quality public realm, green space and environmental quality with a focus upon improvements in the cities of Liverpool, Manchester and Preston.
Policy MCR1 – Manchester City Region Priorities Revocation	0	+	+	The Manchester Core Strategy is adopted as are certain other strategies within the sub-region (such as Oldham, Trafford). The Manchester Core Strategy was drawn up in the context of the Regional Strategy, and envisages housing delivery similar to that set out in the Regional Strategy. Core Strategy policy EN18 sets out an expectation that strategic locations will be a priority for the remediation of contaminated land, implementing a similar expectation in MCR1. However, the revocation of the brownfield targets may reduce the overall benefits to soil, particularly in the medium to longer term.
Policy CLN 1 – Overall Spatial Policy For Cumbria Retention	+	+	+	The policy seeks to focus major development within key settlements, with appropriate support for lower order development in other areas. The policy also seeks to improve transport links within the sub-region and promotes improved accessibility by public transport to employment and education opportunities. Policy guidance to direct development in settlements and to support sustainable tourism is likely to restrict development within the countryside therefore protecting soil quality in what is a predominantly rural area. Similarly support from the RES via support for sub-regional economic development is focussed towards existing facilities such as nuclear, and establishments such as the University of Cumbria.
Policy CLN 1 – Overall Spatial Policy For Cumbria Revocation	0	+	++	The NPPF aims to build strong, competitive economies and is supportive of economic strengths, which is assumed to include the Cumbrian nuclear industry. The NPPF also supports a strong rural economy. The dispersed nature of development within the county and low density of population makes a different pattern of development unlikely. Benefits are therefore similar as for retention, though benefits may be subject to minor delay resulting from the policy gap for those authorities which do not have adopted core strategies.
Policy CLN 2 – Sub-area Development Priorities For Cumbria Retention	+	+	++	CNL2 supports sustainable growth in Cumbria, particularly regeneration in West Cumbria and Barrow, focussing upon existing skills in nuclear and ship building and meeting the needs of local people in south and east Cumbria. The policy aims to concentrate development, reducing the need for greenfield land use, with significant benefits to soil quality.
Policy CLN 2 – Sub-area Development Priorities For Cumbria Revocation	0	+	++	It is anticipated that local evidence and policy will continue to support similar initiatives. In the short to medium term at least economic benefits arising from the regeneration activities of this policy will be reduced whilst other sources of funding are identified and delivered. This could be described as a cumulative impact and is less likely to be considered a direct result of RS revocation.

### 4.7.1 Effects of Revocation

The main adverse impacts on soil are a result of development. The spatial strategy for the North West is set out within RDF1. This is to concentrate development in the largest urban centres, with the urgency for development lessening with increasing rurality. It is possible in some areas that there will be less development on brownfield land and more on greenfield sites with the removal of top-down brownfield targets a result of revocation.

Revocation therefore records minor positive for soils for this policy as opposed to significant positive under retention as well as for MCR1 where the largest concentration of growth (and the highest brownfield targets) is envisaged without revocation.

Policy protection for soils that is not spatially specific is found within EM1. With revocation however, the NPPF would continue to seek to protect best and most versatile land (i.e. ALC Grades 1-3a), support green infrastructure and landscapes.

The revocation of policies would lead to no significant negative effects on soil.

### 4.7.2 Effects of Partial Revocation

The effects of partial revocation concern either

- Revoking all the quantified and spatially specific policies and retaining for a transitional period the non spatial policies; or
- Retaining for a transitional period all the spatially specific policies where a quantum of development or land for development is allocated to a particular location in the region and revoking the non spatial policies, ambitions and priorities; or
- Retention for a transitional period of policies, the revocation of which may lead to likely significant negative environmental effects.

The assessment has found that there are no quantified or spatially specific policies in the North West Regional Strategy where the act of revocation will cause a significant negative effect upon soils whilst retaining the same policy will maintain a significant benefit.

The assessment also indicated that there are no non-spatial policies, ambitions or priorities where revocation would lead to a significant negative impact for soil.

### 4.7.3 Effects of Retention

Significant effects identified for retention would result either from the non-spatial, overarching environmental protectionist policy EM1, which seeks to protect and enhance the environment of the region, or would be delivered as an indirect consequence of policies designed to concentrate development in urban areas, reducing the requirement for greenfield land and promoting the remediation of otherwise contaminated soils. Retention would be supported by RES Actions which seek to support economic development in the main urban centres and particularly areas in greatest need.

## 4.8 Mitigation Measures

Because no significant negative impacts of revocation were identified, no mitigation measures are proposed.

## 5. Water Quality and Resources

### 5.1 Introduction

The overview of plans and programmes and baseline information contained in this section provides the context for the assessment of potential effects of the proposals to revoke the regional strategy on water quality and resources. Information is presented for both national and regional levels.

Water quality and resources within this context are defined as inland surface freshwater and groundwater resources, and inland surface freshwater, groundwater, estuarine, coastal and marine water quality.

There are links between the water quality and resources topic and a number of other SEA topics, in particular the effects and interactions of water quality and resources on biodiversity, population and human health.

### 5.2 Summary of Plans and Programmes

#### 5.2.1 International

The **Water Framework Directive** (WFD) is the most substantial piece of EC water legislation to date and replaces a number of existing Directives including the Surface Water Abstraction Directive. It establishes a framework for the protection of inland surface waters, transitional waters, coastal water and groundwater and is designed to improve and integrate the way water bodies are managed, including encouraging the sustainable use of water resources. The key objectives at European level are general protection of the aquatic ecology, specific protection of unique and valuable habitats, protection of drinking water resources, and protection of bathing water.

In accordance with Article 4(1), the Directive objectives for surface water, groundwater, transitional and coastal water bodies are to:

- prevent deterioration;
- reduce pollution;
- protect, enhance and restore condition;
- achieve ‘good status’ by 2015, or an alternative objective where allowed; and
- comply with requirements for protected areas.

The WFD adopts the ‘polluters pays principle’ in seeking to ensure that the costs and benefits of discharging pollutants to the water environment are appropriately valued, and that implementation of the Directive is achieved in a fair and proportionate way across all sectors.

The aim of the **Marine Strategy Framework Directive (2008)** is to protect more effectively the marine environment across Europe. It aims to achieve good environmental status of the EU's marine waters by 2021 and to protect the resource base upon which marine-related economic and social activities depend.

With specific regard to coastal water quality, the **Bathing Waters Directive (2006/7/EC)** sets standards for the quality of bathing waters in terms of:

- the physical, chemical and microbiological parameters;
- the mandatory limit values and indicative values for such parameters; and
- the minimum sampling frequency and method of analysis or inspection of such water.

The **Floods Directive (2007/60/EC)** aims to provide a consistent approach to managing flood risk across Europe. The approach is based on a 6 year cycle of planning which includes the publication of Preliminary Flood Risk Assessments, hazard and risk maps and flood risk management plans. The Directive is transposed into English law by the Flood Risk Regulations 2009.

The **Urban Waste Water Treatment Directive (91/271/EEC)** has the objective of protecting the environment from the adverse effects of untreated ‘urban waste water’ (‘sewage’). The directive establishes minimum requirements for the treatment of significant sewage discharges. An important aspect of the directive is the protection of the water environment from nutrients, (specifically compounds of nitrogen and phosphorus), and/or nitrates present in waste water where these substances have adverse impacts on the ecology of the water environment or abstraction source waters. It was transposed into English law through the Urban Waste Water Treatment (England and Wales) Regulations 1994 (as amended).

In addition, the following European Directives have relevance to the protection of the water environment and resources:

- Dangerous Substances Directive (76/464/EEC);
- Quality of Shellfish Waters Directive (79/923/EEC);
- Directive on Priority Substances (2008/105/EC);
- Groundwater Directive (80 /68/EEC);
- Waste Framework Directive (2008/98/EC);
- Industrial Emissions Directive ((2010/75/EU); and
- Drinking Water Directive (98/83/EC).

### 5.2.2 National

#### UK

The **Flood and Water Management Act 2010** makes provisions about water, including those related to water resources, including;

- To widen the list of uses of water that water companies can control during periods of water shortage, and enable Government to add to and remove uses from the list.
- To encourage the uptake of sustainable drainage systems by removing the automatic right to connect

to sewers and providing for unitary and county councils to adopt SUDS for new developments and redevelopments.

- To reduce ‘bad debt’ in the water industry by amending the Water Industry Act 1991 to provide a named customer and clarify who is responsible for paying the water bill.
- To make it easier for water and sewerage companies to develop and implement social tariffs where companies consider there is a good cause to do so, and in light of guidance that will be issued by the Secretary of State following a full public consultation.

The **Marine and Coastal Access Act 2009** sets out a number of measures including the establishment of Marine Conservation Zones (MCZs) and Marine Spatial Plans. The main objectives of the **Marine Policy Statement (2011)** are to enable an appropriate and consistent approach to marine planning across UK waters, and to ensure the sustainable use of marine resources and strategic management of marine activities from renewable energy to nature conservation, fishing, recreation and tourism.

### England

In England, the implementation work related to the Water Framework Directive is undertaken by the Environment Agency, working in partnership with key partners. For these reason the majority of data and programmes regarding Water Quality and Resources cover both administrations and therefore England and Wales are considered collectively in this chapter.

There are 11 River Basin Districts in England and Wales which each require (under the Water Framework Directive) a **River Basin Management Plan (RBMP)** including objectives for surface water, groundwater, transitional and coastal water bodies.

The Government’s 2011 White Paper ‘**Water for Life**’ sets out the Government’s vision for future water management in which the water sector is resilient and which water is valued as a precious resource. The key reforms set out in the White Paper are:

- the introduction of a reformed water abstraction regime, as signaled in the Natural Environment White Paper changes to deal with the legacy of over-abstraction of our rivers;
- a new catchment approach to dealing with water quality and wider environmental issues;
- with the Environment Agency and Ofwat provide clearer guidance to water companies on planning for the long-term, and keeping demand down;
- consultation on the introduction of national standards and a new planning approval system for sustainable drainage; and
- collaboration with water companies, regulators and customers to raise awareness of the connection between how we use water and the quality of our rivers.

**Water for people and the environment** - Water resources strategy for England and Wales (2009) published by Environment Agency, includes the following objectives:

- enable habitats and species to adapt better to climate change;
- allow protection for the water environment to adjust flexibly to a changing climate;

- reduce pressure on the environment caused by water taken for human use;
- encourage options resilient to climate change to be chosen in the face of uncertainty;
- better protect vital water supply infrastructure;
- reduce greenhouse gas emissions from people using water, considering the whole life-cycle of use; and
- improve understanding of the risks and uncertainties of climate change.

Other relevant strategies include the Environment Agency's **Catchment Abstraction Management Strategies (CAMS)** which have identified a number of catchments in England and Wales which are designated as Over-Licensed or Over-Abstracted. That is, the current level of licensed abstraction could result in an unacceptable stress on the catchment's ecology (designated over-licensed) or possibly is resulting in an unacceptable effect (designated over-abstracted).

**National Policy Statements (2011 and 2012)** brings together national government policy for nationally significant infrastructure projects (NSIPs) for energy, wastewater and ports infrastructure. The National Policy Statements set out the policy framework for decisions on major infrastructure projects that meet the NSIPs thresholds established in the Planning Act 2008.

The **National Planning Policy Framework (NPPF) (2012)** expects the planning system to contribute to conserving and enhancing the natural environment and reducing pollution, and take full account of flood risk. In particular, the planning system is expected to prevent new development from contributing to unacceptable levels of water pollution:

- Local planning authorities are expected to set out the strategic priorities for their area in the Local Plan including strategic policies to deliver the provision of infrastructure for water supply, wastewater, flood risk and coastal change management. In preparing the evidence base for their Local Plans, they are expected to work with other authorities and providers to assess the quality and capacity of the existing infrastructure and its ability to meet forecast demands. Public bodies have a duty to co-operate on planning issues that cross administrative boundaries particularly those which relate to strategic priorities;
- The Framework expects inappropriate development in areas of flood risk to be avoided and sets out how this should be achieved through the preparation of Local Plans and in determining planning applications. Supporting technical guidance has been provided to ensure the effective implementation of the policy;
- Local plans are expected to take account of climate change over the longer term including factors such as flood risk, coastal change and water supply. New development should be planned to avoid increased vulnerability to the range of impacts arising from climate change.

### 5.2.3 North West Regional Plans

The Environment Agency is developing **Catchment Abstraction Management Strategies (CAMS)** which consider how much water can be abstracted from watercourses and groundwater without damaging the environment within a catchment - the most appropriate scale for planning for water. They recognise the needs of abstractors whilst also reflecting the requirements of the Water Framework Directive.

The water companies are required by provisions in the Water Resources Management Plan Regulations 2007 to prepare **Water Resources Management Plans**<sup>84</sup> to address the challenges to water supplies from growth, climate change and environmental legislation. They are also required to prepare **Drought Management Plans**. These set out how they will maintain the water supply during periods of low rainfall when supply becomes depleted.

The Environment Agency also produces and monitors the delivery of action arising from **Catchment Flood Management Plans** (CFMPs) which give an overview of the flood risk across each river catchment. They recommend ways of managing those risks now and over the next 50-100 years. The Environment Agency has identified 13 catchments in the North West Region of England which separate areas of land that collect precipitation and drain naturally into a single river system. Flood management plans have been prepared for each of these 13 catchments; Derwent, Eden, South West Lakes, Kent and Leven, Lune, Wyre, Ribble, Alt Crossens, Douglas, Irwell, Mersey Estuary, Upper Mersey and Weaver-Gowy.

**Shoreline Management Plans** (SMPs) are produced by a partnership of organisations (including relevant local authorities, Natural England, English Heritage and Internal Drainage Boards) led by the Environment Agency. They are large-scale assessments of the risks associated with coastal processes. They seek to reduce these risks to people and the developed, historic and natural environments. There is one relevant plan for the North West which is the Great Ormes Head to Scotland SMP.

### 5.3 Overview of the Baseline

#### 5.3.1 National

##### UK

The UK has a diversity of inland and coastal waters (such as reservoirs, lakes, rivers, canals, estuaries, transitional waters, and coastal waters). Protected water features include waters designated for human consumption (including those abstracted from groundwater); areas designated for the protection of economically significant aquatic species (e.g. shellfish or freshwater fish); bathing waters (under the Bathing Waters Directive); nutrient-sensitive areas; and areas with waters important to protected habitats or species under the Habitats Directive or the Birds Directive.

There are 182 protected areas in UK inshore waters with a marine element, which includes 81 Special Protection Areas (SPAs) with marine habitats for birds, 98 Special Areas of Conservation (SACs) with marine habitats or species and three Marine Nature Reserves. In total the area coverage of these sites exceeds 1.8 million hectares, or 2.2% of UK waters.<sup>85</sup>

The principal aquifers of the UK are located in the lowlands of England. The most important are the Chalk, Permo-Triassic sandstones, the Jurassic limestones and the Lower Greensand. Around 81% of groundwater bodies in England are at risk of failing Water Framework Directive objectives because of diffuse pollution.

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<sup>84</sup> [http://www.anglianwater.co.uk/\\_assets/media/AW\\_WRMP\\_2010\\_main\\_Report.pdf](http://www.anglianwater.co.uk/_assets/media/AW_WRMP_2010_main_Report.pdf)

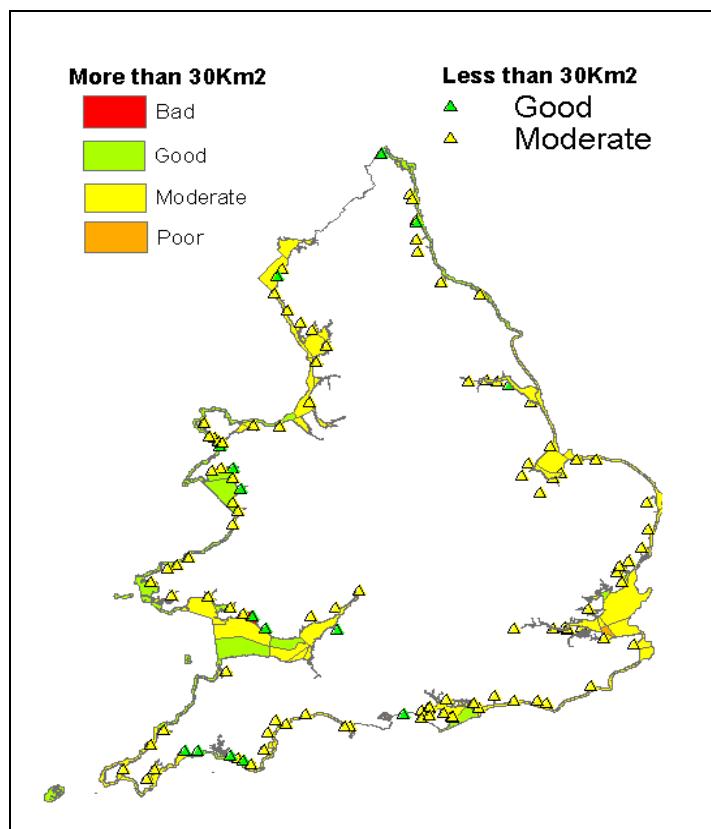
<sup>85</sup> <http://www.defra.gov.uk/foodfarm/fisheries/documents/mpp2009-10info.pdf>

As the majority of data regarding water resources and quality is collected by the Environment Agency (covering both England and Wales), Scottish Environment Protection Agency and Northern Ireland's Department of Environment, there is little available data on a UK level and therefore for this chapter the remainder of the baseline is considered by these divisions of administrations.

### England

Coastal water quality has improved over the last two decades, however current WFD draft classification results and maps produced by the Environment Agency indicate that there are still a large proportion of coastal waters in England (and Wales) that are classified as being of Moderate Ecological Status (see Figure 5.1) i.e. are failing to meet 'Good Ecological Status' (GES) on the basis of a number of physio-chemical and biological standards and are therefore in need of measures to achieve GES.

**Figure 5.1 Ecological Status/Potential of Estuaries and Coasts in England and Wales**



Source: *Framework Directive results and maps* available at <http://www.environment-agency.gov.uk/research/library/data/97343.aspx> (accessed 21/10/2009)

River water quality in England has been steadily increasing since 1990 and in 2009, 73% of rivers were of good biological quality. Between 2006 and 2007, the percentage of rivers of 'good' chemical quality rose from 74% to 76% (based on the General Quality Assessment system<sup>86</sup> which is based on 3 determinants - dissolved oxygen,

<sup>86</sup> The GQA system is being superseded by the Water Framework Directive regime, however the transition is on-going.

biochemical oxygen demand and ammoniacal nitrogen). In 2009 this rose to 80 per cent. High levels of phosphorus can result in increased algal growth in freshwater and high levels of nitrate are of concern in relation to drinking water abstractions. Rivers with the highest concentrations of phosphate and nitrate are mainly in central and eastern England reflecting geology, agricultural inputs and higher population density.

The consumption of water abstracted from non-tidal surface and groundwater in England and Wales has fallen from an estimated 41.2 thousand megalitres/day in 2000 to 33.6 thousand megalitres/day in 2009.

### 5.3.2 North West Region

Water in the North West historically has been identified as being in plentiful supply, but of poor quality. This is especially true in the urban areas and along the North West coast<sup>87</sup>. The quality of the region's water is a key environmental indicator. It is a prerequisite for continued economic growth as its quality affects all sectors with a direct impact on sectors including recreation, agriculture and tourism. The region's rivers are the cleanest they have been for a hundred years and 96% were rated 'good' or 'fair' in terms of chemical quality. The latest 'headline indicator' survey (2007) shows that North West chemical quality is now better than the average for England (based on rivers achieving a good or fair rating), but it is not as good for biological quality. Some key facts relating to water quality in the North West are set out below<sup>88</sup>:

- 9.7% of rivers have very high levels of nitrate and this trend is rising. 30.5% of rivers have high levels of phosphate, although there is a downward trend from 2003 which is significant for improving water quality in the region;
- 32% of rivers in the region are classed as 'good' under the Water Framework Directive (WFD). The target is for 36% of the region's rivers to achieve 'good' status by 2015;
- The number of pollution incidents to water has declined significantly across all categories since 2002. 2007 saw the Environment Agency deal with 884 fewer incidents to water than in 2002;
- Sewage is the most commonly identified pollutant in serious incidents (Category 1 and 2 incidents);
- Oxygen levels throughout the Mersey Estuary are now high enough to support fish, including salmon.

There is 6458 km of river in the North West and 866 surface water bodies covered by River Basin Management Plans (RBMP) within the North West River Basin District (North West region, Solway Tweed and Dee). All the water bodies in the region have been classified and had objectives set for 2015, 2021 and 2027. Table 5.1 sets out that current status of surface water bodies in the North West region and the expected status in 2015.

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<sup>87</sup> Regional Intelligence Unit (2010) Environment Evidence Base RS2010.

<sup>88</sup> Regional Intelligence Unit (2010) Environment Evidence Base RS2010.

**Table 5.1 Status of Surface Water Bodies in the North West Region<sup>89</sup>**

<b>Status of surface water bodies in the North West region – current quality and expected outcomes for 2015</b>			
	<b>Current</b>	<b>2015</b>	<b>Change</b>
High	1	1	0
Good	276	313	+38
Moderate	486	480	-6
Poor	80	59	-21
Bad	23	13	-10
Total	866	866	--

Of the 68% not currently meeting ‘good’ status, the majority fail because the invertebrate, fish and phosphorus quality elements do not meet the standard required for ‘good’. Where known, the reasons for failure to meet ‘good’ status in the North West are attributable to diffuse sources from agricultural, point source pollution, physical modification (for flood protection and water supply and storage) and diffuse source pollution (i.e. run off)<sup>90</sup>.

The North West River Basin District also includes 21 groundwater waters, all of which have been assessed as part of the RBMP. The classification system for groundwaters differs from that for other water bodies. It comprises two components, quantitative and chemical, and these are combined into an overall class. Currently, 29% of groundwaters are achieving ‘good’ status, with 33% predicted to achieve ‘good’ status by 2015. Their current status and that predicted for 2015 is summarised in Table 5.2, expressed as the percentage of water bodies in each class. Based on the current classification, the elements responsible for groundwater water bodies not meeting ‘good’ status are:

- Chemical status in order of increasing importance: Impact on Wetlands, Saline Intrusion, General Chemical Test, Drinking Water Protected Area, and Impact on Surface Waters;
- Quantitative status: Saline Intrusion, Water Balance, and Impact On Surface Waters.

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<sup>89</sup> Environment Agency (2010) North West Regional Contribution 2010-2015 Evidence Pack.

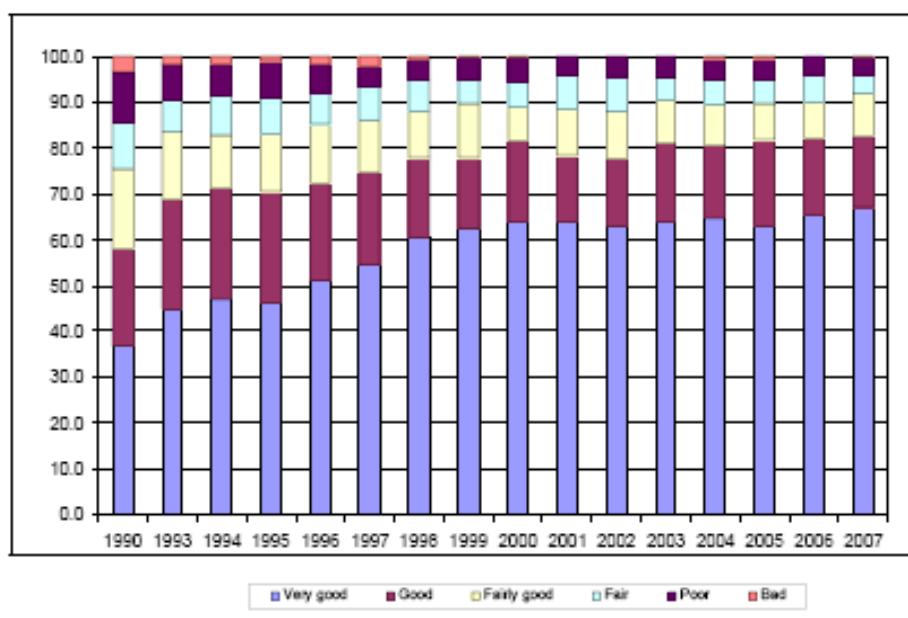
<sup>90</sup> Regional Intelligence Unit (2010) Environment Evidence Base RS2010.

**Table 5.2 Status of Ground Water Bodies in the North West Region<sup>91</sup>**

Status of groundwater water bodies in the North West region – current quality and expected outcomes for 2015						
%	Current			Prediction 2015		
	Quantitative	Chemical	Overall	Quantitative	Chemical	Overall
High	0	0	0	0	0	0
Good	67	48	29	67	52	33
Moderate	0	0	0	0	0	0
Poor	33	52	71	33	48	67
Bad	0	0	0	0	0	0

The chemical quality of rivers in the North West in 2007<sup>92</sup> was better than the national average. However, the region is still below the national average in terms of biological quality (rivers achieving a good or fair rating). Figure 5.1 demonstrates the progress made in improving the chemical quality of rivers in the North West. There are significant variations in river quality across the region. At the sub-regional level, Cumbria has the highest proportion of rivers classed as 'good' or better. Merseyside has the highest proportion of rivers rated as 'poor' or 'bad'. Areas that could be seen as priorities for river quality improvements are Halton, Liverpool and the Manchester conurbation.

**Figure 5.1 Chemical Quality in the Northwest 1990 to 2007**



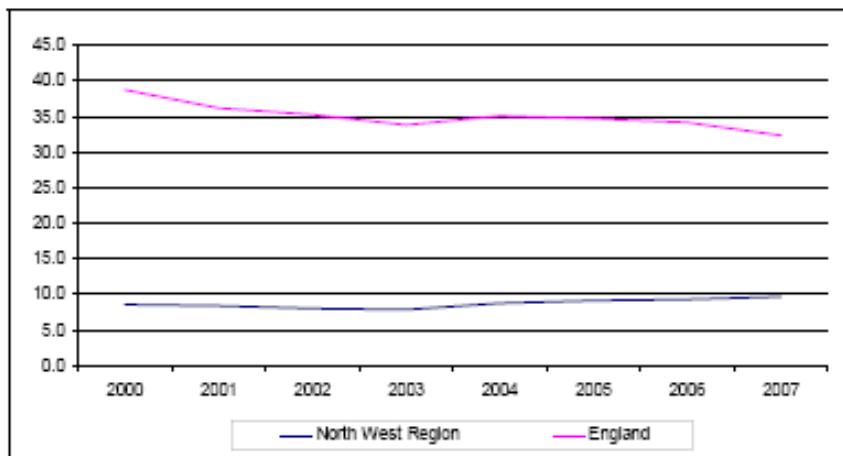
Source: Environment Agency (2008)

<sup>91</sup> Environment Agency (2010) North West Regional Contribution 2010-2015 Evidence Pack.

<sup>92</sup> Regional Intelligence Unit (2010) Environment Evidence Base RS2010.

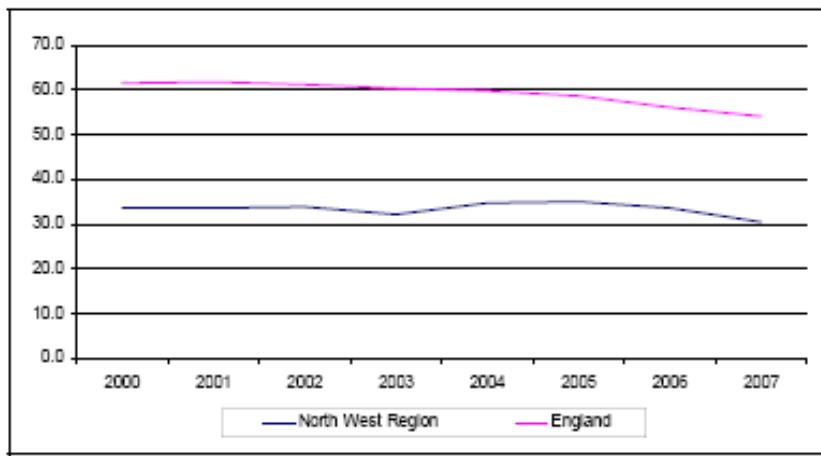
In North West, 9.7% of rivers have very high levels of nitrate and this trend is rising (Figure 5.2). 30.5% of rivers have high levels of phosphate, although there is a downward trend from 2003 (Figure 5.3) which is significant for improving water quality in the region<sup>93</sup>.

**Figure 5.2 Percentage length with high nitrate levels (>30mg/l) for North West and England**



Source: Environment Agency (2008)

**Figure 5.3 Percentage length with high phosphate levels (>0.1mg/l) for North West and England**



Source: Environment Agency (2008)

Compliance with the European mandatory standards for bathing waters in the North West has improved dramatically over the past ten years, so that all the region's beaches passed in 2006 compared with only 50% in 1997. Despite two unusually wet summers, and the greater risk of wash-in and discharges of human and animal

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<sup>93</sup> Regional Intelligence Unit (2010) Environment Evidence Base RS2010.

wastes, no more than 4 beaches failed in 2007-2008. Six of the 36 Northwest beaches tested in 2008 passed the more stringent 'guideline' standards<sup>94</sup>.

Water resources are important for ensuring a sustainable supply of water in the region. Water resource availability is forecast to decrease, but there is a well integrated and flexible water supply network in the region and United Utilities plans to increase the resource base with a number of new sites.

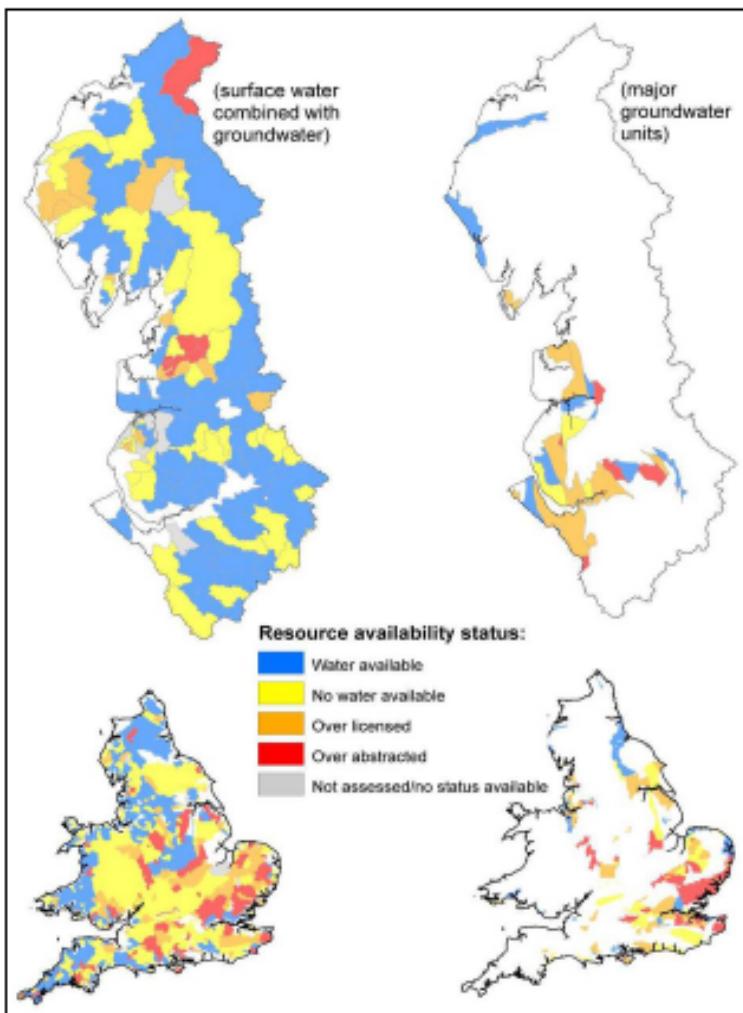
The North West region has 12 Catchment Abstraction Management Strategies (CAMS). 22% of the resource management units are classified as over-abstacted or over-licensed at low flows (23 resource management units over-licensed, 12 resource management units over-abstacted). The 'over-licensed' status means that current *actual* abstraction is resulting in no surplus water above the needs of the environment at low flows. However, if existing licences were used to their full *potential* amount environmental needs may not be met at moderate and/or high flows as well as low flows. 'Over-abstacted' status means that *actual* abstraction is resulting in the environmental needs not being met at moderate and/or high flows as well as low flows. There may be a surplus above environmental needs at high flows<sup>95</sup>. Figure 5.4 shows the water available for abstraction in the region.

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<sup>94</sup> Regional Intelligence Unit (2010) Environment Evidence Base RS2010.

<sup>95</sup> Regional Intelligence Unit (2010) Environment Evidence Base RS2010.

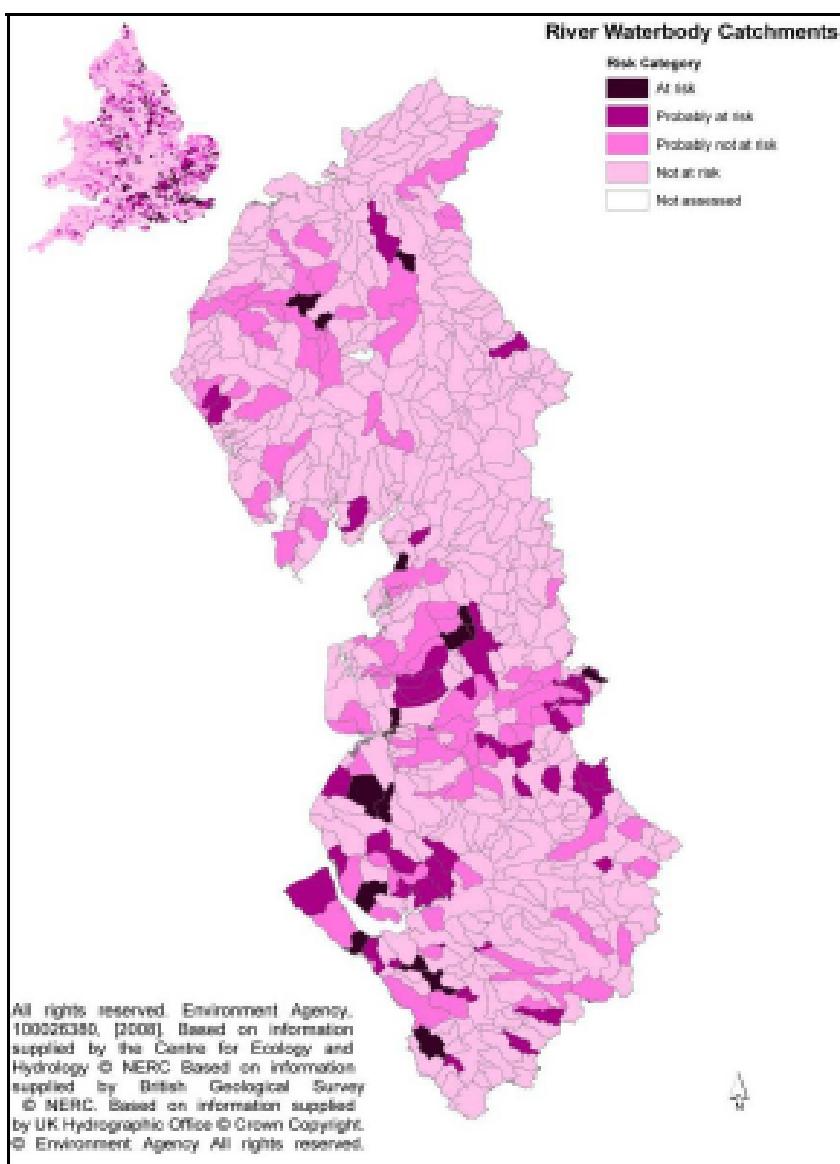
**Figure 5.4 Water available for abstraction**



Source: Water resources strategy regional action plan for North West Region (draft) (2009)

In the North West 10% (89 of the 866) of surface water bodies are currently at risk from or probably at risk from too much abstraction and are consequently being damaged (Figure 5.5).

**Figure 5.5 Surface water bodies at risk from abstraction**



Source: Water resources strategy regional action plan for North West Region (draft) (2009)

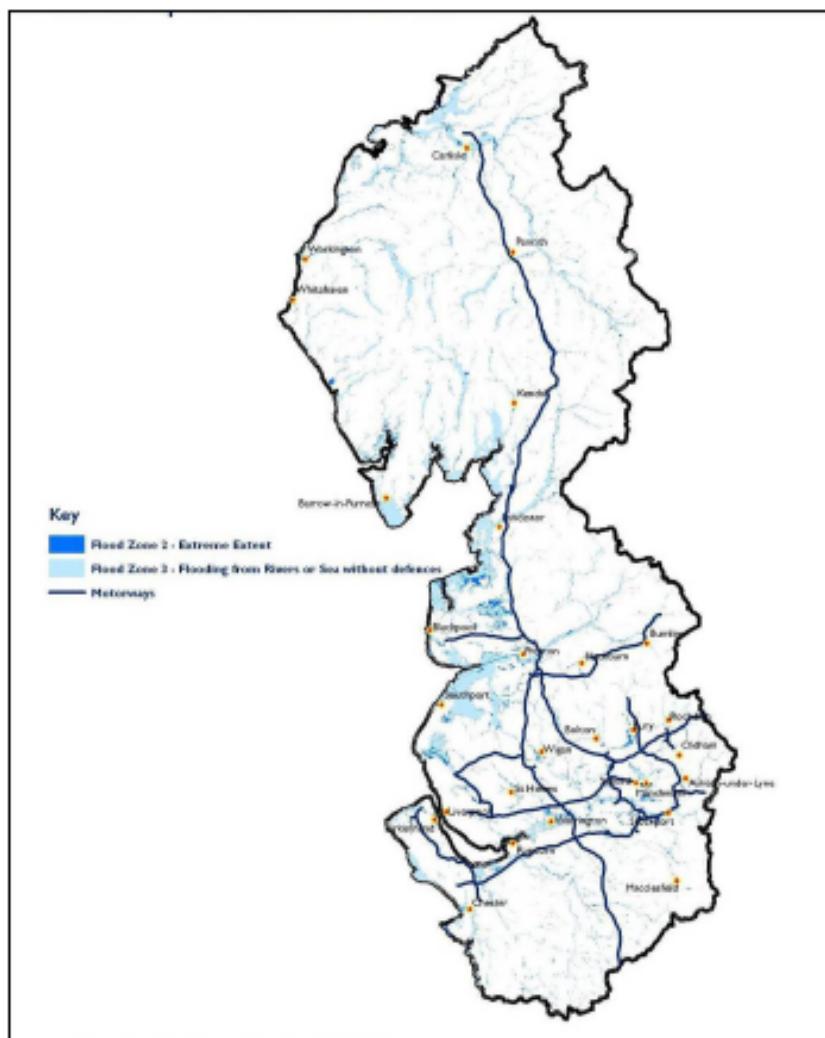
The Environment Agency flood map (Figure 5.6) indicates some 159,000 properties are at risk of flooding from rivers and/or the sea in the region. 37,200 are at significant risk, 48,700 are at moderate risk and 73,100 are at low risk. There are two different kinds of area shown on the Flood Map; the light blue areas could be affected by flooding, either from rivers or the sea, if there were no flood defences. These areas could be flooded:

- From the sea by a flood that has a 0.5% (1 in 200) or greater chance of happening each year;
- From a river by a flood that has a 1% (1 in 100) or greater chance of happening each year.

The dark blue areas show the additional extent of an extreme flood from rivers or the sea. These outlying areas are likely to be affected by a major flood, with up to a 0.1% (1 in 1000) chance of occurring each year. These two colours show the extent of the natural floodplain if there were no flood defences or certain other manmade structures and channel improvements.

In March 2009, 122,000 properties had been offered the flood warning service, 24,200 properties more than the target of 97,800 properties. By 2013 it is hoped the number of properties receiving flood warnings will have increased to 140,000. Warrington is ranked 10<sup>th</sup> nationally for number of properties at significant risk of flooding<sup>96</sup>. Figure 5.6 illustrates that across the region there are more properties at risk from surface water flooding than from fluvial or tidal flooding.

**Figure 5.6 North West Flood Zones**



Source: Flood Map of the North West - Flood Zones 2 and 3 locations (2008)

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<sup>96</sup> Regional Intelligence Unit (2010) Environment Evidence Base RS2010.

## 5.4 Environmental Characteristics of those Areas most likely to be Significantly Affected

### 5.4.1 National

In some urban areas in England there is relatively little water available per capita, and abstraction is above its sustainable level. The Environment Agency have derived assessments on availability of water resources for new abstraction based on Catchment Abstraction Management Strategy (CAMS) assessments and large areas of England, most notably in the South East, have been identified as areas where water for new abstractions will be limited to winter months when flows are high.<sup>97</sup>

This issue is likely to continue in the future based on projections on the future rainfall and demand has lead to the classification of all south-eastern areas as seriously water stressed. The remainder of the UK is classified as either having low or moderate water stress.

Recently published River Basin Management Plans (which have been established in accordance with the Water Framework Directive) have designated a number of freshwater (surface and groundwater), transitional (estuaries) and coastal water bodies in England as failing to meet “*Good Ecological Status*” (GES) on the basis of a number of physio-chemical and biological standards. Flows in rivers and freshwater inputs to transitional waters are considered to be a ‘supporting element’ in the achievement of GES.

In Southern and Eastern regions of England, where rainfall is comparatively low, per capita water consumption tends to be higher than elsewhere. In some areas, abstraction is above its sustainable level and this combined with projections for rainfall and demand has lead to the classification of all south-eastern areas as seriously water stressed.

### 5.4.2 North West

Water in the North West historically has been identified as being in plentiful supply but of poor quality, however this is improving. The primary issue regarding water resources in the region is water quality:

- 9.7% of rivers have very high nitrate levels and this trend is rising;
- 30.5% of rivers have high levels of phosphates, although there is a downward trend from 2003;
- 68% of water bodies in the region do not meet ‘good’ status. This is largely attributable to agricultural practices, diffuse source pollution or point source pollution;
- 71% of ground water bodies do not meet ‘good’ status.

10% of surface water bodies in the North West are currently at risk from or probably at risk from too much abstraction and are consequently being damaged.

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<sup>97</sup> <http://sd.defra.gov.uk/2010/07/measuring-progress-sustainable-development-indicators-2010>.

Flood risk management: 159,000 properties around the region are at risk of flooding from rivers and/or the sea, 37,200 of which considered to be at significant risk. Warrington is ranked 10<sup>th</sup> nationally for the number of properties at significant risk of flooding.

### 5.5 Likely Evolution of the Baseline

#### 5.5.1 National

##### UK

The current trend in water condition is generally towards increased water quality across natural environments, drinking water and bathing waters<sup>98</sup>. Current climate change predictions indicate that rainfall patterns will become increasingly seasonal, with lower amounts of flow in the summer. This will lead to lower summer river flows, especially in those catchments with a low groundwater component. This could lead to increased abstraction pressure, increased stress on sensitive hydrological systems and a decrease in dilution potential leading to a failure against water quality targets. Increased flooding and storm events also have the potential to increase runoff of pollutants into controlled waters, thus reducing water quality. Population pressures are predicted to increase in certain parts of Great Britain, for example in the south-east. Increased population density will result in an increased pressure on natural resources and could exacerbate current problems or cause new ones.

The Marine and Coastal Access Act 2009 allows for the creation of Marine Conservation Zones (MCZs) in Great Britain (Northern Ireland MCZs will be introduced through separate legislation). MCZs will protect nationally important marine wildlife, habitats, geology and geomorphology. Sites will be selected to protect the range of marine wildlife<sup>99</sup>. This should lead to greater protection and improvement of marine habitats in the future.

In 2011, all but 14 of the 597 coastal bathing waters in the UK met the mandatory (basic) standards of the European Bathing Water Directive<sup>100</sup>. Under the revised Bathing Water Directive all bathing waters will be required to achieve at least 'sufficient' quality by 2015, which is twice as stringent as the current mandatory standard. The overall quality of bathing waters is therefore likely to increase as water quality is improved to meet the increased standards.<sup>101</sup>

##### England

The Environment Agency's Catchment Abstraction Management Strategies (CAMS) have identified a number of catchments in England which are designated as Over-Licensed or Over-Abstracted. Climate change is likely to result in lower summer rainfalls and more frequent/severe winter flood events. Such changes are likely to increase pressure on summer freshwater water availability and increase pollutant runoff into controlled waters during flood events. Unsustainable groundwater and surface water abstraction may contribute to environmental damage of

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<sup>98</sup> Defra, Sustainable Development Indicators, 2009,  
[http://www.defra.gov.uk/sustainable/government/progress/documents/SDIYP2009\\_a9.pdf](http://www.defra.gov.uk/sustainable/government/progress/documents/SDIYP2009_a9.pdf)

<sup>99</sup> Natural England. <http://www.naturalengland.org.uk/ourwork/marine/protectandmanage/mpa/mcz/default.aspx>

<sup>100</sup> Defra, Environmental Statistics – Key Facts Dec 2011.

<sup>101</sup> Environment Agency <http://www.environment-agency.gov.uk/research/library/data/112170.aspx>

rivers and wetlands at 500 sites in England and Wales, important conservation sites, including sites of national and international conservation importance.

The Environment Agency aims that by 2030 water use per person in England should fall by 130 litres/ day.<sup>102</sup>

The Water Framework Directive (Directive 2000/60/EEC) requires that river basin management plans are prepared by December 2009. The objectives of the river basin management plans are required to be achieved by 2015.**Error! Bookmark not defined.** Those objectives are to:

- prevent deterioration, enhance and restore bodies of surface water, achieve good chemical and ecological status of such water and reduce pollution from discharges and emissions of hazardous substances;
- protect, enhance and restore all bodies of groundwater, prevent the pollution and deterioration of groundwater, and ensure a balance between groundwater abstraction and replenishment; and
- preserve protected areas.

Defra aims that by 2030 at the latest, England has improved the quality of our water environment and the ecology which it supports, and continued to provide high levels of drinking water quality from its taps; sustainably manage risks from flooding and coastal erosion, with greater understanding and more effective management of surface water; ensure a sustainable use of water resources, and implement fair, affordable and cost reflective water charges; cut greenhouse gas emissions; and embed continuous adaptation to climate change and other pressures across the water industry and water users.<sup>103</sup>

Environment Agency aims to enhance water supply by up to 1,100Ml/d above present levels by the improvement of existing schemes and the development of some new resources.<sup>104</sup>

There is a trend of improving quality of rivers within England; between 1990 and 2008 the percentage of rivers of good biological quality in England rose from 63 to 72%. Over the same time period the percentage of rivers of good chemical quality rose from 55 to 79%<sup>105</sup>.

### 5.5.2 North West Region

Water quality in the North West is improving and is likely to continue to improve to meet regulatory targets. Policy EM5 of the Regional Strategy requires local planning authorities to protect the quality and quantity of surface, ground and coastal waters.

Water resources are important for ensuring a sustainable supply of water in the North West. Water resource availability is forecast to decrease, and indeed, 10% of the resource management units in the North West are

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<sup>102</sup> EU [http://europa.eu/legislation\\_summaries/agriculture/environment/l28002b\\_en.htm](http://europa.eu/legislation_summaries/agriculture/environment/l28002b_en.htm)

<sup>103</sup> Future Water, the Government's Water Strategy for England.

<sup>104</sup> EA, Water Resources for the Future: A Strategy for England and Wales.

<sup>105</sup> Defra, Sustainable Development Indicators (2010) <http://sd.defra.gov.uk/2010/07/measuring-progress-sustainable-development-indicators-2010/>

already considered to be at risk of over abstraction, however United Utilities plan to increase the resource base in the region with a number of new sites to keep pace with demand for water resources.

55,000 properties in the 13 catchments in the region subject to Catchment Flood Management Plans are currently at risk of flooding at 1% annual probability event. This could rise to 75,000 by 2010 due to the effects of climate change.

## 5.6 Assessing Significance

**Table 5.3** sets out guidance utilised during the assessment to help determine the relative significance of potential effects on the water quality and resources. It should not be viewed as definitive or prescriptive; merely illustrative of the factors that were considered as part of the assessment process.

**Table 5.3 Approach to determining the significance of effects on Water**

Effect	Description	Illustrative Guidance
++	Significant positive	<ul style="list-style-type: none"> <li>Alternative would lead to a major reduction in water use such that the risk of water shortages in the region is significantly decreased and abstraction is at least at a sustainable level in the long term.</li> <li>Alternative would significantly decrease the amount of waste water, surface runoff and pollutant discharges so that the quality of that water receptors (including groundwater, surface water, sea water or drinking receptors) will be significantly improved and sustained and that all water targets (including those relevant to chemical and ecological condition) are reached and exceeded.</li> </ul>
+	Positive	<ul style="list-style-type: none"> <li>Alternative would lead to a minor reduction in water use such that the risk of water shortages in the area is decreased in the short term and abstraction is closer to sustainable levels than prior to development.</li> <li>Alternative would lead to minor decreases in the amount of waste water, surface runoff and/or pollutant discharges so that the quality of water receptors (including groundwater, surface water, sea water or drinking receptors) may be improved to some level temporarily and that some water targets (including those relevant to chemical and ecological condition) will be reached/exceeded.</li> </ul>
0	No (neutral effects)	<ul style="list-style-type: none"> <li>Alternative would not significantly affect water demand and abstraction levels will not be altered.</li> <li>Alternative would not change amount of waste water, surface runoff and/or pollutant discharges so that the quality of water receptors will not be affected.</li> </ul>
-	Negative	<ul style="list-style-type: none"> <li>Alternative would lead to a minor increase in water use such that the risk of water shortages in the area is increased to some level in the short term and abstraction is further removed from sustainable levels.</li> <li>Alternative would lead to minor increases in the amount of waste water, surface runoff and/or pollutant discharges so that the quality of water receptors (including groundwater, surface water, sea water or drinking receptors) may be decreased to some level temporarily and it may prevent some water targets (including those relevant to chemical and ecological condition) from being achieved.</li> </ul>
--	Significant negative	<ul style="list-style-type: none"> <li>Alternative would lead to major increases in water use such that the risk of water shortages in the area is significantly increased and abstraction is beyond sustainable levels.</li> <li>Alternative would lead to an exceedance of an abstraction license limit.</li> <li>Alternative would lead to major increases in the amount of waste water, surface runoff and/or pollutant discharges so that the quality of water receptors (including groundwater, surface water, sea water or drinking receptors) will be considerably increased and will prevent some or all water targets (including those relevant to chemical and ecological condition) from being achieved.</li> </ul>
?	Uncertain	<ul style="list-style-type: none"> <li>From the level of information available the impact that the alternative would have on this objective is uncertain.</li> </ul>

## 5.7 Assessment of Significant Effects of Retention, Revocation and Partial Revocation

Table 5.4 summarises the significant effects identified in the detailed assessment of the North West of England plan policies against the water topic.

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy DP 7 - Promote Environmental Quality Retention	+	+	++	DP7 sets out a range of measures by which environmental quality should be protected and enhanced, including promoting good quality design in new development. This should lead to significant improvements in water efficiency over existing homes, which will be significant in the long term.
Policy DP 7 - Promote Environmental Quality Revocation	+	++	++	Policies in the NPPF promoting high level design and climate change mitigation and adaptation are likely to lead to similar efficiencies and benefits as DP7.
Policy DP 9 - Reduce Emissions and Adapt to Climate Change Retention	+	+	++	DP9 seeks reductions in carbon emissions as an urgent regional priority. Effective adaptation to the likely environmental, social and economic impacts of climate change is a key element of this policy. The strength of this policy is likely to result in immediate benefits, which are likely to be significant in the long term in terms of minimising the threat from increased pressure on water supply and drainage systems.  The RES supports the development and implementation of a Regional Climate Change Action Plan.

## Appendix E: SEA for the Revocation of the North West Regional Strategy

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy DP 9 - Reduce Emissions and Adapt to Climate Change Revocation	+	+	++	The NPPF also contains requirements which provide a strong framework for the mitigation of, and adaptation to climate change impacts, including tagging account of water supply issues.
Policy EM 1 - Integrated Enhancement and Protection of the Region's Environmental Assets Retention	+	+	++	EM1 sets out a high level strategic approach to the conservation, restoration and enhancement of environmental assets, which should lead to an improvement in their overall management. Benefits increase over time, reflecting the time taken for core strategies to be adopted. The protection of the natural environment is also likely to have significant benefits to water quality in the region.
Policy EM 1 - Integrated Enhancement and Protection of the Region's Environmental Assets Revocation	+	+	++	The NPPF places great importance on the protection of the natural environment. Paragraph 9 of the NPPF sets out a strategic policy approach, stating that the planning system should contribute to and enhance the natural and local environment by protecting and enhancing valued landscapes, geological conservation interests and soils. Similar benefits to water quality are likely to arise as for retention.
Policy EM 5 - Integrated Water Management Retention	+	+	++	Policy EM5 outlines the roles of local authorities, the Environment Agency and water companies in meeting the requirements of the Water Framework Directive, and states that development should be located where there is spare capacity in existing water supply, waste water treatment and sewerage, but if not that development must be phased so that new infrastructure capacity can be provided without environmental harm. Benefits to water resources and quality accrue, becoming significant in the long term.  The RES seeks to ensure appropriate utilities infrastructure by ensuring forward planning and investment for sustainable growth by the utilities companies and the planning system. RES Action 122 seeks to protect existing areas of high economic value from flooding, to appropriate standards whilst Action 90 seeks to ensure forward planning and investment for sustainable growth by the utilities companies and the planning system recognising that utility infrastructure could be a constraint on growth without appropriate planning and investment.
Policy EM 5 - Integrated Water Management Revocation	+	+	++	Broadly speaking, EM5 incorporates the requirements of the Water Framework Directive, the sequential test originally set out in PPS25 and now incorporated into the NPPF, and the Floods and Water Management Act 2010. The policy on phasing of development where necessary is judged to be a straightforward solution to problems that can arise where development is brought forward in areas of flood risk, and its revocation, and the revocation of EM5 more generally is therefore unlikely to have any effect.

### 5.7.1 Effects of Revocation

Water in the North West historically has been identified as being in plentiful supply, but of poor quality. It is improving, however, and the region's rivers are better than the average for England on chemical quality, but not as good for biological quality. 10% of the resource management units in the North West are already considered to be at risk of over abstraction and it should be noted that the revocation of many policies concerned with the quantum

of development in the region may lead to minor negative effects. However United Utilities plan to increase the resource base in the region with a number of new sites to keep pace with demand for water resources and water treatment (for example the extension to Sandon Dock, Liverpool) whilst in terms of supply they are planning for an increase in households above the total identified in the RS albeit over a longer time frame.

Flooding is a potential issue, with 159,000 properties around the region are at risk of flooding from rivers and/or the sea, 37,200 of which considered to be at significant risk. Warrington is ranked 10<sup>th</sup> nationally for the number of properties at significant risk of flooding. The policy safeguards provided by the NPPF and the Floods and Waters Management Act should ensure that effects of revocation are not negatively significant.

In conclusion, the revocation of policies is not assessed as having significant negative impacts on water. Where significant positive effects are identified, the benefits are assessed as being the same for retention as for revocation. The one exception is DP7 where the time necessary for local authorities in the region to put in place up to date policy may lead to a delay in a significant positive effect.

### 5.7.2 Effects of Partial Revocation

The effects of partial revocation concern either

- Revoking all the quantified and spatially specific policies (for instance where a quantum of development, land for development or amounts of minerals to be extracted or waste disposal is allocated to a particular location in the region) and retaining for a transitional period the non spatial policies, ambitions and priorities; or
- Retaining for a transitional period all the spatially specific policies where a quantum of development or land for development is allocated to a particular location in the region and revoking the non spatial policies, ambitions and priorities; or
- Retaining for a transitional period policies, ambitions and/or priorities, the revocation of which may lead to likely significant negative environmental effects.

The assessment has found that there are no quantified or spatially specific policies in the North West Regional Strategy where the act of revocation will cause a significant negative effect upon water whilst retaining the same policy will maintain a significant environmental benefit.

The assessment also indicated that there are no non spatial policies where revocation would lead to a significant negative impact for water.

### 5.7.3 Effects of Retention

The effects of retention are the same as for revocation, with positive significant effects for water identified for policies DP7, 9 and EM1 and 5. Effects increase over time as local authorities adopt up-to-date local plans which reflect polices in the NPPF.

## 5.8 Mitigation Measures

No significant adverse impacts have been identified for revocation therefore no mitigation measures are proposed.

Water quality improvements will be driven by the Water Framework Directive through the EA with help of local authorities and United Utilities.

The main mitigation measures to address water resource will be through adequate assessment and management using the EA CAMS and River Basin Management Plans in conjunction with United Utilities Water Management Plan. Over abstraction can be avoided through these plans and the EA control over abstraction licenses with local authority and water companies working in partnership to plan for adequate supply and treatment of water for planned developments.

## 6. Air Quality

### 6.1 Introduction

The overview of plans and programmes and baseline information contained in this section provides the context for the assessment of potential effects of the proposals to revoke the regional strategies on air quality. Information is presented for both national and regional levels.

Air quality within this context concerns the levels of pollutants emitted into the air and their significance, in terms of the risk of adverse effects on the environment and/or human health. Carbon dioxide and other greenhouse gas emissions are excluded from the air quality topic and are reported under the climate change and adaptation topic.

There are links between the air quality topic and other topics in the SEA, specifically population, human health, climate change and material assets.

### 6.2 Summary of Plans and Programmes

#### 6.2.1 International

The **Air Quality Framework Directive** (96/62/EC) and its Daughter Directives set a framework for monitoring and reporting levels of air pollutants across EU member states, setting limits or reductions for certain air pollutants.

The **Ambient Air Quality and Cleaner Air for Europe Directive** (2008/50/EC) consolidated earlier air quality directives and also defines and establishes objectives and targets for ambient air quality to avoid, prevent or reduce harmful effects on human health and the environment as a whole. It sets legally binding limits for concentrations in outdoor air of major air pollutants that impact on public health such as particulate matter (PM10 and PM2.5) and nitrogen dioxide (NO<sub>2</sub>). The 2008 directive replaced nearly all the previous EU air quality legislation and was made law in England through the **Air Quality Standards Regulations 2010**, which also incorporates the 4th air quality daughter directive (2004/107/EC) that sets targets for levels in outdoor air of certain toxic heavy metals and polycyclic aromatic hydrocarbons. Equivalent regulations exist in Scotland, Wales and Northern Ireland.

The UK monitors and models air quality to assess compliance with the air quality limit and target values set out in the EU legislation above. The results of the assessment are reported to the commission on an annual basis. Air quality monitoring is also carried out by local authorities to meet local air quality management objectives.

In early 2011, the European Commission began a review of EU air quality policy which will culminate with the publication of new proposals on ambient air quality and emissions ceilings in 2013. On 30 June 2011, the Commission launched a public consultation inviting views on the best way to improve the EU's air quality legislation. The consultation closed in October 2011.

The **EU Thematic Strategy on Air Quality (2005)** identifies that despite significant improvements in air quality across the EU, a number of serious air quality issues still persist. The strategy promotes an approach, which focuses upon the most serious pollutants, and that more is done to integrate environmental concerns into other policies and programmes. The objective of the strategy is to attain levels of air quality that do not give rise to

significant negative impacts on and risks to human health and the environment. The strategy emphasises the need for a shift towards less polluting modes of transport and the better use of natural resources to help reduce harmful emissions.

The **Industrial Emissions Directive (IED) (2010/75/EU)** combines seven existing air pollution directives, including the Large Combustion Plant Directive and the Integrated Pollution Prevention and Control (IPPC) Directive. As with previous directives aimed at minimising emission release, part of the benefit of the Industrial Emissions Directive is that it includes several new industrial processes, sets new minimum emission limit values (ELVs) for large combustion plant and addresses some of the implementation issues of the IPPC.

The **National Emissions Ceilings Directive (2001/81/EC)** came into force in 2001, and Member States were required to transpose it into their national legislation by November 2002. This Directive sets 'ceilings' (maximum values to be achieved by 2010) for total national emissions of four pollutants: sulphur dioxide; oxides of nitrogen; volatile organic compounds; and ammonia. These four pollutants contribute to acidification, eutrophication, and formation of ground level ozone.

### 6.2.2 National

#### UK

The **Air Quality Standards Regulations 2010** transpose into UK law Directive 2008/50/EC on ambient air quality and cleaner air for Europe and Directive 2004/107/EC relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air. The objective of the Regulations is to improve air quality by reducing the impact of air pollution on human health and ecosystems. The standards set out air quality objectives, limit values and target values for pollutants, namely benzene, 1,3 butadiene, carbon monoxide, lead, nitrogen dioxide, PM<sub>10</sub>, sulphur dioxide and PM<sub>25</sub>.

The **Air Quality Strategy for England, Scotland, Wales and Northern Ireland (2007)** sets out a way forward for work and planning on air quality issues.

The **Environment Act 1995** was enacted to protect and preserve the environment and guard against pollution to air, land or water. It requires local authorities to undertake local air quality management (LAQM) assessments against the standards and objectives prescribed in regulations. Where any of these objectives are not being achieved, local authorities must designate air quality management areas and prepare and implement remedial action plans to tackle the problem.

The **Ozone-Depleting Substances (Qualifications) Regulations 2009** introduce controls on the production, use and emissions from equipment of a large number of "controlled substances" that deplete the ozone layer.

#### England

The **National Planning Policy Framework (NPPF) (2012)** expects the planning system to prevent new development from contributing to unacceptable levels of air pollution. Planning policies and decisions are therefore expected to ensure that new development is appropriate for its location and take into account "*The effects (including cumulative effects) of pollution on health, the natural environment or general amenity, and the potential sensitivity of the area or proposed development to adverse effects from pollution*". (paragraph 120).

The Framework expects planning policies to “*sustain compliance with and contribute towards EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas. Planning decisions should ensure that any new development in Air Quality Management Areas is consistent with the local air quality action plan.*”(paragraph 124). In doing so, local planning authorities are expected to focus on whether the development itself is an acceptable use of the land, and the impact of the use, rather than the control of processes or emissions themselves where these are subject to approval under pollution control regimes.

### 6.2.3 North West

No relevant regional plans or programmes were identified under this topic.

## 6.3 Overview of the Baseline

### 6.3.1 National

#### UK

Air quality in the UK is generally good. In 2008 urban background particulate levels averaged 20 micrograms per cubic metre ( $\mu\text{g m}^{-3}$ ) (Air Quality Strategy Objective and EU Limit Value is  $40\mu\text{g m}^{-3}$ ); roadside particulate levels averaged  $28\mu\text{g m}^{-3}$ ; urban background ozone levels averaged  $59\mu\text{g m}^{-3}$ ; and rural ozone levels averaged  $71\mu\text{g m}^{-3}$ .<sup>106</sup> The long-term decrease in urban background particulate concentrations has levelled off in the last two years, remaining at 19 micrograms per cubic metre ( $\mu\text{g m}^{-3}$ ) since 2008. Roadside levels increased slightly in 2010 to  $23\mu\text{g m}^{-3}$ , although this followed a relatively large decrease in 2009, and there is an overall decreasing trend.

In 2010, 234 Local Authorities in the UK (58% of all UK authorities) had declared Air Quality Management Areas (AQMAs), a designation made by a Local Authority where an assessment of air quality results in the need to devise an action plan to improve the quality of air.<sup>107</sup> AQMAs are predominantly in urban areas along busy and congested road networks and are generally related to nitrogen dioxide ( $\text{NO}_2$ ) (in 93% of cases) and particulates ( $\text{PM}_{10}$ ) (in 33% of cases). Transport is identified as the main source of pollution in 92% of all AQMAs<sup>108</sup>.

In the UK 26 days of moderate or high air pollution were recorded in urban areas, and 45 days of moderate or high air pollution were recorded in rural areas respectively in 2008.

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<sup>106</sup> Defra, Environment in your Pocket Statistics, 2009, <http://www.defra.gov.uk/evidence/statistics/environment/eiyp/>

<sup>107</sup> Defra, Review of local air quality management, 2009, <http://archive.defra.gov.uk/environment/quality/air/airquality/local/documents/laqm-report.pdf>

<sup>108</sup> Defra, Review of local air quality management (2009) <http://archive.defra.gov.uk/environment/quality/air/airquality/local/documents/laqm-report.pdf>

### England

Within England, in December 2009, there were 203 local authorities with AQMAs, 33 of which were within London. In 83.7% of cases the AQMA is required for NO<sub>2</sub> pollution and 31.5% they were required for PM<sub>10</sub> pollution. In 94% of cases the source of pollution was from transport and 4.4% the source was from industry.

Overall, trends in PM<sub>10</sub> concentrations for all metrics in all parts of England appear to have levelled out in recent years. However, four sites in England (London Marylebone Road, London Camden roadside, Brighton roadside and Bradford Centre) were over the 24 hour objective for PM<sub>10</sub> meaning that more than the 35 days were recorded as being in exceedance of a 24 hour average value of 50µg.m<sup>-3</sup>.<sup>109</sup>

In 2003 it was estimated that 2161.7 km of road exceeded an annual mean value of 31.5 µg.m<sup>-3</sup> (closely equivalent to the objective value), 935.9 km of which was within London making up 43.2% of the total length of road exceedance.

In 2003 the population mean weighted PM<sub>2.5</sub> concentration for England (excluding London) was 14.4µg.m<sup>-3</sup>, 17.4µg.m<sup>-3</sup> in Inner London and 16.9µg.m<sup>-3</sup> in Outer London.

Four sites in England (London Marylebone Road; London A3 roadside; Camden roadside and Bristol Old Market roadside) exceeded the AQS 1 hour objective for NO<sub>2</sub> meaning there were more than 18 exceedences of the 200µg/m<sup>3</sup> target in 2005.

#### 6.3.2 North West Region

There have been significant improvements in air quality over the last ten years in the North West Region in recent years; however the Environment Agency still prosecutes around 35 companies each year for breaches in air quality regulations in the North West. In 2007 there were 1,774 incidents in total, 388 of which impacted upon the air environment and of these 23 were considered to be serious infringements.

The majority of the urban areas in the North West are covered by Air Quality Management Areas (AQMAs) with 27 local authorities in the North West designating AQMAs within their boundaries. AQMAs can be found mainly around busy roads within the region. With the exception of carbon monoxide, all the key air pollutants in the North West have shown major decreases (see figures 6.1 to 6.4 below). Carbon monoxide levels have increased due to growing traffic in the region, however, although 18% more carbon monoxide was released in 2007 than in 1998, the amount is well below the peak in 2003 and the trend is downwards.

The 2010 Regional Strategy Environment Evidence Base<sup>110</sup> states that in 2006, the North West emitted 136,200 tonnes of nitrogen oxides (NO<sub>x</sub>), 50,200 tonnes of sulphur dioxide (SO<sub>2</sub>) and 12,000 tonnes of particulates (PM10). This accounted for 10% of the total NO<sub>x</sub> emissions, 8% of the total SO<sub>2</sub> emissions and 9% of all PM10 emissions.

The evidence base also provides data on the concentrations of various air pollutants at sites across the North West. These are summarized below.

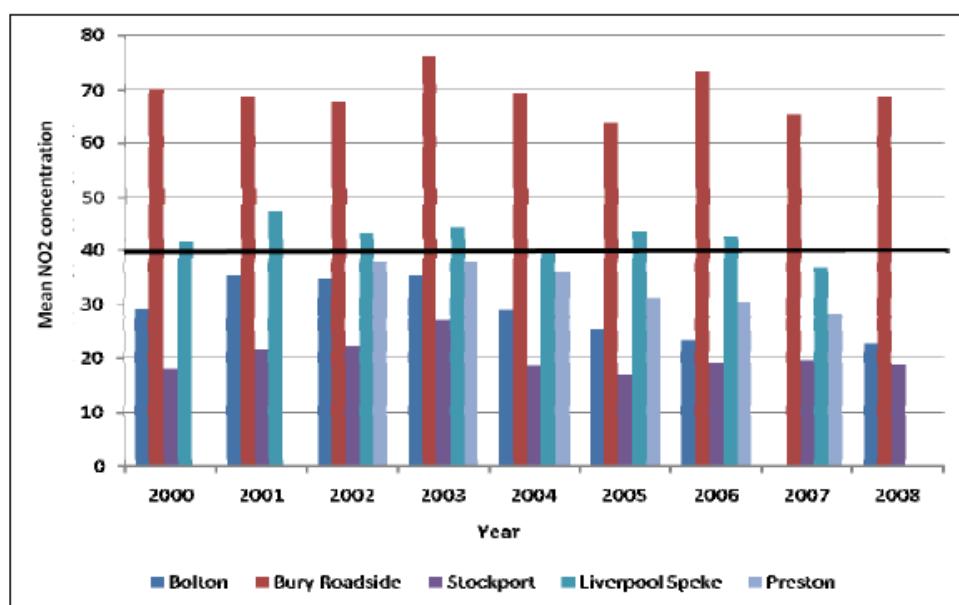
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<sup>109</sup> Air Quality Strategy for England, Scotland, Wales and Northern Ireland, Vol 2 (2007)  
<http://archive.defra.gov.uk/environment/quality/air/airquality/strategy/documents/air-qualitystrategy-vol2.pdf>

<sup>110</sup> Regional Intelligence Unit (2010) Environment Evidence Baseline RS2010

UK air quality regulations state that nitrogen dioxide of 200 $\mu\text{g}/\text{m}^3$  not to be exceeded more than 18 times a year (1 hour mean) and the annual mean to be below 40  $\mu\text{g}/\text{m}^3$ . A profile of NO<sub>2</sub> emissions (2000-2008) for 20 sites in the North West showed Bury roadside, Manchester Town Hall, and on occasion Liverpool Speke had levels above the recommended 40 $\mu\text{g}/\text{m}^3$ . The data set is not complete for all years, but those with the most complete data sets are shown below (Figure 6.1 and Figure 6.2). The 20 sites represent all the data available for nitrogen dioxide monitoring in the North West and many of the sites were clustered around the Manchester-Merseyside strip. A wider distribution is needed to make this a good indicator for the North West as a whole.

**Figure 6.1 Annual mean Concentration of Nitrogen Dioxide at Various Sites in the Northwest<sup>111</sup>**



Source: National Air Quality Archive (2009)

<sup>111</sup> Regional Intelligence Unit (2010) Environment Evidence Baseline RS2010.

**Figure 6.2 Annual Mean Concentration of Nitrogen Dioxide at Sites in Manchester<sup>112</sup>**



Source: National Air Quality Archive (2009)

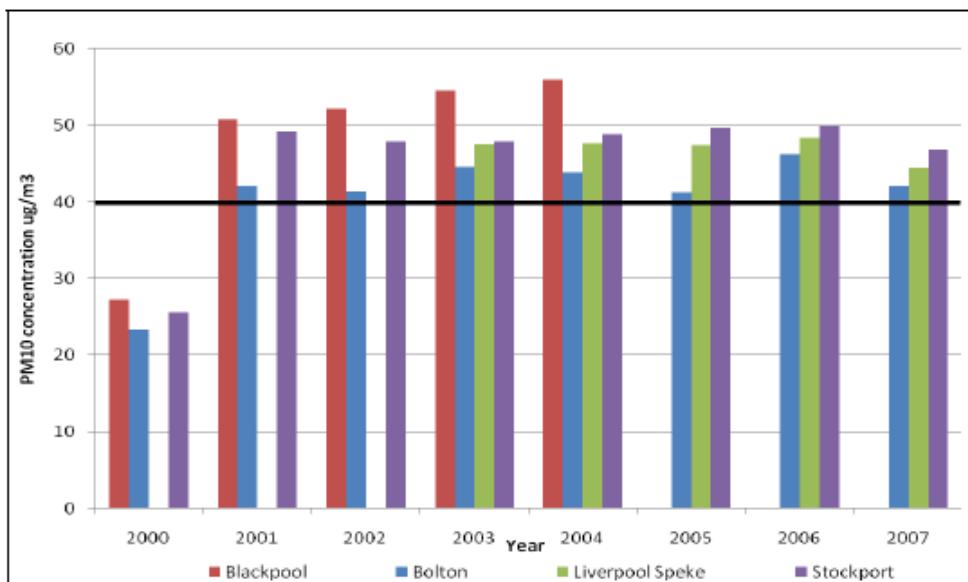
### *Particulate matter*

Particles (PM10) an annual mean concentration of 40µg.m<sup>3</sup> and a 24- hour mean concentration of 50µg/ m<sup>3</sup> not to be exceeded more than 35 times a year in accordance with UK regulations. Figures 6.3 and 6.4 below show concentrations of PM10 across the North West.

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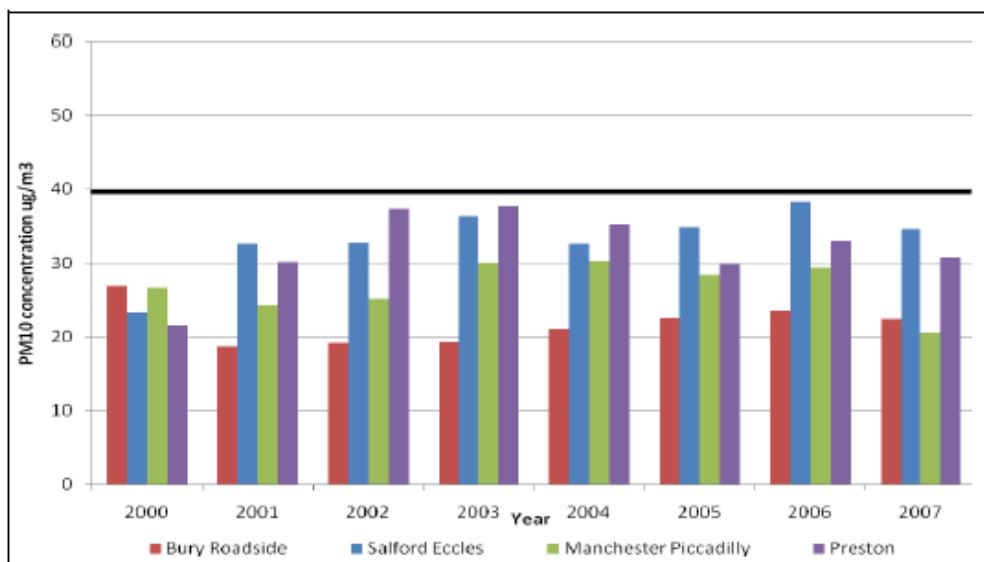
<sup>112</sup> Regional Intelligence Unit (2010) Environment Evidence Baseline RS2010.

**Figures 6.3 Annual Mean PM10 Concentration at Various Sites that are currently not Achieving 40 $\mu\text{g}/\text{m}^3$** <sup>113</sup>



Source: National Air Quality Archive 2009

**Figure 6.4 Annual mean PM10 Concentration at Various Sites that are currently achieving 40 $\mu\text{g}/\text{m}^3$** <sup>114</sup>



Source: National Air Quality Archive 2009

<sup>113</sup> Regional Intelligence Unit (2010) Environment Evidence Baseline RS2010.

<sup>114</sup> Regional Intelligence Unit (2010) Environment Evidence Baseline RS2010.

The UK air quality objective for Ozone states that levels of 100 µg/m<sup>3</sup> not to be exceeded more than 10 times a year (8 hourly running mean). There is data on ozone levels for 15 sites in the North West showing that there are some places that exceed 100µg/m<sup>3</sup> ozone more than 10 times annually.

### 6.4 Environmental Characteristics of those Areas most likely to be Significantly Affected

#### 6.4.1 National

##### UK

Air quality has improved in the UK over the last sixty years as a result of the switch from coal to gas and electricity for heating of domestic and industrial premises, stricter controls on industrial emissions, higher standards for the composition of fuel and tighter regulations on emissions from motor vehicles. However, poor air quality - particularly from vehicles - remains a significant issue for community health and for biodiversity, especially in/downwind of urban areas and major transport networks.

In 2005, 29% of monitoring sites within the UK exceeded the annual mean NO<sub>2</sub> objective of 40µg.m<sup>-3</sup> and 4% of monitoring sites exceeded the 1 hour objective of 200µg.m<sup>-3</sup> more than 18 times a year.<sup>115</sup>

In 2005, roughly 40% of the 85 monitoring network sites exceeded the Air Quality's Strategy objective for O<sub>3</sub>.

Air pollution is a significant cause of decline in the condition of 55 of UK SSSIs. However, it is often very difficult to determine the effects of air pollution on SSSIs, given the complex interactions between pollution impacts, management and abiotic influences. As a result, the impacts of air pollution, and the identification of air pollution as an adverse activity affecting condition, are considered to be substantially under-reported.<sup>116</sup>

Research by the Government has found that in a number of urban areas, the least affluent members of society tend to be exposed to the highest levels of air pollution<sup>117</sup>. This is particularly the case in England, where AQMAs declared for NO<sub>2</sub> are often in the most socially deprived areas people in deprived communities exposed to 41% higher concentrations of NO<sub>2</sub> than those people living in average communities<sup>118</sup>, although this is less marked in Wales and Scotland. The report concluded that measures to improve air quality can have a more pronounced effect in deprived areas and could help to reduce this social inequality<sup>119</sup>.

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<sup>115</sup> UK Air Quality Archive, [www.airquality.co.uk/archive](http://www.airquality.co.uk/archive)

<sup>116</sup> Joint Nature Conservation Committee (2006) Common Standards Monitoring for Designated Sites: First Six Year Report, [http://www.jncc.gov.uk/pdf/CSM\\_06summary.pdf](http://www.jncc.gov.uk/pdf/CSM_06summary.pdf)

<sup>117</sup> Dept. for Communities and Local Government (2006) Air Quality and Social Deprivation in the UK: an environmental inequalities analysis, [www.airquality.co.uk/reports/cat09/0701110944\\_AQinequalitiesFNL\\_AEAT\\_0506.pdf](http://www.airquality.co.uk/reports/cat09/0701110944_AQinequalitiesFNL_AEAT_0506.pdf)

<sup>118</sup> UK Air Quality Archive, [www.airquality.co.uk/archive](http://www.airquality.co.uk/archive)

<sup>119</sup> Air Quality Strategy for England, Scotland, Wales and Northern Ireland (2007) [http://www.official-documents.gov.uk/document/cm71/7169/7169\\_i.asp](http://www.official-documents.gov.uk/document/cm71/7169/7169_i.asp)

### 6.4.2 North West

Emissions from pollutants from transport are the main cause of poor air quality in the region, while car use is increasing. Growth in the region is likely to result in an increase in car use, particularly around the urban areas where the majority of growth is directed to.

Climate change: Global warming may have a significant impact on the air quality in the region. As air temperature rises, the level of pollution in the air increases accordingly.

## 6.5 Likely Evolution of the Baseline

### 6.5.1 National

The current trend in air condition is generally towards improved air quality, both in rural and urban settings<sup>120</sup>.

Between 1990 and 2008 there was no clear long-term trend in ozone levels with increases in urban background ozone levels of 40.5%, however between 1980 and 2007 nitrogen oxides (NOx) fell by 42%, particulates (PM<sub>10</sub>) fell by 59% and sulphur dioxide (SO<sub>2</sub>) by 84% (between 1990 and 2007).<sup>121</sup>

Reductions are a product of: improved technology; changes in energy generation; targeted air quality management policies; and reductions in specific greenhouse gases, CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF<sub>6</sub>).

Projections of UK total emissions:<sup>122</sup>

Best case scenario (full air quality target compliance):

- NOx: 2010 = 1136.4 ktonnes/yr; 2015 = 963.1 ktonnes/yr; 2020 = 799.1 ktonnes/yr ;
- PM10: 2010 = 133.5 ktonnes/yr; 2015 = 129.4 ktonnes/yr; 2020 = 134.4 ktonnes/yr.

Worst case scenario (extension of 2003 baseline):

- NOx: 2010 = 1151.0 ktonnes/yr; 2015 = 1030.3 ktonnes/yr; 2020 = 910.7ktonnes/yr.

Measurements and modelling show that, without further measures, objectives for particles such as particulate matter (PM10), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>) and polycyclic aromatic hydrocarbons (PAHS) are unlikely to be achieved in some parts of urban areas within the UK<sup>123</sup>.

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<sup>120</sup> [http://www.defra.gov.uk/sustainable/government/progress/documents/SDIYP2009\\_a9.pdf](http://www.defra.gov.uk/sustainable/government/progress/documents/SDIYP2009_a9.pdf)

<sup>121</sup> <http://www.defra.gov.uk/evidence/statistics/environment/eiyp/>

<sup>122</sup> [http://www.airquality.co.uk/reports/reports.php?action=category&section\\_id=17](http://www.airquality.co.uk/reports/reports.php?action=category&section_id=17)

<sup>123</sup> Defra (2007) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, [http://www.official-documents.gov.uk/document/cm71/7169/7169\\_i.asp](http://www.official-documents.gov.uk/document/cm71/7169/7169_i.asp)

### England

PM<sub>10</sub> pollution overall has been decreasing in recent years and this is predicted to continue in the future. By 2015 71.7km of main urban road is predicted to be in exceedance of 31.5µg/m<sup>3</sup> (roughly equivalent to the Stage 1 PM10 24 hour limit value and objective), this is a 96.7% decrease compared to the 2003 baseline.<sup>124</sup>

Concentrations of NO<sub>2</sub> have been declining on average, although London Marylebone Road (the site with the highest NO<sub>2</sub> levels in England) and several other sites are showing increasing concentrations in the most recent years. By 2015, 1,331 km of main urban road is predicted to be in exceedence of the annual mean objective of 40µg.m<sup>-3</sup>, this is an 80.2% decrease compared to the 2003 baseline.

#### 6.5.2 North West Region

The air quality is of a higher quality in the northern part of the region (Cumbria) and in other rural areas of the region. Development is predominantly directed towards existing urban areas in the Regional Strategy which is likely to preserve this better air quality in the northern part of the region.

All the key air pollutants in the North West have shown major decreases, however carbon monoxide levels have increased due to growing traffic in the region. This is particularly evidence around major cities at peak travelling times. Although currently carbon monoxide levels are considered to be high, it is predicted that they peaked 2003 and the predicted future trend is downwards. Pollutant levels around congestion hot spots are however likely to continue to be high.

#### 6.6 Assessing Significance

**Table 6.1** sets out guidance utilised during the assessment to help determine the relative significance of potential effects on the air quality objective. It should not be viewed as definitive or prescriptive; merely illustrative of the factors that were considered as part of the assessment process.

**Table 6.1 Approach to determining the significance of effects on air quality**

Effect	Description	Illustrative Guidance
++	Significant positive	<ul style="list-style-type: none"><li>Alternative would significantly improve local air quality through a sustained reduction in concentrations of pollutants identified in the national air quality objectives.</li><li>Alternative has a strong and sustained positive effect on local communities and biodiversity due to a significant reduction in air and odour pollution and particulate deposition.</li></ul>
+	Positive	<ul style="list-style-type: none"><li>Alternative would lead to a minor improvement in local air quality from a reduction in concentrations of pollutants identified in the national air quality objectives.</li><li>Alternative has a positive effect on local communities and biodiversity due to a reduction in air and odour pollution and particulate deposition.</li></ul>

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<sup>124</sup> Defra (2007) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, /www.official-documents.gov.uk/document/cm71/7169/7169\_i.asp

<b>0</b>	No (neutral effects)	<ul style="list-style-type: none"> <li>Alternative would not affect local air quality.</li> <li>Alternative has no observable effects on local communities and biodiversity within the region.</li> </ul>
-	Negative	<ul style="list-style-type: none"> <li>Alternative would result in a minor decrease in local air quality.</li> <li>Alternative has a negative effect on local communities and biodiversity due to an increase in air and odour pollution and particulate deposition.</li> </ul>
--	Significant negative	<ul style="list-style-type: none"> <li>Alternative would cause a significant decrease in local air quality (e.g. leading to an exceedence of Air Quality Objectives for designated pollutants and the designation of a new Air Quality Management Area).</li> <li>Alternative has a strong and sustained negative effect on local communities and biodiversity due to significant increase in air and odour pollution and particulate deposition.</li> </ul>
?	Uncertain	<ul style="list-style-type: none"> <li>From the level of information available the effects the impact that the alternative would have on this objective is uncertain.</li> </ul>

## 6.7 Assessment of Significant Effects of Retention, Revocation and Partial Revocation

**Table 6.2** summarises the significant effects identified in the detailed assessment of the North West of England Plan policies against the air quality topic.

**Table 6.2 Approach to determining the significance of effects on air quality**

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy DP 9 - Reduce Emissions and Adapt to Climate Change Retention	+	++	++	<p>DP9 seeks reductions in carbon emissions as an urgent regional priority. Effective adaptation to the likely environmental, social and economic impacts of climate change is a key element of this policy. The strength of this policy is likely to result in immediate benefits, which are likely to be significant in the medium and long term for air quality through the significant reduction of emissions.</p> <p>The RES supports this by setting out a series of specific transport measures to improve transport infrastructure within the region and between regions, as set out for policy DP5 above.</p>
Policy DP 9 - Reduce Emissions and Adapt to Climate Change Revocation	+	++	++	<p>The NPPF also contains requirements which provide a strong framework for the mitigation of, and adaptation to climate change impacts, which are likely to have similar effects to retention of DP9</p>

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy RDF 1 - Spatial Priorities Retention	-	-	--	The regional spatial priorities for development are to concentrate development within the regional centres of Manchester and Liverpool, followed by second, third and fourth tier centres. Air quality within the region's main centres is poor in some locations and this is likely to be exacerbated by substantial levels of development. The RES supports this through policies on employment growth in areas remote from growth as well as already successful areas, as well as through transport infrastructure upgrades.
Policy RDF 1 - Spatial Priorities Revocation	-	-	-	The NPPF does not provide for any explicit location policy concerning main centres. It states that development should be located in areas where they can support local business, respond to the needs of the market and support existing business centres. Often these areas will correspond with the region's main centres, particularly the key economic drivers of Manchester and Liverpool. Effects are therefore considered to be similar but in some instances slightly less significant based upon the lack of explicit direction contained within the NPPF.
RT 9: Walking and Cycling Retention	+	++	++	This policy has significant benefits for human health and the environment as it both seeks to develop integrated networks of continuous, attractive and safe walking and cycling routes, linking, in particular, residential areas, and places of employment and schools and leisure facilities. Dedicated cycleways and footways can encourage a shift in modes of travel, reducing the need or desire to use cars and other less sustainable forms of transport.
RT 9: Walking and Cycling Revocation	+	++	++	The NPPF also strongly encourages sustainable modes of transport giving priority to pedestrian and cycle movements. It also encourages the linking of residential areas and key facilities such as schools and shops. It is therefore concluded that the revocation of RT9 is likely to maintain the positive effects associated with the retention of RT9.

## 6.7.1 Effects of Revocation

One of the major themes of the Regional Strategy (RDF1) is that development should be prioritised in the major urban centres, with priority for development decreasing as rurality increases. This concentration of development in the urban centres is likely to reduce air quality because of the scale of development sought and the corresponding resultant increase in traffic. Air quality within the region's main centres is already poor in some locations and this is likely to be exacerbated. The regional strategy therefore contains a range of policies which seek to address transport growth and to achieve more sustainable transport modes such as increased use of public transport, walking and cycling (RT9), which aim to offset the worst effects of traffic growth (resulting usually in minor negative assessments following this policy mitigation).

It is likely that a similar or greater quantum of development will come forward under the revocation scenario, though it may take slightly longer to be delivered. Even so, it seems most likely that the impacts of revocation are likely to closely mirror the impacts of retention given that the NPPF maintains a policy approach which seeks to promote sustainable forms of transport – including ultra-low emission vehicles and better access to services and facilities. Revocation of RDF1 may lead to a non-significant effect as local authorities will be able to revisit and review development targets, this could result in a lower level of development in the longer term in some areas which may have the indirect effect of reducing the numbers of movements and thereby lowering the effects upon air quality.

## 6.7.2 Effects of Partial Revocation

The effects of partial revocation concern either

- Revoking all the quantified and spatially specific policies (for instance where a quantum of development, land for development or amounts of minerals to be extracted or waste disposal is allocated to a particular location in the region) and retaining for a transitional period the non spatial policies, ambitions and priorities; or
- Retaining for a transitional period all the spatially specific policies where a quantum of development or land for development is allocated to a particular location in the region and revoking the non spatial policies, ambitions and priorities; or
- Retaining for a transitional period policies, ambitions and/or priorities, the revocation of which may lead to likely significant negative environmental effects.

The assessment has found that there are no quantified or spatially specific policies in the North West Regional Strategy where the act of revocation will cause a significant negative effect on air quality whilst retaining the same policy will maintain a significant environmental benefit.

Similarly there are no non spatial policies where revocation would lead to a significant negative impact on air quality.

### 6.7.3 Effects of Retention

A potentially significant negative effect upon air quality has been identified resulting from the retention of RS Policy RDF1. This is due to the overall spatial approach set out within the document which is to concentrate development towards the main regional centres, particularly Manchester and Liverpool. These locations already suffer from poor air quality which is likely to be exacerbated as a result of development. In reaching this conclusion however it should be noted that a concentrated approach to development is potentially better for air quality, at the regional and trans-boundary level than one which might look to disperse development. Concentration provides better opportunities to locate services and facilities close to areas with greatest populations, therefore reducing the distance of journeys.

## 6.8 Mitigation Measures

If the retention options were to be chosen, it is important to ensure that policy RDF1 is implemented in conjunction with all other policies within the RS, particularly, RT9.

With regard to revocation, it is recognised that local authorities will need to co-operate with the Environment Agency and neighbouring local authorities in line with the “duty of co-operate” to ensure air quality benefits are delivered in the long term, this will be applicable in both planning and transport policy preparation.

## 7. Climate Change

### 7.1 Introduction

The overview of plans and programmes and baseline information contained in this section provides the context for the assessment of potential effects of the proposals for revoking the regional strategies on climate change. Information is presented for both national and regional levels.

Climate change within this context is concerned with increasing the likelihood of climate change effects through greenhouse gas emissions and the ability to adapt to predicted climate change effects.

There are links between the climate change and other topics in the SEA, specifically biodiversity and nature conservation, air, coastal change and flood risk, and traffic and material assets (transport).

### 7.2 Summary of Plans and Programmes

#### 7.2.1 International

The **United Nations Framework Convention on Climate Change** (UNFCCC) sets an overall framework for international action to tackle the challenges posed by climate change. The Convention sets an ultimate objective of stabilising greenhouse gas concentrations "*at a level that would prevent dangerous anthropogenic (human induced) interference with the climate system.*" The Convention requires the development and regular update of greenhouse gas emissions inventories from industrialised countries, with developing countries also being encouraged to carry out inventories. The countries who have ratified the Treaty, known as the Parties to the Convention, agree to take climate change into account in such matters as agriculture, industry, energy, natural resources and where activities involve coastal regions. The Parties also agree to develop national programmes to slow climate change.

The **Kyoto Protocol**, adopted in 1997, is the key international mechanism agreed to reduce emissions of greenhouse gases. The Kyoto Protocol sets binding targets for 37 industrialised countries and the European Community for reducing greenhouse gas emissions. These targets equate to an average of 5% reductions relative to 1990 levels over the five-year period 2008-2012. The key distinction between this and the UNFCCC is that the Convention encourages nations to stabilise greenhouse gases while the Kyoto Protocol commits them to doing so through greenhouse gas reductions. Countries must meet their targets primarily through national measures however, the Kyoto Protocol offers them an additional means of meeting their targets by way of three market-based mechanisms: emissions trading, the clean development mechanism (CDM) and Joint Implementation (JI).

The Protocol's first commitment period started in 2008 and ends in 2012. At the Durban conference in December 2011, governments decided that the [Kyoto Protocol](#) would move into a second commitment period in 2013, in a seamless transition from the end of the second commitment period in 2012. Governments of Parties to the Kyoto Protocol also made a few amendments to the Protocol, among others, the range of greenhouse gases covered. A major outcome of was the establishment of the [Durban Platform for Enhanced Action](#), which spelt out a path to negotiate a new legal and universal emission reduction agreement by 2015, to be adopted by 2020.

In March 2007 the EU's leaders endorsed an integrated approach to climate and energy policy that aims to combat

climate change and increase the EU's energy security while strengthening its competitiveness. They committed Europe to transforming itself into a highly energy-efficient, low carbon economy. It set a series of demanding climate and energy targets to be met by 2020, known as the "20-20-20" targets. These are:

- a reduction in EU greenhouse gas emissions of at least 20% below 1990 levels;
- 20% of EU energy consumption to come from renewable resources; and
- a 20% reduction in primary energy use compared with projected levels, to be achieved by improving energy efficiency.

To secure a reduction in EU greenhouse gases, the ***EU Emissions Trading Scheme (EU ETS)***, a Europe wide scheme had been introduced in 2005. EU ETS puts a price on carbon that businesses use and creates a market for carbon. It allows countries that have emission units to spare (emissions permitted to them but not "used") to sell this excess capacity to countries which are likely to exceed their own targets. Since carbon dioxide (CO<sub>2</sub>) is the principal greenhouse gas, this is often described as a carbon market or trading in carbon; the total amount of carbon emissions within the trading scheme being limited, and reduced over time. The ***Integrated Climate and Energy Package*** included a revision and strengthening of the Emissions Trading System (ETS). A single EU-wide cap on emission allowances will apply from 2013 and will be cut annually, reducing the number of allowances available to businesses to 21% below the 2005 level in 2020. The free allocation of allowances will be progressively replaced by auctioning, and the sectors and gases covered by the system will be somewhat expanded.

- The ***EU Sixth Environmental Action Plan (EAP) (2002-2012)*** reviews the significant environmental challenges and provides a framework for European environmental policy up to 2012. The four priority areas are Climate Change; Nature and Biodiversity; Environment and Health; Natural Resources and Waste. The European Commission has recently consulted on the EU environment policy priorities for 2020: Towards a 7th EU Environment Action Programme. This looks to further integrating climate and environment into other policies and instruments;
- The ***Renewable Energy Directive (2009/28/EC)*** mandates levels of renewable energy use within the European Union. The directive requires EU member states to produce a pre-agreed proportion of energy consumption from renewable sources such that the EU as a whole shall obtain at least 20% of total energy consumption from renewables by 2020. This is then apportioned across member states. The UK's target is for 15% of energy consumption in 2020 to be from renewable sources. Under Article 4 of the directive each Member State is also required to complete a National Renewable Energy Action Plan that will set out the trajectory and measures that will enable the target to be met.

### 7.2.2 National

#### UK

In the UK, the ***Climate Change Act 2008*** introduces legislative targets for reducing the UK's impacts on climate change and the need to prepare for its now inevitable impacts. The Act sets binding targets for a reduction in CO<sub>2</sub> emissions of 80% by 2050, compared to a 1990 baseline. Interim targets and five-year carbon budget periods will be used to ensure progress towards the 2050 target. The Climate Change Act 2008 also requires the Government, on a regular basis, to assess the risks to the UK from the impact of climate change and report to Parliament. The first ***Climate Change Risk Assessment*** was published in 2012. Government will be required to publish and regularly update a programme setting out how the UK will address these likely impacts, based on the principles of sustainable development, thereby ensuring that environmental, economic and social issues are all fully considered.

The Climate Change Act 2008 also introduced powers for Government to require public bodies and statutory undertakers (in this context these are utilities companies which provide a public service) to carry out their own risk assessments and make plans to address those risks.

The **Carbon Plan: Delivering our low carbon future (2011)** sets out how the UK will achieve decarbonisation within the framework of energy policy: to make the transition to a low carbon economy while maintaining energy security, and minimising costs to consumers, particularly those in poorer households. It includes proposals for energy efficiency, heating, transport and industry.

The **Energy Act 2011** provides for some of the key elements of the Government's energy programme and including a step change in the provision of energy efficiency measures to homes and businesses. It also makes improvements to the framework for enabling and securing low carbon energy supplies and fair competition in the energy markets.

### England

The **National Planning Policy Framework** (2012) provides a set of core land-use planning principles that should underpin both plan-making and decision-taking. These include supporting "*the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change, and encourage the reuse of existing resources, including conversion of existing buildings, and encourage the use of renewable resources (for example, by the development of renewable energy)*". The Framework underlines that planning's role in tackling climate change is central to the economic, social and environmental dimensions of sustainable development. Local planning authorities are therefore expected to adopt proactive strategies to mitigate and adapt to climate change (in line with the objectives and provisions of the Climate Change Act 2008), taking full account of flood risk, coastal change and water supply and demand considerations.

To support the move to a low carbon future, local planning authorities are expected to plan for new development in locations and ways which reduce greenhouse gas emissions; actively support energy efficiency improvements to existing buildings and have a positive strategy to promote energy from renewable and low carbon sources. Local Plans are also expected to take account of climate change over the longer term, including factors such as flood risk, coastal change, water supply and changes to biodiversity and landscape. New development should be planned to avoid increased vulnerability to the range of impacts arising from climate change.

#### 7.2.3 North West Regional Plans

**Rising to the Challenge: A Climate Change Action Plan for North West (2008)** states how the region must refocus its priorities against the international, national and regional climate change policy agenda. The Plan sets out to reduce greenhouse gas emissions, adapt to unavoidable climate change and to capitalise on opportunities for economic growth in order to achieve a low carbon and well adapting North West by 2020.

**The North West Sustainable Energy Strategy** sets out clearly the energy challenge that faces the North West. More importantly, it demonstrates how different sectors across the region can act to address this challenge head on, whilst also achieving wider economic, social and environmental objectives. Specific guidance is offered to local authorities, the private sector, and the construction industry. It also shows clearly the simple but important steps that individuals living and working in the region can take to use energy more efficiently, whilst at the same time saving money through lower energy bills.

### 7.3 Overview of the Baseline

#### 7.3.1 National

##### UK

In 2010, UK emissions of the basket of six greenhouse gases covered by the Kyoto Protocol were estimated to be 590.4 million tonnes carbon dioxide equivalent (MtCO<sub>2</sub>e)<sup>125</sup>. This was 3.1% higher than the 2009 figure of 572.5 million tonnes. Between 2009 and 2010 the largest increases were experienced in the residential sector, up 15.1% (11.8 MtCO<sub>2</sub>e), and the energy supply sector, up by 2.8 % ( 5.6 MtCO<sub>2</sub>e). Emissions from all other sectors were relatively stable, compared to 2009 levels.

Carbon dioxide (CO<sub>2</sub>) is the main greenhouse gas, accounting for about 84 per cent of total UK greenhouse gas emissions in 2010<sup>1</sup>. In 2010, UK net emissions of carbon dioxide were estimated to be 495.8 million tonnes (Mt). This was around 3.8% higher than the 2009 figure of 477.8 Mt. There were notable increases in emissions from the residential sector, up by 15.8% (11.8 Mt), and from the energy supply sector, up 3.1% (5.8 Mt). Again, emissions from all other sectors were relatively unchanged from 2009.

All areas of the UK are getting warmer, and the warming is greater in summer than in winter<sup>126</sup>.

There is little change in the amount of precipitation (rain, hail, snow etc) that falls annually, but more is falling in the winter, with drier summers, for much of the UK<sup>127</sup>. Sea levels are rising, and are greater in the south of the UK than the north<sup>128</sup>. The widespread flooding events of 2007 cannot be directly attributed to climate change but it is expected to see more extreme rainfall events in the future, and hence more flooding as our climate changes.

##### England

In 2009 England's net emissions of CO<sub>2</sub> (by end user) were estimated to be 372 million tonnes, giving an estimate of 7.2 tonnes of CO<sub>2</sub> emissions per capita<sup>127</sup>. This compares to emissions of 433 million tonnes, giving an estimate of 8.6 tonnes of CO<sub>2</sub> emissions per capita in 2005.

In 2008, 29% of CO<sub>2</sub> emissions were from the energy supply sector, 20.3% from road transport, 31.1% from business and 24.1% from residential fossil fuel use.<sup>128</sup>

The 10 warmest years on record have occurred since 1997. Global temperatures for 2000-2008 now stand almost 0.2% warmer than the average for the decade 1990-1999.

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<sup>125</sup> DECC Statistical Release February 2012, <http://www.decc.gov.uk/assets/decc/11/stats/climate-change/4282-statistical-release-2010-uk-greenhouse-gas-emissi.pdf>

<sup>126</sup> Department for Energy and Climate Change: 2007 Greenhouse Gas Emissions, Final Figures 3rd February 2009, [http://www.decc.gov.uk/assets/decc/202\\_20090326104955\\_e\\_@@\\_greenhousegasemissions.pdf](http://www.decc.gov.uk/assets/decc/202_20090326104955_e_@@_greenhousegasemissions.pdf)

<sup>127</sup> DECC Statistical Release September 2011, <http://www.decc.gov.uk/assets/decc/11/stats/climate-change/2750-statistical-summary-la-co2-emissions.pdf>

<sup>128</sup> DECC [http://www.decc.gov.uk/assets/decc/Statistics/climate\\_change/localAuthorityCO2/457-local-regional-co2-2005-2008-full-data.xls](http://www.decc.gov.uk/assets/decc/Statistics/climate_change/localAuthorityCO2/457-local-regional-co2-2005-2008-full-data.xls)

Rainfall has decreased in summer and increased in winter since records began in 1766. Winter rainfall has been increasingly falling as heavy events over the past 45 years (rather than longer, more gentle rainfall). This kind of intense rainfall is a key factor in river and surface water flooding.

The frequency of dry summers has increased over the decades, with 10 of the driest summers occurring in the last 30 years.

Sea levels around the UK have risen by 1mm/yr in the twentieth century, (corrected for land movement). The rate for the 1990s and 2000s has been higher. Rising sea levels are the result of various factors including the warming up and expansion of the ocean and the melting of low latitude glaciers due to climate change.

### 7.3.2 North West Region

The Regional Strategy evidence base (2010)<sup>129</sup> sets out climate change trends from 1961 to 2006 in the North West:

- Daily mean temperature has increased by 1.4°C;
- Daily max temperature has increased by 1.55°C;
- Daily min temperature has increased by 1.29°C;
- Days with air frost has decreased by 24.4 days;
- The relative humidity has decreased by 2.2%;
- Total annual precipitation has increased by 8.8%, with a decrease in summer rainfall of 13.3% and an increase of 43% in winter;
- Sea level rise of 1 cm per decade has been recorded in Liverpool.

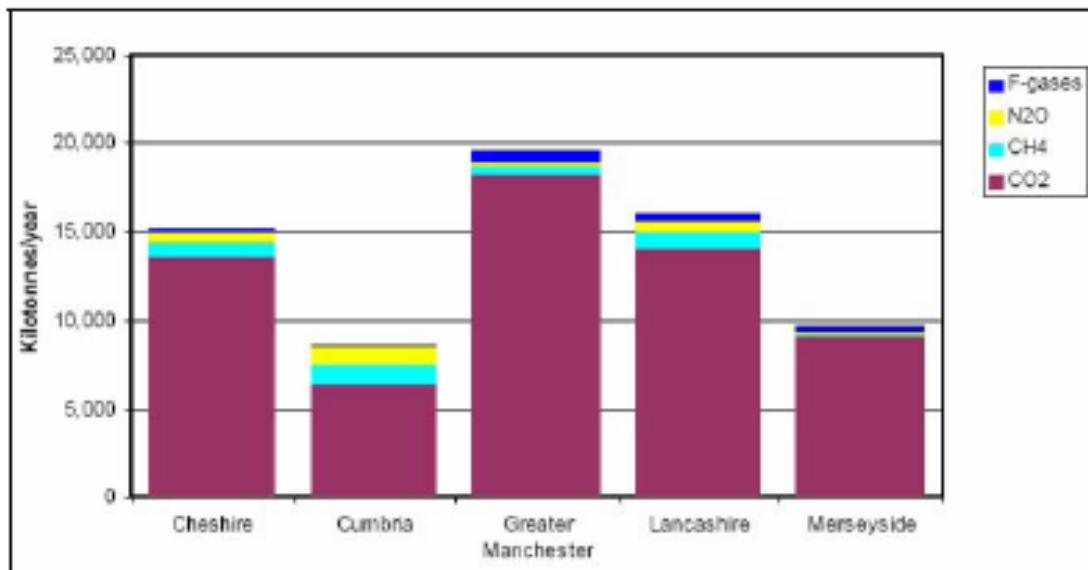
A 4NW Inventory<sup>130</sup> in 2005, estimated that in 1990 the Northwest total Global Warming Potential (GWP) for all 6 greenhouse gases (see figure 7.1 below) was just below 82.5 million tonnes (though there is uncertainty in this figure). Greater Manchester has the greatest GWP of the region and Cumbria the lowest, which is partly due to residential emissions being directly proportional to population. It is estimated that this regional total reduced to just over 66.5 million tonnes GWP in 2005. This reduction was due to a decrease in emissions from industry and was irrespective of the increase in emissions from road transport (along motorways and A-roads) and aviation.

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<sup>129</sup> The Environment Evidence Base RS2010: Regional Intelligence Unit (2010).

<sup>130</sup> Energy and Greenhouse Gas Emissions Study Update 2005: AEA Energy and Environment for 4NW (2009).

**Figure 7.1 The breakdown of Greenhouse Gas emissions by sub-region in 2005<sup>131</sup>**



Source: Northwest Energy and Greenhouse Gas Study (2009)

Figure 7.2 illustrates greenhouse gas emissions by sector, and shows that across the region the industrial and residential sectors are responsible for the majority of greenhouse gas emissions.

**Figure 7.2 Greenhouse gas emissions by sub-region and source sector (2005)<sup>132</sup>**

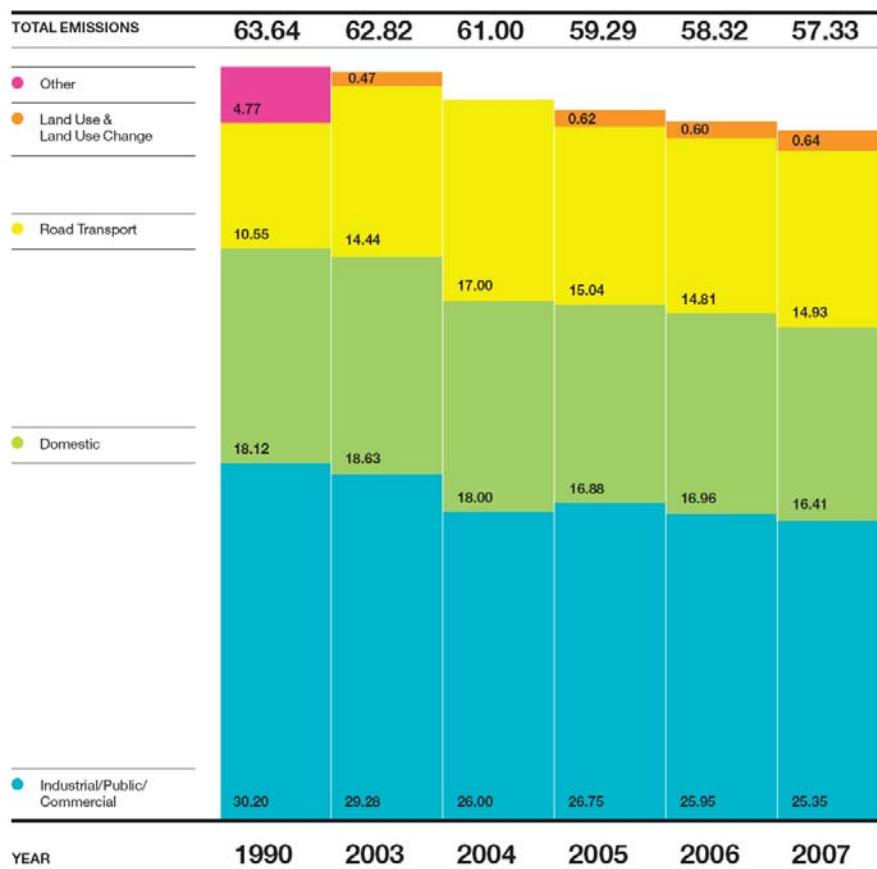


<sup>131</sup> Regional Intelligence Unit (2010) The Environment Evidence Base RS2010.

<sup>132</sup> Regional Intelligence Unit (2010) The Environment Evidence Base RS2010.

As shown in Figure 7.3. Carbon dioxide (CO<sub>2</sub>) is the most common greenhouse gas across all sub-regions accounting for about 88% of the regions total GWP in 2005). Methane and nitrous oxide are more significant in the rural sub-regions of Cheshire and Cumbria, where emissions from agriculture and nature are more intense. The amount of CO<sub>2</sub> produced in the region has general fallen since 1990 and the regional economy is 'de-carbonising' as a whole as the result of the shift from manufacturing to services, rather than behavioral change. Figure 7.3 below demonstrates the fluctuations in CO<sub>2</sub> emissions across sectors, both actual and predicted between 1990 and 2007. The figure demonstrates the overall decrease in CO<sub>2</sub> emissions mentioned above and shows the decreases in domestic and industrial sectors. The figure shows a rise in transport emissions between 1990 and 2004, due to an increase in road vehicles, followed by a gradual decrease in emissions following 2004 as cleaner vehicle technologies evolve. The figure demonstrates the primacy of the industrial commercial and public and domestic sectors, showing that in 2007 47% of North West CO<sub>2</sub> emissions came from the industrial, commercial and public sectors and 25% from domestic consumers.

**Figure 7.3 Total CO<sub>2</sub> emissions 1990-2007 by sector<sup>133</sup>**

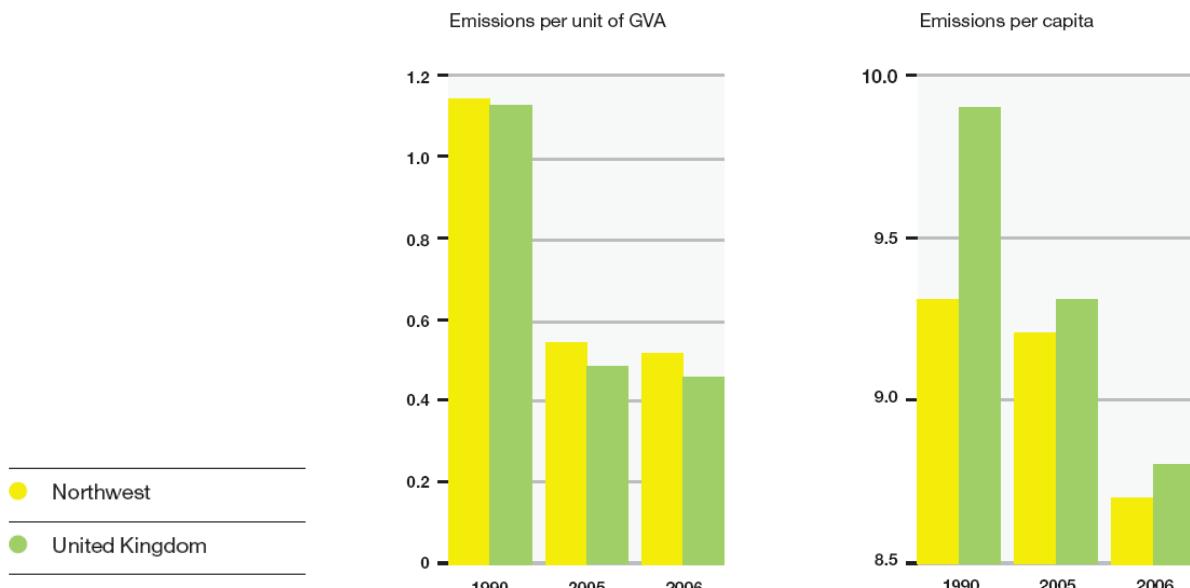


<sup>133</sup> Regional Intelligence Unit (2010) The Environment Evidence Base RS2010.

The Regional Strategy AMR (2010)<sup>134</sup> reflects upon the differences in CO<sub>2</sub> emissions between districts in the North West. At district level within the North West, Ribble Valley's CO<sub>2</sub> emissions have fallen by 422 kt between 2005 and 2007, yet within Ellesmere Port and Neston it increased by 262 kt. Manchester has seen an increase of 376 kt. These rises have resulted from a large increase in industrial and commercial CO<sub>2</sub> emissions. Looking at CO<sub>2</sub> emissions per Industry between 2005 and 2007, road transport CO<sub>2</sub> has fallen within Lancaster (-20 kt) and risen within Macclesfield (+20 kt) and Warrington (+38 kt). Industry and commercial CO<sub>2</sub> emissions reflect the most significant improvements; with all but two revealing a decrease (Ribble Valley fell by 422 kt). Yet two districts went against this trend, with Manchester's levels rising by 39 kt and Ellesmere Port by 267 kt.

The North West's Climate Change Action Plan<sup>135</sup> states that carbon use for economic activity has declined significantly since 1990, however the North West's sectoral make up (i.e. the relative importance of industry in the region's economic profile) means that regional emissions per unit of GVA are high than the UK average. Emissions per capita are however lower than the UK average. This is evident in Figure 7.4.

**Figure 7.4 Carbon Intensity<sup>136</sup>**



### Renewable Energy

The North West Sustainable Energy Strategy<sup>137</sup> states that the North West is a major producer and consumer of all forms of energy. In 2001 it is estimated that the region had a total energy demand of 291 TWh (which is equivalent to a 100 Watt light bulb burning for 332 million years, or an energy saving bulb burning for 2,645 million years).

<sup>134</sup> RS Annual Monitoring Report for North West of England: 4NW (2010).

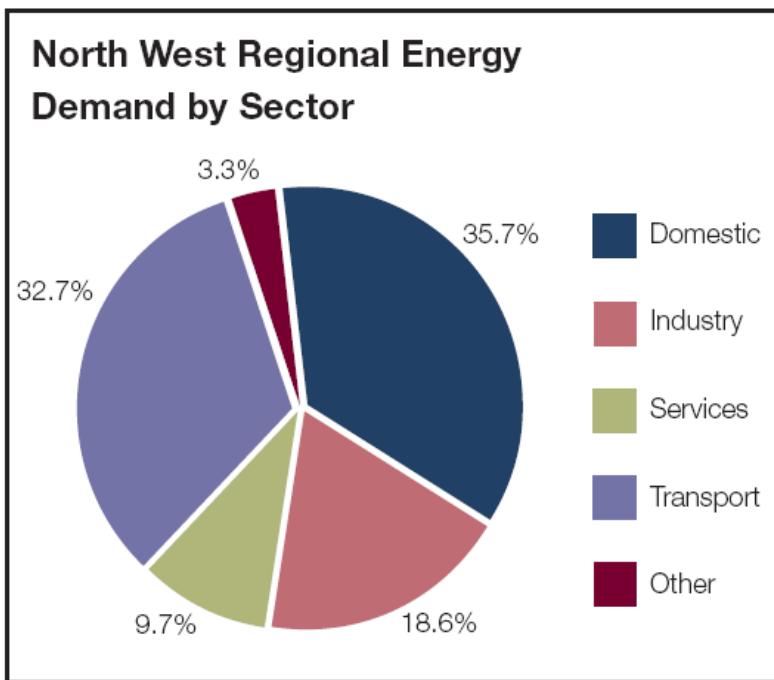
<sup>135</sup> Rising to the challenge: A Climate Change Action Plan for England's North West 2010-2012: Climate Change North West (2010).

<sup>136</sup> Rising to the challenge: A Climate Change Action Plan for England's North West 2010-2012: Climate Change North West (2010).

<sup>137</sup> North West Sustainable Energy Strategy: North West Regional Assembly (2006).

Figure 7.5 demonstrates energy demand by sector and shows demand in the domestic and transport sectors are greatest.

**Figure 7.5 North West Energy Demand by Sector**<sup>138</sup>



The Strategy states that the North West possesses some of the best renewable energy resources in the UK. The region is home to around 100 companies in the sector, employing 520 people, and with a combined annual turnover of around £70m (of which around £7m is within the region).

The designation of the North West coast from North Wales up to the Solway Firth as one of three Strategic Areas for development in the UK by Government in 2002 emphasises that offshore wind in the region has great potential. In November 2003, North Hoyle became the first major UK offshore wind farm to start generating electricity and is located within the North West Strategic Area. There are currently five other consented Round 1 sites set for development giving a combined potential capacity of over 700MW. Under Round 2, three main sites have currently been licensed in the North West strategic area – Walney, West Duddon and Gwynt-y-Mor. These have the potential to provide up to a massive 1.7GW of electricity, and would be far and away the biggest source of renewable energy in the North West.

The most recent data from the Dept. of Energy and Climate Change shows that in 2010, the North West had an installed capacity of 613.7 MWe from sites generating electricity from renewable sources (Table 7.1). This was an increase of 11% on 2008. The South West of England has the greatest installed capacity of all regions, with a combined total of 23% of England's capacity. The North West has the third highest capacity at 17% of the total capacity in England. In the North West 62 % of this capacity is from wind and wave energy. Wind has significantly overtaken landfill gas (28%) as the region's biggest source of installed renewable electricity capacity. As well as the

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<sup>138</sup> North West Sustainable Energy Strategy: North West Regional Assembly (2006).

massive increase in wind, the region also contains 20% of England's landfill gas capacity. Elsewhere in the North West 'other biofuels' accounted for 30.2 MWe and hydropower for the remaining 5.9 MWe.

**Table 7.1 Number and Installed Capacity of Sites Generating Electricity from Renewable Sources 2010<sup>139</sup>**

	Hydro	Wind and wave	Landfill Gas	Sewage Gas	Other Biofuels	Total excluding PV	PV	Total
North West – Number of Sites	18	58	63	25	9	173	1,178	1,315
North West – Installed Capacity	5.9	378.8	172.1	23.4	30.2	-	3.2	613.7
England – Number of Sites	91	425	361	157	102	1,136	21,032	22,168
England Installed Capacity	28.1	1,849.3	859.7	155.6	737.3	-	55.5	3,685.5

## 7.4 Environmental Characteristics of those Areas most likely to be Significantly Affected

### 7.4.1 National

#### UK

The main source for determining how the climate of the UK may change is the UK Climate Impacts Programme scenarios, published in 2009 and known as UKCP09. The UKCP09 findings indicate that all areas of the UK are getting warmer, and the warming is greater in summer than in winter. There is little change in the amount of precipitation (rain, hail, snow etc) that falls annually, but more is falling in the winter, with drier summers, for much of the UK. Sea levels are rising, and are greater in the south of the UK than the north<sup>140</sup>.

The Climate Change Risk Assessment<sup>141</sup> (2012) outlines some of the most important risks and opportunities that climate change may present. It provides an indication of their potential magnitude, when they might become significant and the level of confidence in each finding. As well as the overall picture, specific findings are presented for five complementary themes: Agriculture & Forestry, Business, Health & Wellbeing, Buildings & Infrastructure and the Natural Environment. Key messages from the assessment include:

- Flood risk is projected to increase significantly across the UK. Increases in the frequency of flooding would affect people's homes and wellbeing, especially for vulnerable groups (e.g. those affected by

<sup>139</sup> <https://restats.decc.gov.uk/cms/historicregionalstatistics/>

<sup>140</sup> DECC (2007) [http://www.decc.gov.uk/en/content/cms/what\\_we\\_do/lc\\_uk/loc\\_reg\\_dev/ni185\\_186/ni185\\_186.aspx](http://www.decc.gov.uk/en/content/cms/what_we_do/lc_uk/loc_reg_dev/ni185_186/ni185_186.aspx)

<sup>141</sup> Defra (2012) [http://randd.defra.gov.uk/Document.aspx?Document=Summary\\_of\\_Key\\_Findings.pdf](http://randd.defra.gov.uk/Document.aspx?Document=Summary_of_Key_Findings.pdf)

poverty, older people, people in poor health and those with disabilities), and the operation of businesses and critical infrastructure systems. Annual damage to UK properties due to flooding from rivers and the sea currently totals around £1.3 billion. For England and Wales alone, the figure is projected to rise to between £2.1 billion and £12 billion by the 2080s, based on future population growth and if no adaptive action is taken;

- UK water resources are projected to come under increased pressure. This is a potential consequence of climate-driven changes in hydrological conditions, as well as population growth and the desire to improve the ecological status of rivers. By the 2050s, between 27 million and 59 million people in the UK may be living in areas affected by water supply-demand deficits (based on existing population levels). Adaptation action will be needed to increase water efficiency across all sectors and decrease levels of water abstraction in the summer months;
- Potentially, there are health benefits as well as threats related to climate change, affecting the most vulnerable groups in our society. These are likely to place different burdens on National Health Service (NHS), public health and social care services. For example, premature deaths due to cold winters are projected to decrease significantly (e.g. by between 3,900 and 24,000 by the 2050s) and premature deaths due to hotter summers are projected to increase (e.g. by between 580 and 5,900 by the 2050s). Other health risks that may increase include problems caused by ground-level ozone and by marine and freshwater pathogens;
- Sensitive ecosystems are likely to come under increasing pressure. Although some species could benefit, many more would be negatively impacted. These impacts would have knock-on effects on habitats and on the goods and services that ecosystems provide (e.g. regulating water flows, pollination services).

The UK is experiencing sea level rise of approximately 1mm per year. Global sea-level is rising at about 3mm per year<sup>142</sup>. Central England's temperature has risen by about 0.7°C over the last century, with 2004 being the warmest on record. Sea-surface temperatures around the UK coast have risen over the past three decades by about 0.7°C. Global average temperatures are rising at about 0.2°C per decade. Severe windstorms around the UK have become more frequent in the past few decades, though not above that seen in the 1920s. Annual mean precipitation over England and Wales has not changed significantly since records began; however seasonal rainfall appears to be decreasing in summer and increasing in winterError! Bookmark not defined..

Key climate change include that the UK climate is warming and becoming more seasonal; climate changes are more pronounced in south-east of the UK compared to the north-west; sea levels are rising, and UK greenhouse gas emissions are falling with a target of an 80% cut in emissions by 2050 (compared to 1990 levels).

### 7.4.2 North West

Global warming may have a significant impact on the air quality in the region. As air temperature rises, the level of pollution in the air increases accordingly. It is also likely to cause reductions in water resources, problems with water quality due to declining summer flows, and increase flooding both from sea level rise and heavier storms. This is likely to have an impact on the region's biodiversity and historical heritage, health and its economy. The regional agriculture will also be affected by climate change in terms of the type of crop grown and irrigation required.

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<sup>142</sup> Defra, Environment in your Pocket Statistics, 2009, <http://www.defra.gov.uk/evidence/statistics/environment/eipy/>

Energy consumption is the main contributing factor to climate change due to the level of greenhouse gas emissions and one potential mitigation strategy is to increase the number of sites generating electricity from renewable means. Depending upon the type of technology development, localized impacts could result to rivers (hydro), marine (offshore wind, wave and tidal) and upland areas (onshore wind) of the region.

### 7.5 Likely Evolution of the Baseline

#### 7.5.1 National

##### UK

There has been a steady decrease in the six greenhouses gases of the Kyoto basket since 1990. In 2009 566.3 million tonnes of CO<sub>2</sub> equivalent were emitted from the UK, which represented a 27.2% decrease compared to volumes emitted in 1990 and an 8.2% decrease compared to values in 2008. However, provisional results for 2010 estimate 582.4 million tonnes of CO<sub>2</sub> equivalent were emitted giving an increase of 2.8% compared to 2009 values<sup>143</sup>.

UKCP09 provides the following prediction on changes to climate within the UK based on the medium emission scenario with 90% probability<sup>144</sup>:

- **2080 mean winter temperature:** the central estimates of change are projected to be generally between 2 and 3°C across most of the country, with slightly larger changes in the south-east and slightly smaller in the north-west of Britain;
- **2080 mean summer temperature:** a more pronounced south to north gradient exists with changes in some parts of southern England being just over 4°C and in parts of northern Scotland about 2.5°C;
- **2080 mean summer daily maximum temperature:** central estimates show a gradient between parts of southern England, where they can be 5°C or more, and northern Scotland, where they can be somewhat less than 3°C;
- **2080 mean annual precipitation:** shows little change (few percent or zero);
- **2080 mean winter precipitation:** increases are in the range +10 to +30% over the majority of the country. Increases are smaller than this in some parts of the country, generally on higher ground;
- **2080 mean summer precipitation:** general south to north gradient, from decreases of almost 40% in SW England to almost no change in Shetland;
- The range of absolute sea level rise around the UK (before land movements are included) and across the three emissions scenarios is projected to be between 12 and 76cm for the period 1990–2095, which is a wider spread than that of the global average;

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<sup>143</sup> DECC (2011) 2010 Provisional GHG emissions

[http://www.decc.gov.uk/publications/basket.aspx?filetype=4&filepath=Statistics%2fclimate\\_change%2f1514-ghg-emissions-provisional-2010.xls&minwidth=true#basket](http://www.decc.gov.uk/publications/basket.aspx?filetype=4&filepath=Statistics%2fclimate_change%2f1514-ghg-emissions-provisional-2010.xls&minwidth=true#basket)

<sup>144</sup> UKCP09 <http://ukclimateprojections.defra.gov.uk/content/view/515/499/>

- The projected long-term future trends in storm surge that we find in UKCP09 are physically small everywhere around the UK, and in many places can be accounted for by natural variability. The surge level we expect to be exceeded on average once in 2, 10, 20 or 50 yr is not projected to increase by more than 9 cm by 2100 anywhere around the UK coast (not including the mean sea level change). The largest trends are found in the Bristol Channel and Severn Estuary;
- Seasonal mean and extreme waves are generally expected to increase to the South West of the UK, reduce to the north of the UK and experience a small change in the southern North Sea. Changes in the winter mean wave height are projected to be between -35 and +5cm. Changes in the annual maxima are projected to be between -1.5 and +1m.

The Climate Change Act 2008 was passed in November 2008 and creates a new approach to managing and responding to climate change in the UK. This includes putting in place legally binding targets with the aim of reducing emissions by at least 80% by 2050 (compared to 1990 levels) and a set of five-year carbon budgets (legally binding limits on the total quantity of greenhouse gas emissions that the country produces over a five year period) to 2022. Included within the Fourth Carbon Budget the Committee on Climate Change is the recommendation for an indicative 2030 target to reduce emissions by 60% relative to 1990 levels (46% relative to 2009 levels)<sup>145</sup>.

The Carbon Plan 2011 explains that if the UK is to cut emissions by 80% by 2050, there will have to be major changes in how energy is generated and used. Energy efficiency will have to increase dramatically across all sectors. The oil and gas used to drive cars, heat buildings and power industry will, in large part, need to be replaced by electricity, sustainable bioenergy, or hydrogen. Electricity will need to be decarbonised through renewable and nuclear power, and the use of carbon capture and storage (CCS). The electricity grid will be larger and smarter at balancing demand and supply. In the next decade, the UK is expected to complete the installation of proven and cost effective technologies that are worth installing under all future scenarios. All cavity walls and lofts in homes, where practicable, are expected to be insulated by 2020. The fuel efficiency of internal combustion engine cars will improve dramatically, with CO<sub>2</sub> emissions from new cars set to fall by around a third. Many of our existing coal-fired power stations will close, replaced primarily by gas and renewables. More efficient buildings and cars will cut fuel costs. More diverse sources of electricity will improve energy security and reduce exposure to fossil fuel imports and price spikes. As part of this, the UK is committed to delivering 15% of its energy from renewable sources by 2020.

### England

In 2009 England's emissions of the basket of six greenhouse gases covered by the Kyoto Protocol were provisionally estimated to be 436 million tonnes CO<sub>2</sub> equivalent which is a 29.5% decrease compared to emissions in 1990<sup>146</sup>.

UKCP09 provides the following changes in climate for England in 2080 based on a medium emission scenario with 90% probability<sup>147</sup>.

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<sup>145</sup> Committee on Climate Change (2010) Fourth Carbon Budget, <http://www.theccc.org.uk/reports/fourth-carbon-budget>

<sup>146</sup> National Atmospheric Emissions Inventory , Devolved Administration End User GHG Emissions Data [http://uk-air.defra.gov.uk/reports/cat07/1109061103\\_DA\\_GHGI\\_report\\_2009\\_Main\\_text\\_Issue\\_1.pdf](http://uk-air.defra.gov.uk/reports/cat07/1109061103_DA_GHGI_report_2009_Main_text_Issue_1.pdf)

<sup>147</sup> UKCP09 <http://ukclimateprojections.defra.gov.uk/content/view/515/499/>

- **2080 mean winter temperature:** a change in temperature from 4.0°C in the Northwest to 4.7°C in the South and North West;
- **2080 mean summer temperature:** a change in temperature from 5.4°C in Yorkshire to 6.5°C in the South East;
- **2080 mean winter precipitation:** increases are in the range 41% in the East Midlands to 54% in the South West;
- **2080 mean summer precipitation:** no change is expected in Yorkshire to a 7% increase in the South East and London.

England shares the same targets related to climate change and energy use as the rest of the UK. Although there are presently a number of regional and local authority level targets contained within strategies.

### 7.5.2 North West Region

The UK Climate Programme 2009<sup>148</sup> central estimate projects that, by 2080, average summer temperatures in the North West will increase by 3.7C whilst summer rainfall will decrease by 21%. Meanwhile average winter rainfall will increase by 16%, sea levels will rise by 30 cm and there will be more extreme weather events. Even by 2040 summer temperatures will have increased by 2.2C and there will be 13% less rain. In winter there will be 10% more rain and sea levels will be up 15cm.

The figures below, from the Regional Strategy evidence base<sup>149</sup>, are based on the high emissions scenario (central estimate) for the North West in 2080:

- Estimated increase in the winter mean temperature of 3.1°C; it is very unlikely to be less than 1.9°C and is very unlikely to be more than 4.8°C;
- Estimated increase in the summer mean temperature of 4.7°C; it is very unlikely to be less than 2.5°C and is very unlikely to be more than 7.3°C;
- Estimated change in annual mean precipitation of 1%; it is very unlikely to be less than -10% and is very unlikely to be more than 12%;
- Estimated change in winter mean precipitation of 26%; it is very unlikely to be less than 9% and is very unlikely to be more than 50%;
- Estimated change in summer mean precipitation of -28%; it is very unlikely to be less than -51% and is very unlikely to be more than -2%.

Other climate predictions for the North West include<sup>9</sup>:

- Snowfall will decrease in the region, by 10 to 20% by the 2020s and up to 100% by the 2080s;
- Days with air frost could decrease by a further 9–10 days by 2020s and 35-40 days by 2080s;

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<sup>148</sup> [www.ukclimateprojections.defra.gov.uk](http://www.ukclimateprojections.defra.gov.uk)

<sup>149</sup> Regional Intelligence Unit (2010) Energy Evidence Base RS2010

- Autumn and summer soil moisture contents will decrease by 10% by the 2020s and up to 40% by the 2080s;
- Mean sea level rise of 2 to 31 cm by 2020's and up to 63 cm in 2080's.

Across the majority of evidence reviewed, CO<sub>2</sub> emissions are generally expected to increase in the future, based on a standard 'business-as-usual' scenario when policy interventions are not factored in. The sub-region with the greatest challenges appear to be Cheshire and Warrington, which may not reach a reduction level equivalent to the UK interim target even in the high case scenario; while, on the other hand, the Merseyside sub-region may achieve higher CO<sub>2</sub> reduction percentages than the other sub-regions. The evidence base report states that projections show that the regional total for all six greenhouse gases increase to about 68 million tonnes GWP in 2020 under a business-as-usual scenario.

The same report estimates that taking into account forecasts for economic and population growth, final energy demand could rise as high as 400,000 GWh by 2021. The North West Sustainable Energy Strategy encourages the use of micro generation, such as the use of smaller scale community and on site renewable electricity projects implemented via the planning system, and business and community projects. The Strategy suggests that for residential, non-residential developments and major refurbishment schemes, 10% of the predicted energy requirements should be met by renewable energy production, a suggestion turned into policies EM17 and 18 in the North West of England Plan and set a target of at least 20% of electricity supplied within the region to be provided from renewable energy sources by 2020. The initial target of producing 10% of electricity supplies in the region by renewable sources by 2010 has been missed, despite this; however the generation mix of electricity in the region is likely to change. Table 7.2 below provides a breakdown of how the North West's energy supply could look in 2020:

**Table 7.2 Future energy capacity<sup>150</sup>**

Technology	Capacity (MW)	Assumption
Renewable energy	3772	EU 2020 target is met with 35% of the region's consumption being produced by renewables (based on a 0% growth rate of consumption).
Nuclear	2350	Heysham 2 still on line plus one of the four proposed sites built by 2020 at a capacity of 1.1GW.
Gas	5039	Rooscote and Rocksavage both still on line plus 1,500MWe CHP target met. 1GW Carlton Power station at Carrington and 860MW Hillhead near Cleavleys built.
Coal	1861	Fiddlers Ferry minus 5% co-firing which is included as renewable energy.
Energy from Waste	230	All the sites currently in planning get built which are: Ineos chlor 100MWe; Ince Marches, Peel Holdings, 90MW Covanta 15-40 MW, Energos Knowsley 15MWe.
Total	13252	

These changes in electricity production between now and 2020 are likely to reduce the carbon intensity of the electricity produced in the region. Currently the region produces electricity with a carbon intensity of 509 tonnes per GWh produced. By 2020 the carbon intensity will have reduced to 256 tonnes per GWh of electricity produced.

## 7.6 Assessing Significance

**Table 7.3** sets out guidance utilised during the assessment to help determine the relative significance of potential effects on the biodiversity objective. It should not be viewed as definitive or prescriptive; merely illustrative of the factors that were considered as part of the assessment process.

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<sup>150</sup> Regional Intelligence Unit (2010) Energy Evidence base RS2010.

**Table 7.3 Approach to determining the significance of effects on climate change and energy use**

Effect	Description	Illustrative Guidance
<b>++</b>	Significant positive	<ul style="list-style-type: none"> <li>Alternative would significantly reduce carbon footprint of region (by &gt;34% by 2020 compared to a 1990 baseline).</li> <li>Alternative will increase resilience/decrease vulnerability to climate change in the wider environment.</li> </ul>
<b>+</b>	Positive	<ul style="list-style-type: none"> <li>Alternative would reduce carbon footprint of region (by &lt;34% by 2020 compared to 1990).</li> <li>Alternative may increase resilience/decrease vulnerability to climate change in the wider environment</li> </ul>
<b>0</b>	No (neutral effects)	<ul style="list-style-type: none"> <li>Alternative would not lead to an overall change in greenhouse gas emissions in a way that will not contribute to climate change or resilience to climate change within the wider environment.</li> </ul>
<b>-</b>	Negative	<ul style="list-style-type: none"> <li>Alternative would increase carbon footprint of region (by &lt;10% by 2020 compared to 1990).</li> <li>Alternative may decrease resilience/increase vulnerability to climate change in the wider environment.</li> <li>Alternative could result in increase in people or property at risk or affected by flooding, coastal inundation or sea level rise.</li> </ul>
<b>--</b>	Significant negative	<ul style="list-style-type: none"> <li>Alternative would increase carbon footprint of region (by &gt;10% by 2020 compared to 1990).</li> <li>Alternative will decrease resilience/increase vulnerability to climate change in the wider environment.</li> <li>Alternative could result in increase in significant number of people or property affected by flooding, coastal inundation or sea level rise.</li> </ul>
<b>?</b>	Uncertain	<ul style="list-style-type: none"> <li>From the level of information available the impact that the alternative would have on this objective is uncertain.</li> </ul>

## 7.7 Assessment of Significant Effects of Retention, Revocation and Partial Revocation

**Table 7.4** summarises the significant effects identified in the detailed assessment of the North West of England Plan policies against the Climate topic.

## Appendix E: SEA for the Revocation of the North West Regional Strategy

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**Table 7.4      Summary of significant effects, revocation and retention**

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy DP1 Retention	++	++	++	Policy DP1 is a high level framework tying together the sustainable development principles expanded on in policies DP2-DP9. The principles it lists can be used in development management so they are potentially applicable straight away but will increase in significance as core strategies take them into consideration in policy development.
Policy DP1 Revocation	++	++	++	The North West of England Plan principles set out a regional approach to sustainable development. Sustainable development is the overarching principle behind the NPPF and as such the effects of revocation are considered to be the same as for retention. The NPPF is also a material consideration for development management, and there will be short, medium and long term effects. .
Policy DP9 Reduce Emissions and Adapt to Climate Change. Retention	++	++	++	<p>DP9 states that, as an urgent regional priority, plans, strategies, proposals, schemes and investment decisions should contribute to reductions in the region's carbon dioxide emissions from all sources, including energy generation and supply, buildings and transport in line with national targets to reduce emissions to 60% below 1990 levels by 2050.</p> <p>Local authorities, when drawing up plans or taking decisions, are under a duty to take account of the need to mitigate and adapt to climate change. This includes having regard to the UK targets for reducing emissions set out in the Climate Change Act 2008, and the recommendations of the Committee on Climate Change. Policy DP9 is therefore significant especially when applied in conjunction with these other plans, programmes and legislation. Effects are considered to be delivered quickly due to the 'urgent priority' with which this policy is to be implemented.</p> <p>RES recognises also the threats posed by climate change and supports under Action 24 the development and implementation of a local Climate Change Action Plan.</p>
Policy DP9 reduces Emissions and adapt to Climate Change. Revocation	++	++	++	The sustainable development measures set out in the NPPF, and particularly those in the section on climate change, flooding and coastal change, provide a series of requirements which provide a strong framework for the mitigation of climate change impacts than the suggestions set out in DP9. Paragraph 99 in particular states that local plans should take account of climate change over the longer term, including factors such as flood risk, coastal change, water supply and changes to biodiversity and landscape. New development should be planned to avoid increased vulnerability to the range of impacts arising from climate change.
Policy EM5 Integrated Water Management. Retention	+	+	++	<p>Policy EM5 outlines the roles of local authorities, the Environment Agency and water companies in meeting the requirements of the Water Framework Directive.</p> <p>EM5 also states that development should be located where there is spare capacity in existing water supply, waste water treatment and sewerage, but if not that development must be phased so that new infrastructure capacity can be provided without environmental harm. Policy therefore supports investment in material assets. Such actions will help the region adapt to the impacts of climate change.</p>
Policy EM5 Integrated Water Management. revocation	+	+	++	EM5 incorporates the requirements of the Water Framework Directive; the sequential test originally set out in PPS25 and now incorporated into the NPPF, and the Floods and Water Management Act 2010. The policy on phasing of development where necessary is judged to be a straightforward solution to problems that can arise where development is brought forward in areas of flood risk, and its revocation, and the revocation of EM5 more generally is therefore unlikely to have any effect.

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Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy EM 6 Managing the Region's Coastline. Retention	0	+	++	<p>Policy EM6 promotes a strategic and integrated approach to the long term management of flood and coastal erosion.</p> <p>A number of benefits are identified as arising from this management. These include benefits arising from actions that would seek to mitigate and adapt to the effects of climate change upon the region's coastline in the medium to long term.</p>
Policy EM 6 Managing the Region's Coastline. Retention	0	+	++	<p>Paragraph 168 of the NPPF states that Shoreline Management Plans should inform the evidence base for planning in coastal areas. The prediction of future impacts should include the longer term nature and inherent uncertainty of coastal processes (including coastal landslip), and take account of climate change.</p> <p>The NPPF contains comprehensive policy direction in relation to coastal development, and the duty to co-operate will ensure that local authorities act jointly in respect of coastal change.</p> <p>Paragraph 94 creates a strategic link with climate change, stating that local planning authorities should adopt proactive strategies to mitigate and adapt to climate change, taking full account of issues such as coastal change.</p>
Policy EM12 Locational Principles. Retention	-	+	++	<p>EM12 provides a high level approach to the siting of waste management facilities and the transportation of residual waste following treatment which meets the national policy requirement for more local responsibility for dealing with waste. Waste should be disposed of in one of the nearest appropriate installations. Waste management facilities are sited in such a way as to avoid the unnecessary carriage of waste over long distances. The location of new waste management facilities should take account of the availability of transport infrastructure that will support the sustainable movement of waste, seeking where practicable to use rail or water transport. The principal effect of this policy is to reduce the transportation of waste by road, with benefits over the medium to long term to air quality and climatic factors through a gradual reduction in exhaust emissions as facilities are brought forward, and corresponding benefits to population and human health. Positive effects increase over time as new facilities are developed to replace existing facilities.</p>
Policy EM12 Locational Principles. Revocation	-	-	-	<p>The NPPF does not set out waste policy and instead continues to rely upon PPS10 which contains policy advice including location criteria at Annex E. However these criteria are focussed upon protecting environmental receptors rather than the locational factors surrounding proximity to source. The main document also sets out locational factors to be taken into consideration by waste authorities when selecting appropriate sites from paragraph 20 onwards but these are similarly silent with regard to proximity to source. It is therefore concluded that locational principles will continue to operate as set out within PPS10 which have been in operation for some time.</p>
Policy EM13 Provision of Nationally, regionally and Sub-regionally Significant Waste Management Facilities. Retention	0	+	++	<p>Policy EM13 indicates at a sub-regional level the volumes of non-hazardous commercial and industrial waste, hazardous waste and municipal waste for which facilities should be provided up to 2020. EM13 mirrors the approach taken in EM12 by setting out expectations that transport should be minimised, the possibility of co-location explored, and existing sites re-used where possible. Similar impacts arise as for policy EM12, with some likely additional benefits arising from the preference for the re-use of existing sites where possible.</p>

## Appendix E: SEA for the Revocation of the North West Regional Strategy

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy EM13 Provision of Nationally, regionally and Sub-regionally Significant Waste Management Facilities. Revocation	0	+	+	<p>Waste planning authorities must still comply with national policy in Planning Policy Statement 10 and the NPPF. Waste planning authorities should continue to plan for the waste management needs in their area, taking into account capacity requirements, and they should continue to monitor waste arisings.</p> <p>Revocation will therefore only have a limited effect. However a lack of explicit reference to the sustainable transportation of waste as referenced within the North West of England Plan policy potentially weakens the climate change benefits.</p>
Policy EM15 A Framework for Sustainable Energy in the North West. Retention	+	+	++	<p>This is a high level policy which aims to ensure that local authorities promote sustainable energy production and consumption in accordance with the principles of the Energy Hierarchy and within the North West Sustainable Energy Strategy. The Strategy sets out an aspiration to deploy sufficient renewable electricity generating capacity to provide 15% of final demand by 2015 and 20% of final demand by 2020 with an emphasis on micro-generation. This exceeds the national target to achieve 15% of the UK's energy consumption from renewable sources by 2020. Though the 20% target is only aspirational, the reference in EM15 to the Sustainable Energy Strategy makes it likely that the higher target will be given more weight in planning decisions than it would be in the absence of EM15. This additional weight is unlikely to have a significant impact in the short term, but in the medium to long term should have some impact in reducing carbon emissions.</p>
Policy EM15 A Framework for Sustainable Energy in the North West. Revocation	+	+	+	<p>One of the 12 core principles of planning set out in paragraph 17 of the NPPF is to support the transition to a low carbon future, taking full account of flood risk and coastal change, and encourage the reuse of existing resources, including conversion of existing buildings, and encourage the use of renewable resources (for example, by the development of renewable energy).</p> <p>Paragraph 94 of the NPPF states that local planning authorities should adopt proactive strategies to mitigate and adapt to climate change in line with the provisions of the Climate Change Act 2008.</p> <p>There is a legally-binding target to ensure 15% of energy comes from renewable sources by 2020. The UK Renewable Energy Strategy 2009 set out the path to meet it. This is 5% lower than the target set out in the North West Sustainable Energy Strategy, and it is likely that revoking this target will have some effect on the benefits associated with the provision of renewable energy generation facilities. Furthermore only five local authorities have targets within their plans. There is a residual level of uncertainty longer term with regard to the extent to which they will support individual applications without the ability to compare performance against targets specific to their area. On this basis revocation is considered to be minor significant in the longer term as opposed to significant for the retention alternative.</p>
EM16 Energy Conservation and Efficiency. Retention	+	+	++	<p>EM16 sets out a high level, aspirational approach to energy, based on minimising consumption and demand, promoting maximum efficiency and minimum waste. This policy is only partly deliverable through the Planning system. To the extent that it is, EM16 essentially restates national policy. However, the encouragement to local authorities to plan for network upgrades and actively support national policy should have some benefits over the medium to long term.</p>

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Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
EM16 Energy Conservation and Efficiency. Revocation	+	+	++	Paragraph 95 of the NPPF states that local planning authorities should plan for new development in locations and ways which reduce greenhouse gas emissions, actively support energy efficiency improvements to existing buildings; and when setting any local requirement for a building's sustainability, do so in a way consistent with the Government's zero carbon buildings policy. Paragraph 96 states that, in determining planning applications, local planning authorities should expect new development to take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption. Paragraph 97 states that local planning authorities should have a positive strategy to promote energy from renewable and low carbon sources, design their policies to maximise renewable and low carbon energy development while ensuring that adverse impacts are addressed satisfactorily, and support community-led initiatives for renewable and low carbon energy. These policies are likely to provide benefits in the short to medium term, with significant benefits arising over the long term.
EM17 Renewable Energy Retention	+	+	++	EM17 expands on the targets for renewable energy outlined in policy EM15, for at least 10% of the electricity which is supplied within the region to be provided from renewable energy sources by 2010, rising to at least 15% by 2015 and 20% by 2020. Indicative targets set out the number of schemes expected to be brought forward for each type of renewables technology across the three phases, including expected generation capacity. These are broken down to sub regional level.
EM17 Renewable Energy Revocation	+	+	+	The NPPF sets out detailed policies in support of the move to a low carbon future, which are supported by targets for renewables and carbon reductions deriving from EU and UK legislation. The revocation of EM17 and its higher target for renewables provision over and above the national 15% target for 2020 would have an effect sufficient to warrant a difference in assessment between retention and revocation of EM17. The lack of targets in almost all local planning documents is also assumed to result in a less than significant effect when considering the level of support or otherwise for renewable energy schemes, particularly in the longer term.
EM18 Decentralised Energy Supply Retention	0	+	+	EM18 sets out a 'Merton Rule' expectation that local authorities should set targets for the energy to be used in new development to come from decentralised and renewable or low-carbon energy sources, based on appropriate evidence and viability assessments; and the type and size of development to which the target will be applied. In advance of such targets being set, the Merton Rule criteria apply. This policy reinforces the provision of decentralised, renewable, and other low-carbon energy sources in the planning system, and as such complements policies EM15 and EM17, with a similar profile of benefits.
EM18 Decentralised Energy Supply Revocation	0	+	++	Paragraph 95 states that, to support the move to a low carbon future, local planning authorities should, when setting any local requirement for a building's sustainability, do so in a way consistent with the Government's zero carbon buildings policy and adopt nationally described standards. Paragraph 96 states that, in determining planning applications, local planning authorities should expect new development to comply with adopted Local Plan policies on local requirements for decentralised energy supply unless it can be demonstrated by the applicant, having regard to the type of development involved and its design, that this is not feasible or viable. The NPPF therefore preserves the force of existing Merton Rule policies in existing plans, and reinforces this with a stronger requirement for the sustainability of new buildings which embeds the Government's zero carbon buildings policy. It is expected that, in the longer term, this will lead to significant benefits in terms of carbon savings.

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Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy RT2 Managing Travel Demand Retention	+	+	++	<p>This policy has significant positive effects as a result of its focus on discouraging car use, tackling the most congested parts of the motorway network and relieving the pressure visitors place on major rural tourist areas. There is a corresponding emphasis on improving and promoting the use of public transport and walking and cycling and on greater use of parking planning restrictions and on-street parking controls and enforcement. These policies will take some time to produce the positive effects but given that the North West of England Plan has been in place since 2009, only a short-term effect is noticeable and the effects will increase over time.</p>
Policy RT2 Managing Travel Demand Revocation	?	?	?	<p>Whilst the NPPF advocates sustainable modes of transport, it recognises that different solutions will be required for different areas. It does not explicitly emphasise reducing the number of car journeys (and instead talks about meeting travel demand) but it does encourage developments to be planned so that they promote public transport use, walking and cycling so it could be assumed that demand is to be met in sustainable ways (paragraphs 35, 38). Parking is seen by the NPPF as a tool to boost the vitality of town centres, so this is less restrictive than the policy in RT2 (paragraph 35). This may benefit the economy of town centres whilst improving accessibility will also have positive economic and social benefits.</p> <p>There are also some uncertain effects as it is difficult to predict whether the emphasis on sustainable transport modes will result in a reduction in the number of car journeys, especially given the popular tourist attractions in the region, such as the Lake District. However, the NPPF strongly suggests a travel plan to be drawn up for developments which generate a significant amount of movement (paragraph 36) and the impacts of revoking the RS will depend on what, if anything, is set out in these travel plans. The effects are unlikely to impact in the short term, as it will take time to put travel plans in place, change people's habits and ensure sustainable modes of transport are in place.</p>
Policy RT4 Management of the Highway Network retention	+	+	++	<p>The policy recognises the importance of the region's road network and encourages local highway authorities and the Highways Agency to co-operate in the preparation of Route Management Plans. Local authorities should also extend the concept of functional highways beyond the regional level which is set out within the Appendix to the plan, to the local level. Management of traffic should focus on road safety, reducing traffic growth and maintaining a high quality environment with new road building only coming forward after all other options have been examined. The policy does not identify any schemes for implementation, leaving identification to the local level. Local Transport Plans 3 (2011 to 2026) have been published or are in preparation throughout the north west hence a difference in timescale of effect until the point at which they are all adopted.</p>
Policy RT4 Management of the Highway Network Revocation	+	+	++	<p>Similar support for the reduction in the need to travel and reduction in congestion is to be found in the NPPF, ( paragraph 30). It also references the requirement for local authorities to work together with transport providers. Frequent reference to sustainable transport modes which appear to be defined as low carbon transportation including walking, cycling and public transport. There is no reference to the management of traffic across the network with the NPPF being orientated more towards the interaction of land-use planning and transport. Direction to authorities with regard to network management is provided in the Highway Agency's Network Management Manual. Local Highway authorities continue to prepare Local Transport Plans for their networks, LTP3 running from 2011-2026.</p>

### 7.7.1 Effects of Revocation

The central estimate for the North West region suggests that climate change could increase winter and summer temperatures by over 3°C and lead to an increase in precipitation in winter with an almost corresponding decline in

the summer. Flooding and erosion is likely to increase.

There are two key aspects to climate change considered in this assessment. The first is the extent to which the region contributes to global emissions of greenhouse gases. The second is the extent to which the plan facilitates adaptation and mitigation of the impacts of climate change.

The sustainability appraisal undertaken of the regional strategy published in 2008 concluded that Policy EM5 was to be particularly important in ensuring that the RS properly responded to the challenge of climate change. The policy recognised some of the key issues that will potentially affect the region such as flooding and the ability of the region's suppliers to ensure adequate water supply to accommodate the growth in households proposed within the plan (Policy L4). Consultees such as the Environment Agency had expressed concern over the ability of the region's water infrastructure to support the growth requirements set out within the document and the subsequent inclusion of policy reference to the phasing of development to reflect available infrastructure provision was deemed to be very important.

Climate change can be mitigated both by the direct reduction in greenhouse gas emissions and through behavioural change. There is a legally binding requirement for a reduction in emissions set by the Climate Change Act 2008. It requires the reduction in emissions by at least 80% by 2050 (compared to 1990 levels) via a set of five-year carbon budgets (legally binding limits on the total quantity of greenhouse gas emissions that the country produces over a 5 year period) to 2022. In addition, the Carbon Plan 2011 explains that there will have to be major changes in how energy is generated and used. Energy efficiency will have to increase dramatically across all sectors including through more efficient buildings and cars and this is reflected both within existing RS policy and within the NPPF.

The planning system will have an important, but not necessarily leading, role in taking this forward. Direct substitution of carbon intensive development, such as power generation by renewable means is one obvious approach. Policy EM15 and 17 set out targets for renewable energy generation which if developed could significantly mitigate climate change (at the regional level). The target set is 5% above the national target and revocation is considered to lower the level of significance that would have otherwise accrued without revocation.

Behavioural change can include policy which encourages more sustainable patterns of living and working, with less of a requirement to drive promoted by locating development in the most accessible locations. The North West of England Plan contains a significant body of policy which supports development in sustainably accessible locations. This is mirrored by the NPPF within the 12 Core Principles which include for example the principle that significant development should take place in locations which are or can be made sustainable. In addition to sustainable locational policy however, the RS includes, within the waste policy section, guidance which seeks to locate waste treatment in locations closest to waste arisings. This would also have climate change benefits arising from the reduction in the need to travel. Further support provided by this policy to a change in transport mode from road to rail and water is also promoted. The NPPF does not make such explicit policy recommendations; therefore, when judged narrowly against Policy EM12, a significant negative effect is concluded.

When read in its totality the NPPF, much like the RS, does support the transition to a low carbon future. For example paragraph 94 states that local planning authorities should adopt proactive strategies to mitigate and adapt to climate change in line with the provisions of the Climate Change Act 2008.

Following revocation of Regional Strategy, local authorities will be expected to continue to work together across administrative boundaries and with the Environment Agency to plan development that properly minimises the effects of climate change, particularly from flooding and coastal change. For flooding matters, local authorities

already have a duty to co-operate under the Floods and Water Management Act 2010. This contains provisions that cover regional working and co-operation such as the establishment of Regional Flood and Coastal Committees and the bringing together of lead local flood authorities (unitary and county councils), who will have a duty to co-operate, to develop local strategies for managing local flood risk. In addition, the Flood Risk Regulations 2009 impose a duty on the Environment Agency and lead local flood authorities to determine whether a significant flood risk exists in an area and if so to prepare flood hazard maps, flood risk maps and flood risk management plans.

### 7.7.2 Effects of Partial Revocation

The effects of partial revocation concern either:

- Revoking all the quantified and spatially specific policies (for instance where a quantum of development, land for development or amounts of minerals to be extracted or waste disposal is allocated to a particular location in the region) and retaining for a transitional period the non spatial policies; or
- Retaining for a transitional period all the spatially specific policies where a quantum of development or land for development is allocated to a particular location in the region and revoking the non spatial policies, ambitions and priorities; or
- Retention for a transitional period of policies, the revocation of which may lead to likely significant negative environmental effects.

The likely significant effects on climate change associated with the revocation of the quantitative policies are summarised in **Table 7.4** for policy EM15 and EM17, which set out a target for renewable energy generation and seek a sustainable energy sector. Revocation will not affect the intent (to move towards sustainable generation) behind the revoked policy as one of the 12 core principles of planning set out in paragraph 17 of the NPPF is to support the transition to a low carbon future. However, as set out above, the significance of the benefits to climate change may be less as a result of a reduced target although it should be noted that targets themselves are not ceilings that should not be breached and that authorities should not therefore be refusing renewable energy generation solely because the region has, at some time in the future, reached the lower target. However, with the loss of regional targets, and the lack of meaningful targets at the local level (only five authorities in the region mention renewable energy targets in their adopted plans) there remains a residual level of uncertainty that individual authorities will provide sufficient weight to the benefits of renewable energy when considering schemes put before them.

The assessment has found one policy in the North West of England Plan where the act of revocation will cause a potentially minor negative effect whilst retaining the same policy will maintain a significant positive effect for climate change. This is with regard to the location of waste sites, national policy still being set out within PPS10. However there is nothing within either the NPPF or PPS10 that would prevent an approach to the location of sites as set out within the North West of England Plan and a number of the region's waste DPDs have been adopted under the current development plan regime and as such should follow the objectives of policy EM12. There are no policies where a significant negative effect has been identified as a result of revocation.

### Effects of Retention

Retaining the Regional Strategy would see continuation of the baseline identified above. The more recent legislative and national policy requirements which have come into effect since the regional strategy was adopted would in most cases steer development choices in the region, particularly as the Regional Strategy became more

out of date.

## 7.8 Mitigation Measures

Mitigation measures in the form of more explicit local policy on the location of waste management facilities would negate any potential minor negative effects.

## 8. Material Assets

### 8.1 Introduction

The overview of plans and programmes and baseline information contained in this section provides the context for the assessment of potential effects of the proposals on revoking the regional strategies on material assets including waste and minerals. Information is presented for both national and regional levels.

Waste management in this context is defined as the processing, recycling or disposal of a range of waste types including municipal, commercial and industrial, construction, excavation and demolition and hazardous wastes. However, it is important to note that consideration of the management of waste links to a number of other SEA topics, the most relevant being climate change and adaptation given the potential for waste to be recovered for energy use.

### 8.2 Summary of Plans and Programmes

#### 8.2.1 International

The **Waste Framework Directive** (75/442/EEC as amended by 91/156/EEC, 91/92/EEC and 2008/98/EC) provides the overarching framework for waste management at the EU level. It relates to waste disposal and the protection of the environment from harmful effects caused by the collection, transport, treatment, storage and tipping of waste. In particular, it aims to encourage the recovery and use of waste in order to conserve natural resources. The key principles of the Directive include the 'Waste Management Hierarchy' which stipulates waste management options based on their desirability. In order, these are: prevention; preparing for re-use; recycling; other recovery, e.g. energy recovery; and disposal. Key objectives are to reduce the adverse impacts of the generation of waste and the overall impacts of resource use. This should be done through a variety of mechanisms, including:

- by 2020 requiring member states to recycle 50% of their household waste and 70% of their non-hazardous construction and demolition waste;
- applying the waste hierarchy - promoting waste minimisation followed by reuse and recycling , other recovery (such as energy recovery) and disposal - as a priority order in waste prevention and management legislation and policy;
- ensuring that four specified materials (paper, metal, plastics and glass) are collected separately by 2015,
- taking measures as appropriate to promote the re-use of products and preparing for re-use activities; and
- extending the self-sufficiency and proximity principles to apply to installations for recovery of mixed municipal waste from households.

The Directive was transposed into English legislation through the Waste (England and Wales) Regulations 2011 (S.I. 2011/988).

A compromise agreement was reached between the Council of Environment Ministers and the European Parliament in June 2008 on revisions to the Waste Framework Directive. The main changes include EU-wide targets for reuse and recycling 50% of household waste by 2020, and for reuse, recycling and recovery of 70% of construction and demolition waste by 2020. In this context, the **Landfill Directive** (European Commission, 1999) focuses on waste minimisation and increasing levels of recycling and recovery. The overall aim of the Directive is to prevent or reduce as far as possible negative effects on the environment, in particular the pollution of surface water, groundwater, soil and air and on the global environment, including the greenhouse effect as well as any resulting risk to human health from the landfilling of waste, during the whole lifecycle of the landfill. The Directive sets the target of reducing biodegradable municipal waste landfilled to 35% of that produced in 1995 by 2020.

There are a number of **Producer Responsibility Directives** relating specifically to consumer products. Their purpose is to require businesses to reuse, recover and recycle waste which comes from products they produce, and each Directive sets national targets for recovery and recycling of these wastes.

The **EU Thematic Strategy on the Prevention and Recycling of Waste (2002-2012)** is a long-term strategy aims to help Europe become a recycling society that seeks to avoid waste and uses waste as a resource.

The **Basel Convention** came into force in 1992 and is a global agreement, ratified by several member countries and the European Union, for addressing the problems and challenges posed by hazardous waste. The key objectives of the Basel Convention are:

- to minimise the generation of hazardous wastes in terms of quantity and hazardousness;
- to dispose of them as close to the source of generation as possible; and
- to reduce the movement of hazardous wastes.

### 8.2.2 National

#### UK

**Environmental Permitting (England and Wales) Regulations 2010 (S.I. 2010/675)** provide a system for environmental permits and exemptions for industrial activities, mobile plant, waste operations, mining waste operations, water discharge activities, groundwater activities and radioactive substances activities. It also sets out the powers, functions and duties of the regulators.

#### England

The **Waste Strategy (2007)** translates the principles of the previous EU Waste Framework Directive into UK policy. Its key objectives include:

- Decoupling waste growth (in all sectors) from economic growth and put more emphasis on waste prevention and re-use;
- Meeting and exceeding the Landfill Directive diversion targets for biodegradable municipal waste in 2010, 2013 and 2020;
- Increase diversion from landfill of non-municipal waste and secure better integration of treatment for

municipal and non-municipal waste;

- Secure the investment in infrastructure needed to divert waste from landfill and for the management of hazardous waste;
- Get the most environmental benefit from that investment, through increased recycling of resources and recovery of energy from residual waste using a mix of technologies.

The Strategy sets national targets for:

- Reducing the amount of household waste that is not either re-used, recycled or composted;
- Recycling and composting of household waste – at least 40% by 2010, 45% by 2015 and 50% by 2020;
- Recovery of municipal waste – 53% by 2010, 67% by 2015 and 75% by 2020.

The Coalition Government carried out a ***National Review of Waste Policy in England (2011)***, looking at the most effective ways of reducing waste, maximising the money to be made from waste and recycling and considering how waste policies affect local communities and individual households. The report set out a number of 'Principal Commitments' which aims to achieve a more sustainable approach to the use of materials, deliver environmental benefits and support economic growth. These include:

- promoting resource efficient product design and manufacture and target those waste streams with high carbon impacts, both in terms of embedded carbon (food, metals, plastics, textiles) and direct emissions from landfill (food, paper and card, textiles, wood);
- promoting the use of life cycle thinking in all waste policy and waste management decisions and the reporting of waste management in carbon terms, as an alternative to weight-based measures;
- developing a comprehensive Waste Prevention Programme and in the meantime will work with businesses and other organisations across supply chains on a range of measures designed to drive waste reduction and re-use as part of a broader resource efficiency programme; and
- continue to help local communities develop fit for purpose local solutions for collecting and dealing with household waste and work with councils to meet households' reasonable expectations for weekly collections, particularly of smelly waste.

Defra's ***Strategy for Hazardous Waste Management in England (2010)*** sets out the following principles for hazardous waste management:

- waste hierarchy;
- infrastructure provision;
- reduce our reliance on landfill;
- no mixing or dilution;
- treatment of hazardous organic wastes; and
- end reliance on the use of Landfill Directive waste acceptance criteria derogations.

**PPS10: Planning for Sustainable Waste Management (2005)** sets out the national planning framework in relation to waste. It states that planning has a key role in delivering sustainable waste management through both the development of appropriate strategies for growth, regeneration and the prudent use of resources and by providing sufficient opportunities for the development of new waste management facilities. PPS10 states that:

- Waste planning authorities should identify in their plans (development plan documents) sites and areas suitable for new or enhanced waste management facilities for the waste management needs of their area. Development plans form the framework within which decisions on proposals for development are taken;
- The regional planning body should convene a broadly-based ‘Regional Technical Advisory Board’ (RTAB) to provide advice on the preparation of the strategy for waste management in the Regional Strategy and its implementation. PPS10 sets out the role and composition of a RTAB - it should be broadly based drawing from those with a direct interest in and knowledge of sustainable waste management;
- In deciding which sites and areas to identify for such facilities, waste planning authorities should assess their suitability against criteria set out in PPS10. This includes the physical and environmental constraints on development and the cumulative effect of previous waste disposal facilities on the well-being of the local community;
- The **Natural Environment White Paper (2011)** sets out the ambition that the use of peat will be reduced to zero in England by 2030. This will contribute to the protection of important lowland peat habitats (both here and overseas) and significant carbon stores, and will promote a shift towards the greater use of waste-derived and by-product materials. It also sets ambitious targets for reducing use within individual sectors, to drive action and provide clarity about the long-term direction of policy;
- The **Resource Security Action Plan (2012)** provides a framework for business action to address risks about the availability of some non-renewable raw materials (including minerals), and sets out high level actions to build on the developing partnership between Government and businesses to address resource concerns. This Action Plan emphasises the need to make best use of resources currently in use, reducing as far as practicable the quantity of material used and waste generated, and using as much recycled and secondary material as possible, before securing the remainder of material needed through new primary extraction;
- With the exception of PPS10 which will remain in place until the National Waste Management Plan is published, the **National Planning Policy Framework (2012)** has replaced Planning Policy Statements, Planning Policy Guidance notes, Minerals Planning Statements, Minerals Planning Guidance and some Circulars. It sets out the Government’s planning policies for England and how these are expected to be applied including in plan making and decision-taking on planning applications;
- The Framework expects local planning authorities to set out the strategic priorities for the area in the local plan and include strategic policies to deliver the provision of infrastructure for waste management and the provision of minerals. In doing so, they should work with other relevant organisations and providers to assess the quality and capacity of infrastructure for waste and its ability to meet forecast demands. Specifically, minerals planning authorities are expected to develop and maintain an understanding of the mineral resource in their areas and assess the projected demand for their use, taking full account of opportunities to use materials from secondary and other sources which could provide suitable alternatives to primary materials;
- In order to facilitate the sustainable use of minerals, the Framework sets out a number of expectations relating to specific minerals for local authority plan-making and decisions on planning applications. In doing so the Framework it includes safeguards so as to ensure permitted operations do not have

unacceptable adverse impacts on the natural and historic environment or human health.

### 8.2.3 North West Regional Plans

The North West Regional Assembly produced a **Regional Waste Strategy for the North West** in 2004. The strategy sought to contribute to the sustainable development of the North West by encouraging waste management systems that will reduce waste generation, lessen the environmental impacts of waste production and improve resource efficiency whilst also stimulating investment and maximizing associated economic opportunities. The Strategy also underpins the development of land use policies for built development and associated capacity building for waste management by providing information on the quantities of waste generated and types of facilities that will be needed in the region. An update to the Regional Waste Strategy was published by 4NW in 2010 to recognise the evolving policy framework around waste and resource management. The updated Regional Waste Strategy provides a framework to deliver necessary waste infrastructure and skills to meet the region's short, medium and long term needs whilst supporting the principles of sustainable consumption and production.

The North West of England Plan (2008) includes 6 policies on waste and mineral management. These are then reflected to varying degrees in the waste and minerals planning authorities in the region, who under the Planning and Compulsory Purchase Act 2004 have responsibilities for producing waste management strategies and mineral plans. Such plans include aims to progressively reduce the amount of waste which goes to landfill, achieve self-sufficiency in managing local wastes; and provide alternative waste management treatment facilities to landfill.

## 8.3 Overview of the Baseline

### 8.3.1 National

#### UK

In 2004, total UK non-radioactive waste arisings were around 335 million tonnes. Of this 32% was construction and demolition waste; 29% was mining and quarrying waste; 13% was industrial waste; 12% was commercial waste; 9% was household waste; 5% was dredging waste; and agricultural and sewage wastes made up for less than 1% each. Commercial and industrial waste arisings were therefore around 0.84 million tonnes in 2004. In 2007, 73 million tonnes of waste were sent to landfill (a decrease of 19.5% since 2002). The amount of waste recycled or composted has increased accounting for 34% of waste in 2007/08<sup>151</sup>.

In 2002, 41% of commercial and industrial waste arisings were landfilled; 33% were recycled; 9% were reused; 4% were treated; 4% were thermally treated; 4% were unrecorded; 3% went to land recovery; 2% were transferred; and 1% was unsampled<sup>152</sup>.

The total hazardous waste produced in UK in 2009 was 4,437,212 tonnes<sup>153</sup>.

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<sup>151</sup> Defra, Sustainable Development Indicators in your Pocket 2009,  
[http://www.defra.gov.uk/sustainable/government/progress/documents/SDIYP2009\\_a9.pdf](http://www.defra.gov.uk/sustainable/government/progress/documents/SDIYP2009_a9.pdf)

<sup>152</sup> Defra, edigest waste statistics, <http://www.defra.gov.uk/environment/statistics/waste/wrindustry.htm>

### England

In 2004, total non-radioactive waste arisings in England were around 272,000,000 tonnes. Of this 32% was construction and demolition waste; 30% was mining and quarrying waste; 13% was industrial waste; 11% was commercial waste; 9% was household waste; 5% was dredged material; and agricultural and sewage wastes made up for less than 1% each.<sup>154</sup>

The generation of household waste continued to decrease between the financial years 2009/10 and 2010/11, with a 0.9 per cent reduction to 23.5 million tonnes. This continues the slowing in a reduction of household waste since 2007/08.<sup>155</sup>

Waste to landfill has decreased minimally between 2009 and 2010. It fell by less than two per cent between 2009 and 2010 and has fallen by around 46 per cent since 2000. One of the principal reasons is the implementation of the Landfill Directive. Many older landfill sites that did not meet the stringent requirements of the Directive had to close by July 2009 at the latest and diversion targets for biodegradable municipal waste to landfill increase year on year. Also the slow down in economic growth in 2010 is associated with the minimal decrease in waste generated.<sup>156</sup>

The proportion of household waste sent for recycling, composting or reuse between April 2010 to March 2011 in England was 41.5 per cent, increasing from 39.7 per cent in the year April 2009 and March 2010.

A total of 47.9 million tonnes of commercial and industrial (C&I) waste were generated in England in 2009, a decrease from 67.9 million tonnes in 2002-3. C&I waste was roughly evenly split between the commercial and industrial sectors.

During 2010 in England and Wales over 3.7 million tonnes of hazardous waste were managed, generated from nearly 160,000 businesses and industry, with:

- 14 per cent landfilled;
- 25 per cent transferred, before final disposal or recovery;
- 21 per cent treated;
- 30 per cent recycled, recovered or re-used;
- 9 per cent incinerated.

This compared to the total hazardous waste produced in England alone in 2009 was 4,095,477 tonnes.<sup>157</sup>

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<sup>153</sup> Environment Agency 2009 Hazardous Waste Arisings figures, [http://www.environment-agency.gov.uk/static/documents/Research/EWHaz09\\_Final.xls](http://www.environment-agency.gov.uk/static/documents/Research/EWHaz09_Final.xls)

<sup>154</sup> Waste Strategy for England 2007, Defra, <http://www.defra.gov.uk/environment/waste/strategy/strategy07/documents/waste07-strategy.pdf>

<sup>155</sup> [http://www.defra.gov.uk/statistics/files/mwb201011\\_statsrelease\\_v2.pdf](http://www.defra.gov.uk/statistics/files/mwb201011_statsrelease_v2.pdf)

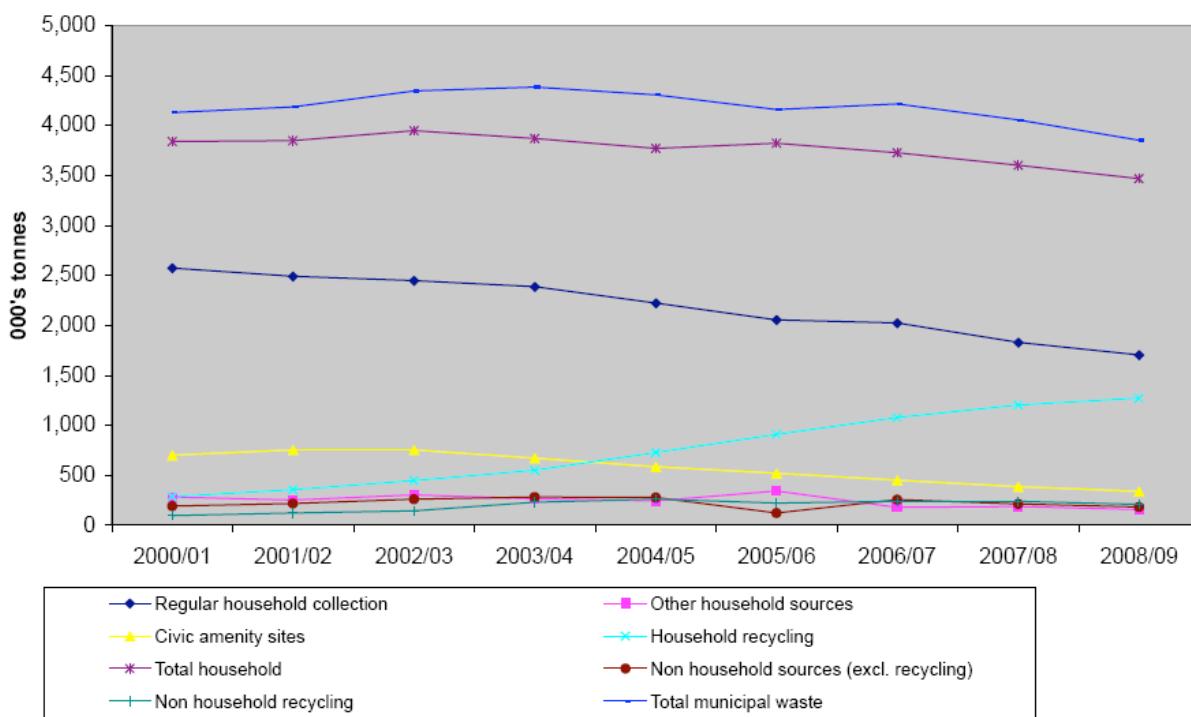
<sup>156</sup> <http://www.environment-agency.gov.uk/research/library/data/132641.aspx>

<sup>157</sup> Environment Agency 2009 Hazardous Waste Arisings figures, [http://www.environment-agency.gov.uk/static/documents/Research/EWHaz09\\_Final.xls](http://www.environment-agency.gov.uk/static/documents/Research/EWHaz09_Final.xls)

### 8.3.2 North West Region

Municipal waste growth levels in the North West are now well below the Regional Waste Strategy (RWS) targets set in 2004. At the time that the current RWS was prepared the available data showed an average 3% annual growth in municipal waste. Figure 8.1 below shows that the total quantity of municipal waste peaked in year 2003/04 since when there has been progressive reduction in arisings which is also reflected in Defra figures for England as a whole<sup>158</sup>.

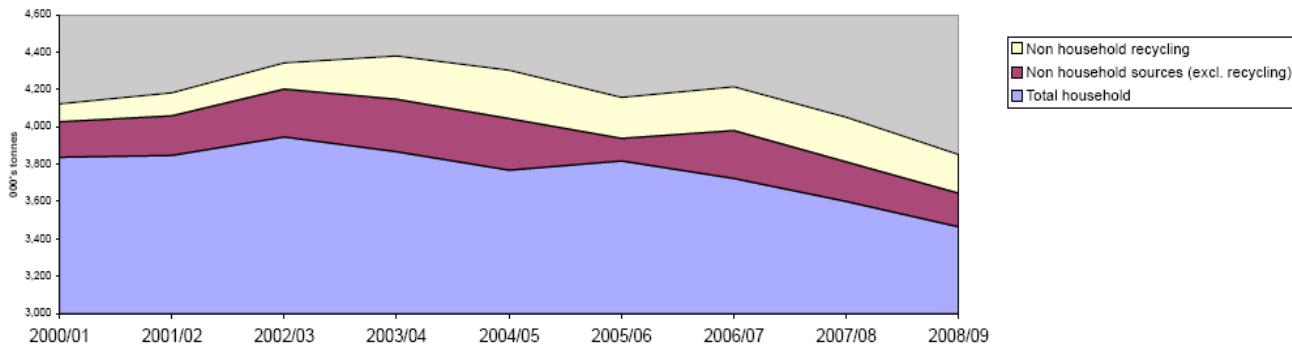
**Figure 8.1 NW Municipal Waste Arising 2000/01 to 2008/09**



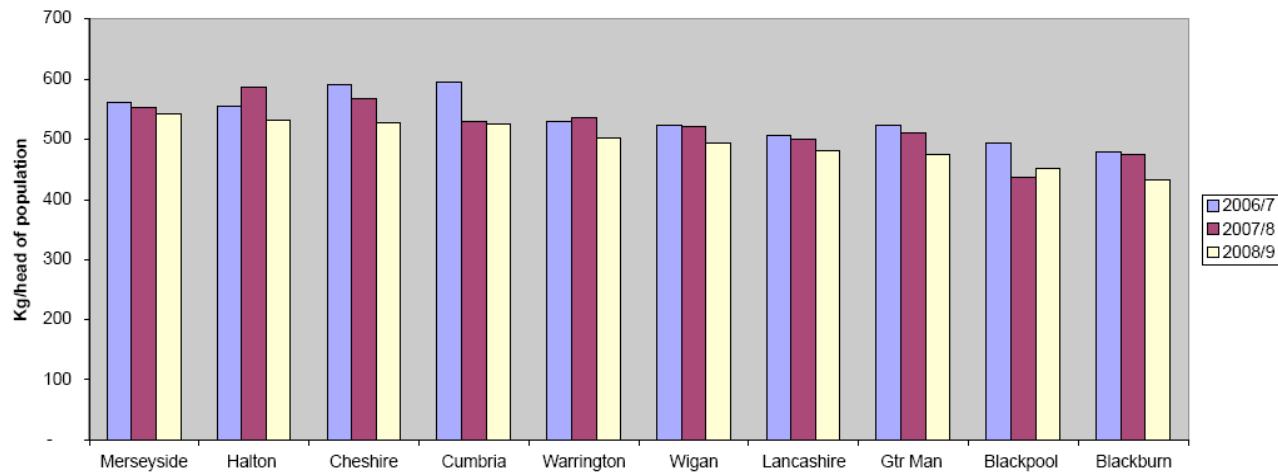
In 2008/09 household waste, which accounts for 90% of municipal waste in the North West, reduced by 10.5% compared with 2003/04. Municipal waste, including non household waste arisings, reduced by 12% over the same period (Figure 8.2). There are variations in household waste arising in the North West Sub -regions as illustrated in Figure 8.3. Only Blackpool and Blackburn with Darwen record arisings below the national average, whilst the highest waste arisings per capita are in Cumbria, Cheshire, Halton and Merseyside. The underlying reasons for the sub-regional and inter-regional differences are not known, however, the differences are significant in terms of the total quantities of waste that WCAs and WDAs are required to manage. If the average waste arisings, expressed as kilograms per head of population for the North West region, were reduced to the national average this would be equivalent to some 200,000 tonnes per annum on a regional basis.

158 North West Regional Technical Advisory Body (2010) 5th Waste Management Monitoring Report.

**Figure 8.2 Trends in Household and Non-Household Waste 2008/09<sup>159</sup>**



**Figure 8.3 Household Waste Arising by Waste Disposal Authority<sup>160</sup>**



In the national context the recycling rate for the North West region as a whole at 36.6% remains marginally below the average for England of 37.6% (2008/09). Only the North East region at 730 kg per household produces more residual waste than the North West (701 Kg per household) with the average for England being 669 Kg per household. As with overall household waste arisings, there is a considerable variation in performance between the sub-regions as illustrated in Figure 8.4. Given that four authorities are now achieving over 40% recycling and composting, the 2015 regional target of 45% would appear to be in reach. However the 55% regional target at 2020 may prove more stretching for even the best performing authorities.

159 North West Regional Technical Advisory Body (2010) 5th Waste Management Monitoring Report.

160 North West Regional Technical Advisory Body (2010) 5th Waste Management Monitoring Report.

**Figure 8.4 Recycling and Composting Rates by Waste Disposal Authority<sup>161</sup>**

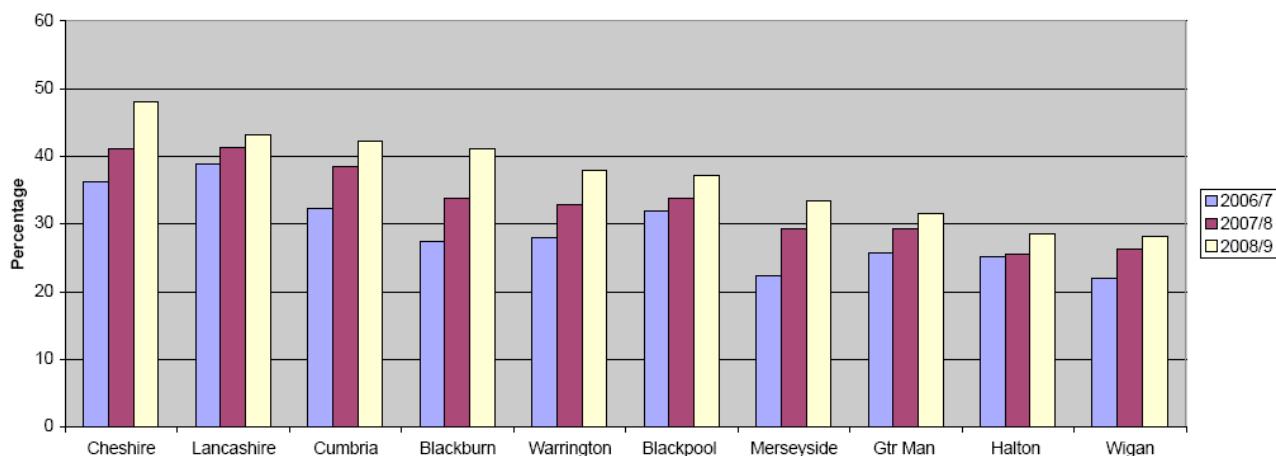
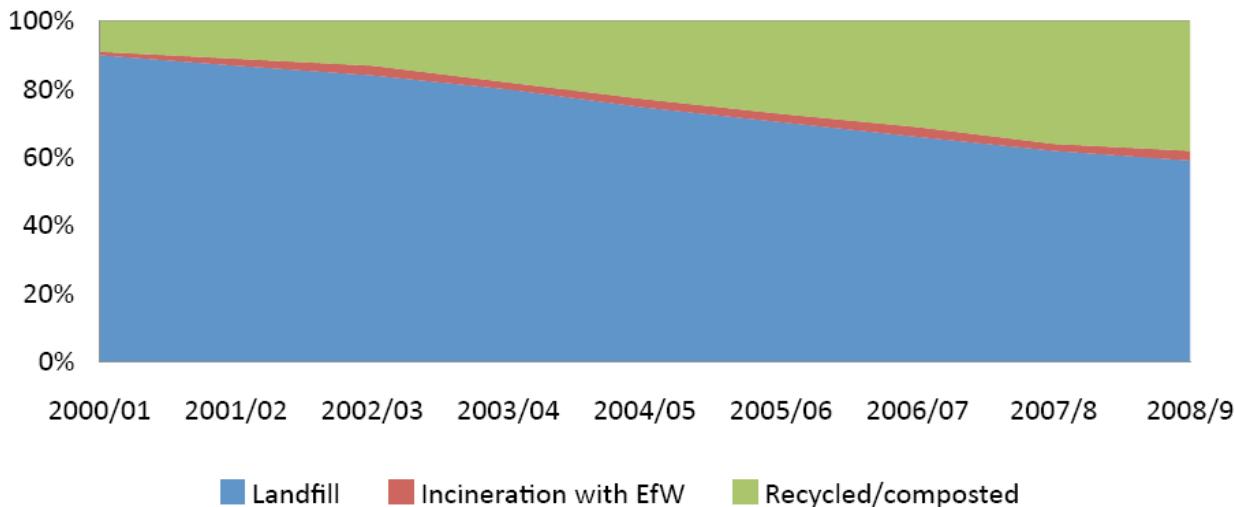


Figure 8.5 illustrates the changes municipal waste management methods in the region, showing that whilst recycling and composting is progressively replacing landfill, incineration with energy recovery has remained constant with only one facility( in Bolton) currently operational.

**Figure 8.5 Trends in the Relative Use of Municipal Waste Management Methods 2000/01 to 2008/09<sup>162</sup>**



The evidence base on the practical capacity of current waste management infrastructure in the North West is far from complete, even though it is essential to forward planning for future waste arisings. Waste management facilities are constrained not only by planning and Environment Agency permit conditions but also by day to day operational practicality. To date there is no comprehensive database of planning and permit conditions for the

<sup>161</sup> North West Regional Technical Advisory Body (2010) 5th Waste Management Monitoring Report.

<sup>162</sup> North West Regional Technical Advisory Body (2010) 5th Waste Management Monitoring Report.

North West region with respect to types of waste management facility and the types and quantities of waste that they can accept. The Environment Agency produces information on the quantities of waste managed at the various types of waste management facilities which provides the best available estimate of capacities at non landfill waste management sites. However the use of Environment Agency data on inputs to sites may also give an unreliable estimate of the practical capacity of a facility as in many cases these may operate well below their upper practical limit. Environment Agency information on landfill capacity taken from landfill void capacity estimates made in 2005 and 2007 has been revised on a site by site basis by gathering updated information from RTAB members and subtracting recorded deposits. Remaining landfill void estimates for year end 2008 are given in Table 8.1.

**Table 8.1 Landfill Capacity Estimate for the North East for year end 2008 (Figures in 000s m<sup>3</sup>)**<sup>163</sup>

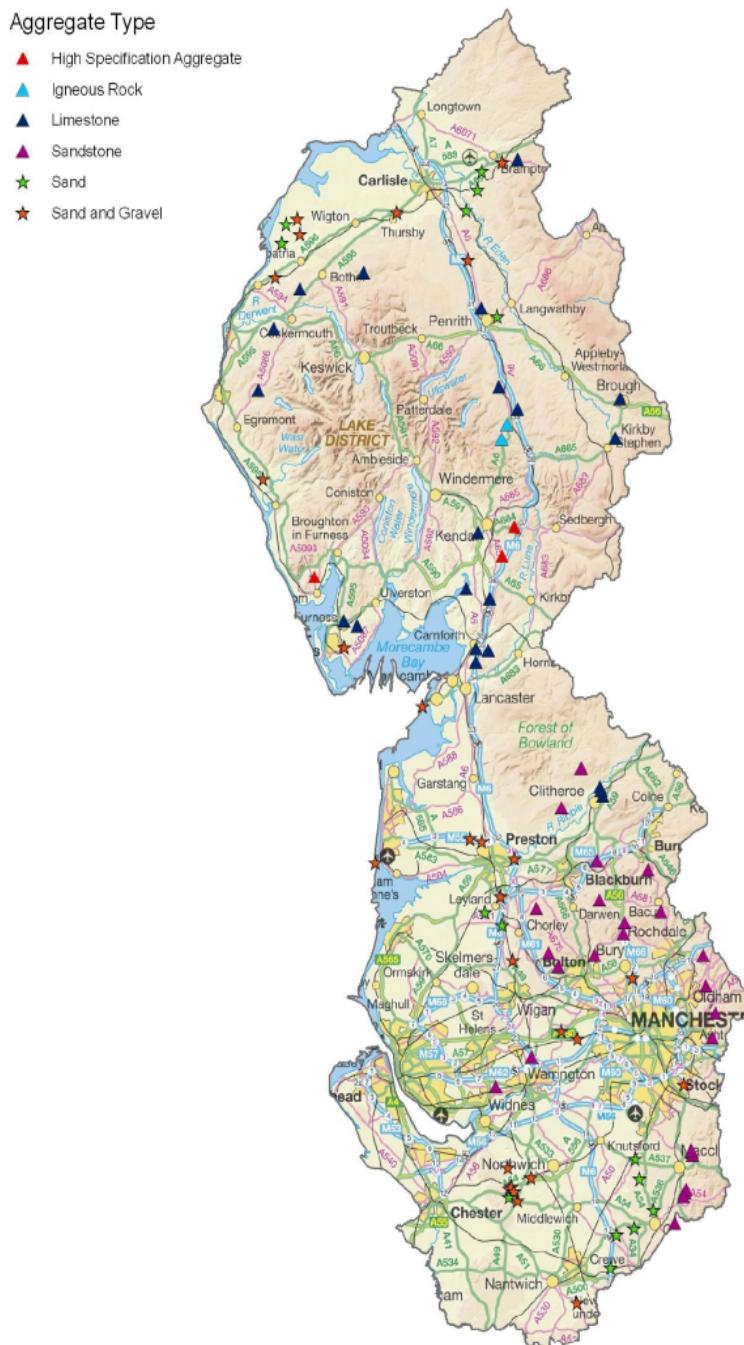
Sub Region	Non Hazardous	Restricted User	Hazardous	Inert	Total
Cheshire	6,341	4,867	2,028	967	14,197
Cumbria	4,850,	0,	0	786	5,636
Greater Manchester	13,200	1,621	0	1,505	16,195
Lancashire	18,379	32	158	0	18,569
Merseyside	1,160	3,440	0	5	4,605
Warrington	14,380	10,686	0	9,764	34,830
<b>Total</b>	<b>58,310</b>	<b>20,640</b>	<b>2,186</b>	<b>13,027</b>	<b>94,032</b>

The North West has a well-established minerals industry concentrated on sand and gravel, sandstone and limestone/dolomite (Figure 8.6). This forms an important part of the North West's Non-agricultural land use. The North West is a major producer of sand and gravel (mainly silica sand) for non-aggregate (industrial) uses. Silica sand has widespread use in general construction, glass, and foundry casting industries and industrial applications.

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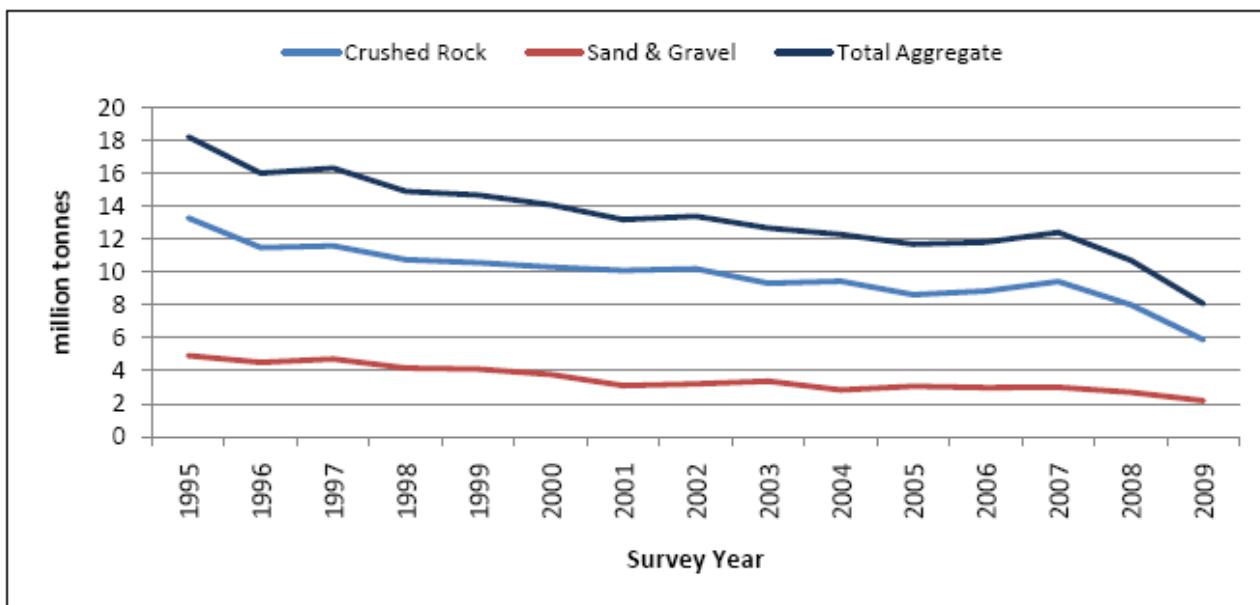
<sup>163</sup> North West Regional Technical Advisory Body (2010) 5th Waste Management Monitoring Report.

**Figure 8.6 Aggregate Sites in the North West (2009)**<sup>164</sup>



<sup>164</sup> NW aggregate working party (2010) Annual Monitoring Report 2010.

**Figure 8.7 Primary aggregate sales in the North West 1995-2009** <sup>165</sup>



During the 2009 monitoring period, primary aggregate sales in the North West declined considerably by 24.9% from 11.17mt in 2008 to 8.39mt (Figure 8.7). This continues the downward trend in aggregate sales experienced since 2006 and is the largest dip in sales for over 16 years. Sales fell during the 2008 monitoring period by 14.6% which marked a change in overall sales patterns when sales began to fall more dramatically than the more general decline in sales experienced since 1997. This extended period of decline is largely due to the financial crisis experienced in 2007 leading to the continued recession during 2008-2009. Major infrastructure projects and house building has been largely reduced since 2007 leading to a fall in demand for primary aggregates.

Table 8.2 sets out the reserves for aggregates in the North West between 1995 and 2009 which shows a significant decline in sandstone and igneous rock reserves in the region.

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<sup>165</sup> NW aggregate working party (2010) Annual Monitoring Report 2010.

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**Table 8.2 Primary Aggregate Reserves 1995-2009 (million tonnes)<sup>166</sup>**

Total primary Aggregate Reserves	00	01	02	03	04	05	06	07	08	09
Limestone	170.8	159.9	161.3	156.7	150.8	148.2	174.7	173.9	162.65	171.53
Sandstone & Igneous Rock	179.3	172.8	166.6	158.9	168.4	152.9	164.8	172.2	159.26	155.86
Land-won sand & gravel	43.2	47.9	47.3	41.34	39.24	43.02	45.59	38.7	45.97	41.77
Total Primary Aggregate Reserves	393.3	380.6	375.2	356.9	358.9	343.5	385.1	384.8	367.88	369.16

Planning applications are monitored as they provide key information regarding new permissions and reserves; and subsequently regional and sub-regional landbanks. If issues regarding landbanks arise, monitoring of planning applications provides a means of identifying and addressing the potential causes. Table 8.3 provides an overview of planning applications determined for primary aggregate extraction in the North West region for the period 1 January 2009 to 31 December 2009.

**Table 8.3 Planning applications for Primary Aggregate Extraction determined 1 January 2009 to 31 December 2009<sup>167</sup>**

	Crushed Rock			Land Won Sand and Gravel		
	Granted (mt)	Refused (mt )	No. Applications	Granted (mt)	Refused (mt )	No. Applications
<b>Cheshire</b>	-	-	-	3.0	-	1
<b>Cumbria</b>	0.04	-	1	1.79	-	2
<b>Greater Manchester / Merseyside / Warrington</b>	1.06	1.4	2	-	-	-
<b>Lancashire</b>	-	-	-	0.76	-	1
<b>Total</b>	1.1	1.4	3	5.55	-	4

<sup>166</sup> NW aggregate working party (2010) Annual Monitoring Report 2010.

<sup>167</sup> NW aggregate working party (2010) Annual Monitoring Report 2010.

## 8.4 Environmental Characteristics of those Areas most likely to be Significantly Affected

### 8.4.1 National

#### UK

Although reuse and recycling rates for industrial wastes are increasing, due to the combined effects of statutory, reputational and financial drivers, there are still high levels of waste being disposed of, with limited opportunity for recycling hazardous and very low-level radioactive materials. There is pressure to achieve as close to zero landfill as possible throughout the UK<sup>168, 169</sup>.

Commercial and industrial waste data is not routinely collated. Defra carried out a national survey of commercial and industrial waste at the end of 2010. This survey collected data from 4,074 businesses, plus data from pollution, prevention and control returns (PPC) and other sources, and was designed to produce estimates of arisings at a national level. Commercial and industrial waste is subject to similar pressures as municipal waste, namely increased waste prevention, adoption of recycling and reuse alternatives and reduced reliance on landfill.

### 8.4.2 North West

The North West produced more residual waste than any other region, well above the average for England and the recycling rate for the North West region remains below the average for England.

The North West region may be subject to further mineral and aggregate extraction, subject to obtaining the necessary consents, which may affect the tranquil areas and landscapes which are largely located towards the north of the region. Alternatively and/or in addition, the North West may need to import materials from outside the region (from areas such as the Peak District). This could lead to trans-boundary effects.

## 8.5 Likely Evolution of the Baseline

### 8.5.1 National

#### UK

Non-radioactive waste management in the UK is moving towards greater reuse and recycling and less landfill. Between 2002 and 2007 in the UK, there was 19.5% decrease in waste disposed of in landfill sites. This includes waste produced by households, commerce and industry and construction and demolition.<sup>170</sup>

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<sup>168</sup> Wales Waste Information 2008, Environment Agency, <http://www.environment-agency.gov.uk/research/library/data/111408.aspx>

<sup>169</sup> [Scotland's Zero Waste Plan Data, Scottish Environment Protection Agency, June 2010, http://www.sepa.org.uk/waste/waste\\_data/zero\\_waste\\_plan\\_data.aspx](http://www.sepa.org.uk/waste/waste_data/zero_waste_plan_data.aspx)

<sup>170</sup> Waste Strategy for England 2007, Defra.

Hazardous waste production in England and Wales has decreased since 2004 by 17%. The majority of the decrease is due to the reduction in liquid inputs to one treatment facility on Teesside in 2009.<sup>171</sup>

### England

In England, the total amount of non-radioactive waste sent to landfill has decreased from 80,000,000 tonnes annually in 2000/01 to 72,500,000 tonnes in 2004/05 at licensed landfill sites: with falls from 50% to 44% for industrial and commercial waste between 1998/99 and 2002/03. Between 1998/99 and 2002/03 there was a 1% reduction in the total amount (in tonnes) of commercial and industrial waste produced in England. Within this total, industrial waste had reduced to 38,000,000 tonnes in 2002/3 while the amount of commercial waste had grown to 30,000,000 tonnes. During this period, the tonnage of commercial and industrial waste sent to landfill has decreased, with more waste handled by transfer stations and treatment facilities<sup>172</sup>. In 2002/3 for the first time, recycling and reuse had overtaken landfill as the most common method of waste management. Overall 44% was sent to landfill and 45% recycled.

Defra has established targets for England which includes a greater focus on waste prevention seeking to achieve a fall of 50% per person of household waste arising. Recycling and composting of household waste targets have been established - at least 40% by 2010, 45% by 2015 and 50% by 2020; and recovery of municipal waste - 53% by 2010, 67% by 2015 and 75% by 2020.<sup>173</sup>

On the basis of the policies set out in Waste Strategy for England 2007, levels of commercial and industrial waste landfilled were expected to fall by 20% by 2010 compared to 2004. The Government is committed to Waste Framework Directive target to recover at least 70% of construction and demolition waste by 2020.

### 8.5.2 North West Region

The Regional Strategy promotes significant development across the North West region which is likely to result in an increase in C&I waste. It sets ambitious targets for the delivery of new housing. This will increase the number of overall households in the region and is likely to an increase in household waste arisings.

Policy legislation encouraging recycling and composting has been successful with rates in the region on the up, however this is most likely because of the provision of kerb-side recycling services. Current recycling rates are likely to remain stable.

The Environment Agency Report '*Costs of Environmental Infrastructure Needs to Meet the North West Regional Spatial Strategy*' (2009) estimates that landfill life expectancy for the region is 10 years.

Planning permission for additional combined heat and power facilities in the region (in Runcorn and North Cheshire) are likely to improve rates of incineration in the region and increase energy produced from waste.

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<sup>171</sup> Environment Agency Waste Trends, <http://www.environment-agency.gov.uk/research/library/data/123472.aspx>

<sup>172</sup> Commercial and Industrial Waste in England: Statement of aims and actions 2009, Defra, October 2009, <http://www.defra.gov.uk/environment/waste/topics/documents/commercial-industrial-waste-aimsactions-091013.pdf>

<sup>173</sup> Waste Strategy for England 2007, Defra.

## 8.6 Assessing Significance

**Table 8.4** sets out guidance utilised during the assessment to help determine the relative significance of potential effects on the biodiversity objective. It should not be viewed as definitive or prescriptive; merely illustrative of the factors that were considered as part of the assessment process.

**Table 8.4 Approach to determining the significance of effects on material assets**

Effect	Description	Illustrative Guidance
++	Significant positive	<ul style="list-style-type: none"> <li>Alternative will increase capacity of waste management infrastructure.</li> <li>Alternative would create no additional hazardous or non-recyclable waste, whilst maximising the proportion of materials that are re-useable or recyclable.</li> </ul>
+	Positive	<ul style="list-style-type: none"> <li>Alternative would not create an increase in the volume of hazardous and non-recyclable wastes that require disposal.</li> <li>Alternative would increase the volume of materials reused and recycled.</li> </ul>
0	No (neutral effects)	<ul style="list-style-type: none"> <li>Alternative would not create an increase in the volume of hazardous and non-recyclable wastes that require disposal.</li> <li>Alternative will have no effect on the capacity of waste management infrastructure.</li> </ul>
-	Negative	<ul style="list-style-type: none"> <li>Alternative will increase volumes of hazardous and non-recyclable waste that would require disposal.</li> <li>Alternative may have a limited adverse impact on the capacity of existing waste management systems.</li> </ul>
--	Significant negative	<ul style="list-style-type: none"> <li>Alternative will generate a high volume of hazardous and non-recyclable waste that would require disposal.</li> <li>Alternative will impede the achievement of government and national targets for minimising, recovering and recycling waste.</li> <li>Alternative will have a significant adverse impact on the capacity of existing waste management systems (e.g. leading to the permitting of additional landfill capacity to accommodate waste).</li> </ul>
?	Uncertain	<ul style="list-style-type: none"> <li>From the level of information available the effects the impact that the alternative would have on this objective is uncertain.</li> </ul>

## 8.7 Assessment of Significant Effects of Retention, Revocation and Partial Revocation

Table 8.5 below summarises the significant effects identified in the detailed assessment of the North West of England plan policies against the material assets topic.

**Table 8.5 Summary of significant effects, revocation and retention**

Regional Plan Policy	Score	Commentary

## Appendix E: SEA for the Revocation of the North West Regional Strategy

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	<b>Short Term</b>	<b>Medium Term</b>	<b>Long Term</b>	
Policy DP1 Spatial Principles Retention	<b>++</b>	<b>++</b>	<b>++</b>	Policy DP1 is a high level framework tying together the sustainable development principles expanded on in policies DP2-DP9. This includes a requirement that plans and strategies seek, as one principle to make the best use of existing resources. The policy states all principles listed may be appropriate to development management as such they are potentially applicable straight away.
Policy DP1 Spatial Principles Revocation	<b>++</b>	<b>++</b>	<b>++</b>	The RS principles set out a regional approach to sustainable development. Sustainable development is the overarching principle behind the NPPF and as such the effects of revocation are considered to be the same as for retention. The NPPF contains twelve core planning principles which include the re-use of existing resources including buildings, which should reduce the requirement for material assets. The NPPF is also a material consideration for development management, hence the timeframe for effects is the same also.
Policies DP4,5,6 Retention	<b>+</b>	<b>++</b>	<b>++</b>	The overall effect of these policies is to focus development in the largest urban areas first, taking advantage of existing infrastructure as far as possible, with priority for development generally lessening with increasing rurality. This approach to development is likely to lead to benefits in the medium to long term over other spatial approaches by maximising efficiency in the use of existing land, transport, water etc, with benefits in a number of topic areas including material assets. The linking of areas of economic opportunity with areas in greatest need of regeneration also brings economic and social benefits to residents. Impacts in the short term are less significant, as it depends greatly on plans being in place which reflect the policies in the Strategy. At the present time there are 16 out of 40 local authorities with plans in conformity with the North West of England Plan.

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Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policies DP4,5,6 Revocation	0	+	+	The NPPF does not provide a direct replacement for all aspects of these policies. It is reasonable to assume that local authorities will seek to maximise the opportunities for development in their areas, and where an area is identified as needing regeneration, seek the best opportunities to achieve this. However, whilst the duty to co-operate provides authorities with clear encouragement to work with other authorities to the same end the benefits are considered to be at best delayed and may be slightly less.
Policy W3 Supply of Employment Land Retention	-	--	--	Aims to secure the supply of employment land, for significant economic development, sub-regional and local sites, focussing on allocations for B1, B2 and B8 land use. W3 sets out the quantity of employment land likely to be needed up to 2021, envisaging the need for an additional 1179 hectares of employment land in that period above the amount allocated at 2005 (5475ha).  The RES Actions 81 and 82 require the identification of reserve sites for major investment that would not otherwise take place in the North West together with the development of a portfolio of sub-regionally important employment sites. The RES also seeks new uses for brownfield land although referencing housing and open space as opposed to employment.  The requirement for additional land, is assumed to lead to its take-up and hence a requirement for minerals and aggregates with a corresponding negative effect upon material assets. Increases in water also required to service the new land allocations.
Policy W3 Supply of Employment Land Revocation	?	--	--	The RS provided clarity on the quantum of development required; however, in the short term following its revocation, there is likely to be a temporary period where some local authorities revert to the original local plan which may be either silent, or reflect an outdated position on the amount of employment land required for development. As the local authorities prepare their evidence base and identify the need for employment land, development, and hence the need for material assets such as construction materials will commence. In the short term the level of effect, based upon the above, is considered to be uncertain.
Policy L4 Regional Housing Provision Retention	-	--	--	Policy L4 outlines the proposed housing provision for the region for 2003-2021, and the approach for monitoring and managing the availability of land to assist delivery of housing. L4 sets out a target over the plan period of additional housing provision of 416,000 over the plan period 2003-2021, together with an indicative brownfield use target of 70%. The demand for construction materials, while the amount of waste generated is also likely to increase. These are likely to have significant negative effects on material assets. The RES provides support which is complementary to the Regional Spatial Strategy Policies. Actions 85 and 86 seek to ensure that new housing provision is in locations which support wider regeneration or knowledge based economic growth, reflecting the considerable amount of housing identified for Manchester in particular.
Policy L4 Regional Housing Provision Revocation	?	?	--	In the short to medium term following revocation the impact for those local authorities that do not have a plan that was either in conformity with the regional strategy or which post-dates it is likely to be uncertain. For those authorities without an adopted plan, the RS provided clarity on the quantum of development required; however, following its revocation, there is likely to be a temporary (short term to medium term) period where some local authorities revert to the original Local plan whilst they develop a replacement. The amount of development anticipated in this period is likely to be lower than if the Regional Strategy were in place.
Policy EM10 A Regional Approach to Waste Management Retention	++	++	++	Policy EM10 delivers the requirements of the Landfill Directive, the Waste Framework Directive, and the Waste Strategy 2007 with the targets presented the same as those set out within the Waste Strategy for 2015 but 5% higher for household waste recycling by 2020. Greater recycling level supports the re-use of out material assets and is therefore considered to be significantly positive.

## Appendix E: SEA for the Revocation of the North West Regional Strategy

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy EM10 A Regional Approach to Waste Management Revocation	++	++	?	NPPF does not explicitly consider waste policy. The same European and National waste policy and targets remain in place. PSS10 also remains in place until such time as it is replaced by a new National Waste Strategy. The Government's Waste Policy Review references the revised Waste Framework Directive Target of 50% recycling of municipal waste by 2020 which represents a 5% decrease in the target reflected by the North West of England Plan policy. Revocation of the policy may therefore lead to a lower target for compliance within the region with consequential effects upon certain environmental receptors. In the short-term revocation is unlikely to lead to a change in the assessment. A review of existing waste DPDs shows that many of the region's waste planning authorities are supportive of higher waste targets than those set out either at the national level, or within the North West of England Plan. For example Cumbria and Lancashire are operating to higher targets at 2015... , significant positive effects for material assets changing to uncertain in the long term as authorities review their individual waste targets although likely to be significant positive.
Policy EM11 Waste Management Principles  Retention	++	++	++	EM11 is essentially a restatement of the Government's waste hierarchy, and as such has little impact in itself. An encouragement to minimise then recycle waste is considered to be positive against material assets as it seeks to minimise our production of waste and to treat it as an asset for recycling or re-use.  RES Action 23 sets out to improve business resource efficiency and waste minimisation (BREW) through actions which include minimisation of waste and recycling which will increase productivity and lead to environmental benefits.
Policy EM11 Waste Management Principles  Revocation	++	++	++	The Government has sought to maintain the same approach to waste policy as that set out within EM11 such that it continues to promote the concept of the 'waste hierarchy' within the Waste Policy Review 2011. As such the effects upon material assets is considered to be identical to that identified for retention.

### Effects of Revocation

Significant effects upon materials are likely to be direct (stemming from the EM policies) or indirect, as a result of policies that seek to increase levels of development. Regional policy on minerals and aggregates is set out within Policies EM7, 8 and 9. The materials total identified within MPG6 is apportioned to each sub-region up to the period 2016. Policy requires that the target is monitored by the industry, local authorities and the Regional Aggregate Working Party. The sub-regions do not equate exactly to individual minerals DPDs; the target given for the sub-region including Manchester also includes Merseyside, Halton and Warrington for example whilst the difference in timeframes, 2001-2016 (North West of England Plan) and 2005-2020 (Greater Manchester Joint Minerals Plan) also make a direct correlation between targets difficult.

It is assumed that revocation of minerals policy would still leave apportionment targets in place for each mineral planning authority and, as plans are reviewed, they will be expected to take account of minerals extraction based on the more localist approach set out in paragraph 145 of the National Planning Policy Framework, including the most up-to-date national and sub-national targets prepared by CLG. In the medium term extant local minerals policies continue to have effect and new policies, such as those contained within the Greater Manchester Joint Minerals Plan will begin to react to the policy approach set out within the NPPF by removing policy support for peat abstraction. This will provide further protection for material assets. .

The actual amounts of material extracted in the longer term as Councils start to review their plans is however more uncertain. For example, at the present time work leading up to the examination on the Cumbria Minerals and Waste Development Framework has been halted as the Council seeks to devote all resources to revising the local plan. The emerging document had sought to adopt the North West of England Plan targets for minerals extraction but when revisited this could potentially change to reflect the policy guidance contained within the NPPF. The completed Lancashire Minerals and Waste Development Framework is being amended to reflect national policy changes arising from the NPPF, final adoption is now proposed sometime in 2013. The extant Core Strategy which forms part of the Local Development Framework however sets out targets for the amount of mineral extracted higher than the Regional Strategy target. Post revocation, it may continue to follow this approach or may seek a reduction in the amount of material extracted.

For waste, Policy EM10 of the North West of England Plan sets a regional target for recycling and recovering waste across the region providing an indicative annual capacity of arisings at the sub-regional level. The sub-regional apportionment does correspond more closely with the various waste planning authority boundaries although as these plans are produced and updated, they have already begun to move away from the North West of England Plan timescale (e.g. the emerging Greater Manchester Waste DPD sets a target for 2012-2027 which is not directly comparable with the Plan targets which run up to 2020). Across the region, current waste DPDs represents a mix of targets both below and above the regional target for household waste recycling (as an example). In Cheshire East the target is for 33% recycling by 2015, against the North West of England Plan regional target of 45% (in 2015 rising to 55% in 2020), however Cumbria at 60% by 2012 and Lancashire at 50% by 2015 seek to exceed the regional target. Manchester, possibly the largest generator of waste in the region is working to a 50% target by 2020 which reflects the target set by Europe and which is reflected within the National Waste Strategy but which is below the Plan target. The effects of revocation for waste are therefore considered to be significant in the short and medium term but uncertain in the longer term as authorities review their targets with no certainty that they will continue with the higher target set by the North West of England Plan for 2020.

With regard to Policies that set a quantum of development, such as Policy W3 and Policy L4, the revocation may delay, but will not change, implementation of the predicted level of effect. Government policy to encourage economic development to promote increases in house building is unlikely to result in a decrease in development levels when compared against the region targets set out within the RS. Given the relatively low number of authorities within the region with up to date development plans however, there may be a time period when they revert back to older out of date targets whilst reviewing the local needs of their areas. Significant negative effects are therefore deferred possibly to the medium term and certainly the long term.

### 8.7.1 Effects of Partial Revocation

The effects of partial revocation concern either

- Revoking all the quantified and spatially specific policies (for instance where a quantum of development, land for development or amounts of minerals to be extracted or waste disposal is allocated to a particular location in the region) and retaining for a transitional period the non spatial policies; or
- Retaining for a transitional period all the spatially specific policies where a quantum of development or land for development is allocated to a particular location in the region and revoking the non spatial policies, ambitions and priorities; or
- Retention for a transitional period of policies, the revocation of which may lead to likely significant

negative environmental effects.

There is no change in significance for material assets identified for quantified or spatially specific policies as a result of revocation although effects both positive and negative may be delayed whilst local authorities review the local needs for their areas and prepare up to date development plans.

The policy assessment has identified qualitative policies where revocation would have a significant effect. This is in relation to the mineral Policies EM7, 8 and 9 where the revocation would reduce the level of effect from significant negative to minor negative. This is as a result of the policy protection now afforded to peat within the NPPF and the immediate impact that this has had in the preparation of the Greater Manchester Joint Minerals Plan for example.

### 8.7.2 Effects of Retention

Retention of the Regional Strategy would result in the setting of targets for waste and minerals at or above the regional level. This would lead to a combination of negative and positive effects upon the SEA Topic, material assets.

### 8.8 Mitigation Measures

Revocation has the potential to result in significant negative effects. However this is not certain in the longer term and authorities will need to balance demand for minerals with the protection of the environment. Similarly waste authorities should continue to promote the waste hierarchy and encourage development which minimises its production of waste particularly during construction.

Measures in the NPPF as well as the requirement to meet legally binding standards for air and water pollution arising from the extraction of material assets should provide at least the same level environmental protection as is the case with the retention of the Regional Strategy.

## 9. Cultural Heritage

### 9.1 Introduction

The overview of plans and programmes and baseline information contained in this section provides the context for the assessment of potential effects of the proposals to revoke regional strategies on cultural heritage. Information is presented for both national and regional levels.

Cultural heritage, including architectural and archaeological heritage, within this context is defined as below-ground and upstanding evidence of past human activity and encompasses artefacts, buried and underwater archaeological sites, earthworks, buildings, battlefields, historic gardens, historic landscapes, wrecks, hedgerows and ancient woodland.

There are links between the cultural heritage topic and other topics in the SEA, specifically landscape and material assets (land use and materials).

### 9.2 Summary of Plans and Programmes

#### 9.2.1 International

The **World Heritage Convention** aims to promote co-operation amongst nations to protect heritage that is of such outstanding value that its conservation is important for current and future generations; and established a register of World Heritage Sites. It is intended that properties on the World Heritage List will be conserved for all time. Member states commit themselves to ensure the identification, protection, conservation, and presentation of World Heritage properties.

The World Heritage Committee's **Operational Guidelines for the Implementation of the World Heritage Convention (2008)** set out: the procedure from the inscription of properties on the World Heritage List and the List of World Heritage in Danger; the protection and conservation of World Heritage properties; the granting of International Assistance under the World Heritage Fund; and the mobilisation of national and international support in favour of the Convention.

The **UNESCO Convention for the Protection of the Archaeological Heritage of Europe (revised)** is a Europe-wide international treaty which establishes the basic common principles to be applied in national archaeological heritage policies. It supplements the general provisions of the **UNESCO World Heritage Convention (1972)** and aims to protect archaeological heritage as a source of the European collective memory and as an instrument for historical and scientific study. It sets out a framework which requires the member states to:

- maintain an inventory of archaeological heritage and designated protected monuments and areas;
- create archaeological reserves; and
- for finders of any element of archaeological heritage to report and make it available to the competent authority.

The **European Convention on the Protection of the Archaeological Heritage (1992)** made a number of

important agreements including setting the definition of archaeological heritage as 'all remains and objects and any other traces of mankind from past epochs....shall include structures, constructions, groups of buildings, developed sites, moveable objects, monuments of other kinds as well as their context, whether situated on land or under water'.

### 9.2.2 National

#### UK

The **Ancient Monuments and Archaeological Areas Act 1979** provides for the scheduling of ancient monuments and offers the only legal protection specifically for archaeological sites. The **Planning (Listed Buildings and Conservation Areas) Act 1990** outlines the level of protection received by listed buildings, scheduled monuments and buildings within Conservation Areas.

There are a number of other Acts which afford protection to cultural and historical assets, including the **Protection of Wrecks Act 1973**, which provides protection for shipwrecks of historical, archaeological or artistic value; the **Protection of Military Remains Act 1986**, which provides protection for the wreckage of military aircraft and designated military vessels, and the **Treasure Act 1996**, which sets out procedures for dealing with finds of treasure, its ownership and rewards, in England, Wales and Northern Ireland.

Conservation areas were introduced by the **Civic Amenities Act 1967** and are designated for their special architectural and historic interest. Most conservation areas are designated by the local planning authority. English Heritage can designate conservation areas in London, where they have to consult the relevant London Borough Council and obtain the consent of the Secretary of State for National Heritage. The Secretary of State can also designate in exceptional circumstances - usually where the area is of more than local interest.

At a national level, the draft **Heritage Protection Bill** contains provisions to unify the designation and consent regimes for terrestrial heritage assets, and transfer responsibility for designation of these assets. It also contains provisions to reform the marine heritage protection regime in England and Wales by broadening the range of marine historic assets that can be protected. The draft Bill is based on the proposals set out in the White Paper, *Heritage Protection for the 21st Century* (2007), and is one element of a wider programme of on-going heritage protection reforms. There are however, no current plans to enact the Bill and it is not known whether its provisions will become statute.

The Department for Culture, Media and Sport White Paper **Heritage Protection for the 21<sup>st</sup> Century (2007)** sets out a strategy for protecting the historic environment, based on three core principles: developing a unified approach to the historic environment; maximising opportunities for inclusion and involvement; and supporting sustainable communities by putting the historic environment at the heart of an effective planning system.

#### England

The **National Planning Policy Framework (NPPF) (2012)** expects local planning authorities to set out in their local plan a positive strategy for the conservation and enjoyment of the historic environment and in doing so recognise that heritage assets are an irreplaceable resource. The Framework sets out the core land use planning principles that should underpin both plan-making and decision-taking and in doing so expects planning to "conserve heritage assets in a manner appropriate to their significance, so that they can be enjoyed for their

contribution to the quality of life of this and future generations”.

When considering the impact of a proposed development on the significance of a designated heritage asset, the Framework expects great weight to be given to the asset’s conservation. The more important the asset, the greater the weight should be. The Framework explains that significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. As heritage assets are irreplaceable, the Framework expects any harm or loss to require clear and convincing justification. Where a proposed development will lead to substantial harm to or total loss of significance of a designated heritage asset, “local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or loss is necessary to achieve substantial public benefits that outweigh that harm or loss”, or all of the criteria set out in paragraph 133 (mostly relating to the lack of a viable use) apply.

**English Heritage**, the Government's statutory adviser on the historic environment in England, has published a number of guidance documents for the protection of the historic environment, including *Wind Energy and the Historic Environment (2005)*, *Biomass Energy and the Historic Environment (2005)*, *Climate Change and the Historic Environment (2005)* and *Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment (2008)*, *The Setting of Heritage Assets (2011)*, *Seeing History in the View*.

### 9.2.3 North West

There are no relevant regional plans or programmes specifically prepared to provide policy or guidance for the historic environment at a regional level.

## 9.3 Overview of the Baseline

### 9.3.1 National

#### UK

The UK has over 459,000 listed buildings, approximately 33,720 scheduled monuments, 2,416 historic parks and gardens, in excess of 10,259 conservation areas and 28 World Heritage Sites.<sup>174</sup>

#### England

In England there are approximately 374,081 listed building entries, 19,717 scheduled monuments, 1,601 registered historic parks and gardens, 9,080 conservation areas, 43 registered historic battlefields, 46 designated wrecks and 17 World Heritage Sites. Nearly 19,446 sites in England are ‘at risk’.

The density of shipwreck remains in the English territorial sea is amongst the highest in the world due to the combined effects of historically high volumes of shipping traffic, a long history of seafaring and an often hazardous coastline.<sup>175</sup>

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<sup>174</sup> Department of Culture, Media and Sport, 2009, <http://www.culture.gov.uk/4168.aspx>

English Heritage have identified the following proportions of heritage sites as at risk within England:

- 3.1% of grade I and II listed buildings;
- 7.4% of conservation areas (from those that were included within the report);
- 17.2% of scheduled monuments;
- 6.1% of registered parks and gardens;
- 14% of registered battlefields, and;
- 17% of protected wreck sites<sup>176</sup>.

A nationwide survey of conservation areas, conducted by English Heritage with England's local planning authorities, indicates that approximately 1 in 7 is at risk from neglect, decay or unsympathetic change<sup>177</sup>. The main threats identified were:

- unsympathetic replacement doors and windows (83% of conservation areas);
- poorly maintained roads and pavements (60%);
- the amount of street clutter (45%);
- loss of boundary walls, fences or hedges (43%);
- unsightly satellite dishes (38%);
- the effects of traffic calming or traffic management (36%);
- alterations to front elevations, roofs and chimneys (34%);
- unsympathetic new extensions (31%);
- the impact of advertisements (23%); and
- neglected green spaces (18%).

### 9.3.2 North West Region

Heritage assets make a substantial contribution to economic activity through, amongst other things, attracting visitors and investment. The North West benefits from an extensive range of historic assets across the region from pre-Roman through to the industrial revolution and the 20th Century. The North West has 25,400 listed buildings which equates to 6.8% of the national total (Table 9.2). This includes a larger number of statutorily protected

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<sup>175</sup> English Heritage, <http://www.english-heritage.org.uk/caring/listing/what-can-we-protect/listed-buildings/>

<sup>176</sup> English Heritage, 2010, Heritage at Risk Summary, <http://www.english-heritage.org.uk/publications/har-2010-summary/>

<sup>177</sup> [http://www.english-heritage.org.uk/content/publications/publicationsNew/heritage-at-risk/Conservation\\_Areas\\_at\\_Risk/caar-booklet-acc.pdf](http://www.english-heritage.org.uk/content/publications/publicationsNew/heritage-at-risk/Conservation_Areas_at_Risk/caar-booklet-acc.pdf)

industrial and commercial buildings than most of the other regions. Table 9.1 details the region's cultural heritage assets and Table 9.2, using earlier data, details how these assets are distributed around the region's counties. Figures 9.1 to 9.3 show the density of historic assets across the region.

## Appendix E: SEA for the Revocation of the North West Regional Strategy

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**Table 9.1 North West Regional Cultural Assets (2011)**

Regional Asset	2011 Totals
World Heritage Sites	1.5
Scheduled Monuments	1,316
Listed Buildings Grade I	485
Listed Buildings Grade II*	1,533
Listed Buildings Grade II	25,511
Registered Parks and Gardens	130
Registered Battlefields	3
Listed places of Worship	1,322
Conservation Areas	869
Designated Museum Collections	17
Accredited Museums	103

Source: Heritage counts 2011

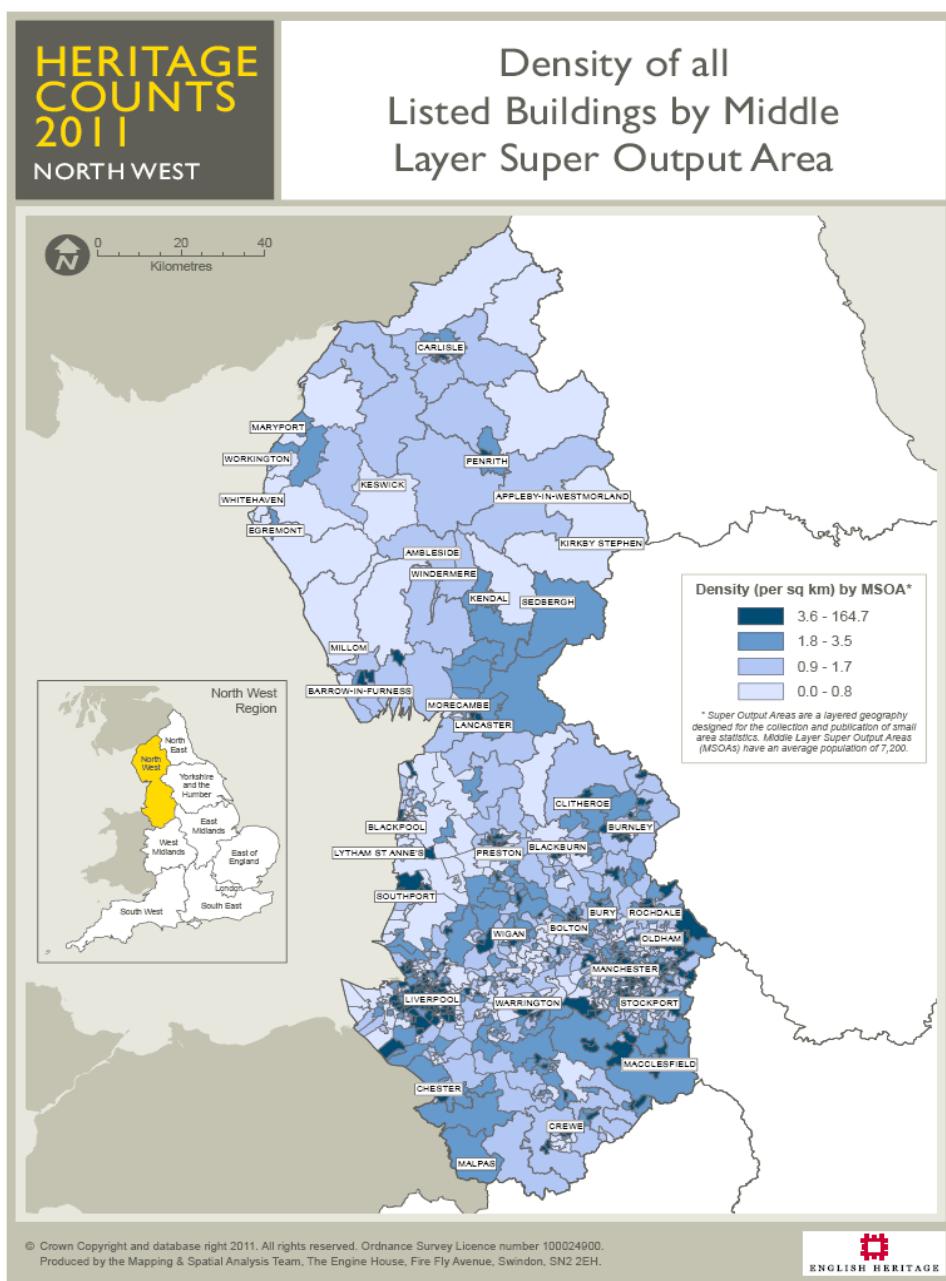
**Table 9.2 Heritage Assets in the North West (2008)**

County	Listed Buildings	Monuments	Parks & Gardens	Battlefields	World Heritage Sites
Cheshire	5,024	245	24	2	0
Cumbria	7,545	855	19	1	1
Gtr Manchester	3,772	45	29	0	0
Lancashire	5,450	146	38	0	0
Merseyside	3,022	38	23	0	1
NW total	24,413	1,329	133	3	2
England	373,315	19,720	1,595	43	17
NW % of England	6.8	6.7	8.3	7.0	11.8

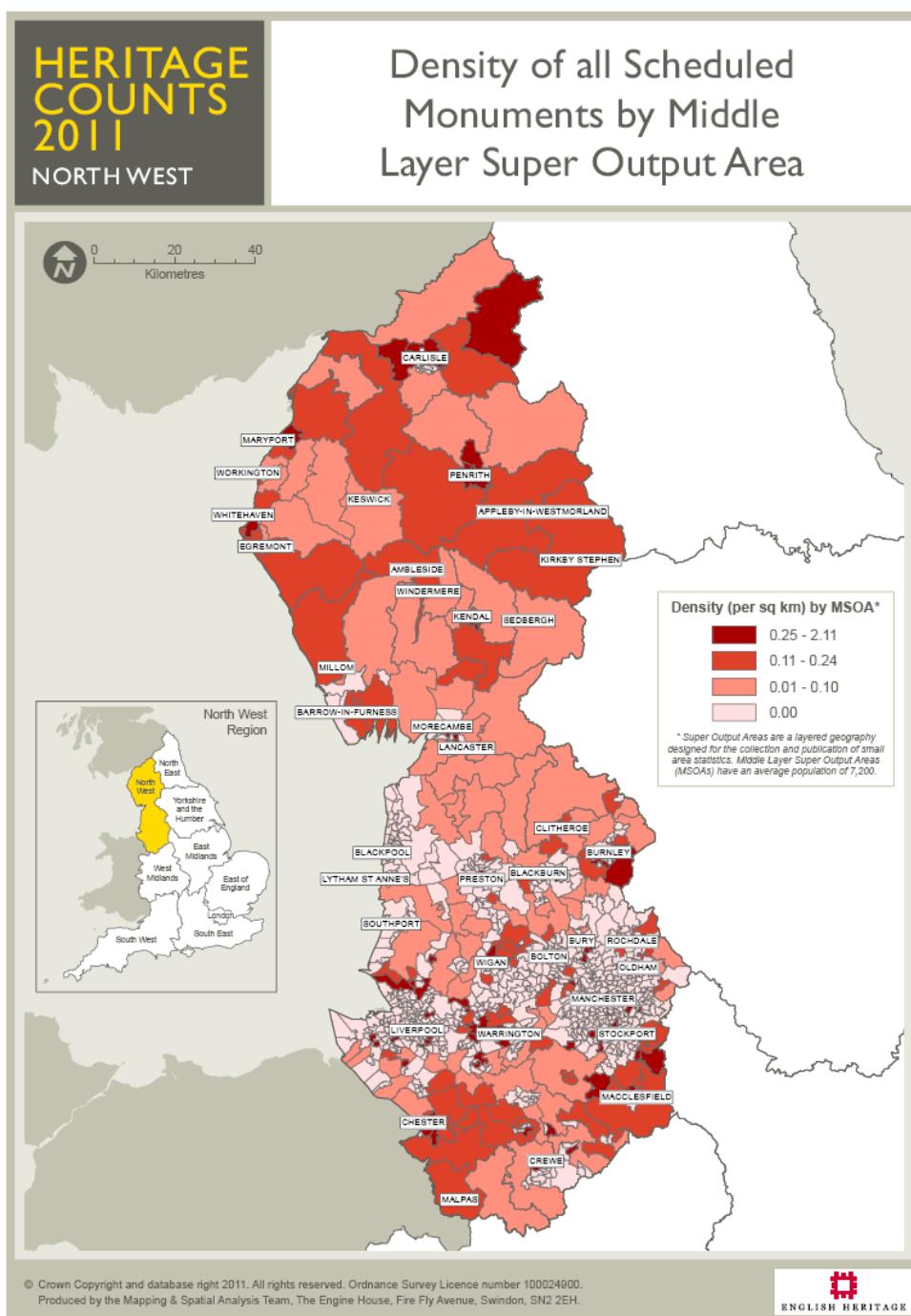
Source: Regional Intelligence Unit (2010) Culture, Image and Heritage Evidence Base RSS2010

The distribution of listed buildings in the North West is illustrated on Figure 9.1 whilst Figure 9.2 illustrates SAMs.

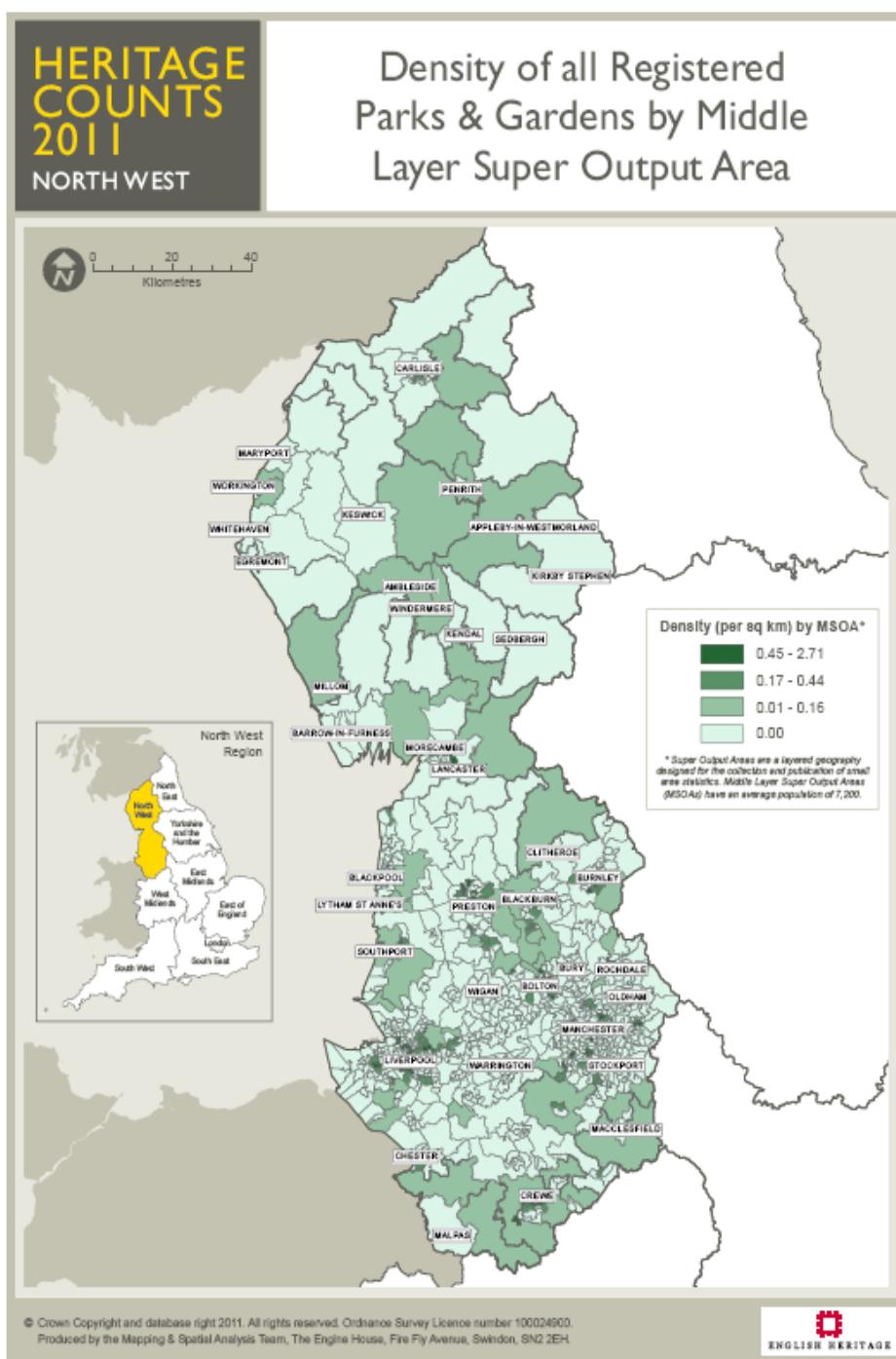
**Figure 9.1 Density of all Listed Buildings across the North West**



**Figure 9.2 Density of all Scheduled Monuments across the North West**



**Figure 9.3 Density of all Registered Parks and Gardens across the North West**



A small proportion of the historic assets identified above are considered to be at risk; however the situation in the North West is considered to be improving when compared to the 1999 baseline. Between 2009 and 2010 the proportion of buildings at risk was reduced from 7.2% to 6.6% between 2009 and 2010<sup>178</sup>. The economic downturn, however, may restrict the ability of private owners to fund repairs and may exacerbate problems of vacancy and

<sup>178</sup> Regional Intelligence Unit (2010) Culture, Image and Heritage Evidence Base RSS2010.

vandalism. Public sector spending has played an important role in securing the future of the region's heritage assets. The most important sources of funding for the historic environment sector are the Heritage Lottery Fund and English Heritage. Since 1994/1995 Heritage Lottery Fund (HLF) has made £214 million worth of grants in the North West, which represents 5% of the total HLF spend in the UK. HLF have invested £51 million on historic buildings and monuments, £24 million on industrial, maritime and transport £67 million on land and biodiversity, £61 million on museum libraries, archives & collections and £11 million on intangible heritage.

Nationally, 3.0% of grade I and II\* listed buildings are at risk<sup>179</sup>, in the North West this rises to 5.2%, representing 105 sites. 9 sites have been removed from the 2010 Register, but 10 have been added. 45% of entries (70 buildings) on the baseline 1999 Register for the North West have been removed as their futures have been secured, compared to the national figure of 53% (757 buildings).

The 2011 register shows 16.9% (3,339) of England's 19,748 scheduled monuments are at risk, compared to 15.1% (198 sites) in the North West. In the North West, 20 sites have been removed from the 2010 Register, but 25 sites have been added. 15.5% of entries (26 sites) on the baseline 2009 Register for the North West have been removed due to positive reasons, compared to the national figure of 11.9% (399 sites). Arable ploughing and unrestricted plant scrub or tree growth account for nearly two thirds of sites at risk nationally. In the North West, general deterioration is the next most common issue.

103 of England's 1,610 registered parks and gardens are at risk, an increase from 6.2% (99) in 2010 to 6.4% this year. In the North West region, 7 of the 130 sites are at risk (5.4%).

288 local planning authorities (86%) have taken part in the national survey of conservation areas, of which 32 are in the North West and represent 80% of the authorities in the region. English Heritage has information on the condition of 7,841 of England's 9,600 designated conservation areas and 516 (6.6%) are at risk. Of the 752 conservation areas surveyed in the North West, 62 (8.2%) are at risk.

A study commissioned by the NWDA in 2005 sought to better understand the region's heritage assets and how they generate economic value as visitor attractions, enhanced business space, jobs and through public sector investment. The headline findings from that study area set out below<sup>180</sup>:

- Some 50.5 million visits that are made each year to the region are motivated by heritage, resulting in expenditure of some £1.96 billion to the economy (after allowing for double counting). This supports some 20,400 jobs and generates annual GVA of some £804 million;
- The analysis of heritage management and operation suggest that some 8,500 jobs are supported in the North West, generating annual GVA in the order of some £226 million;
- 10,772 conservation and maintenance jobs are supported in the North West construction sector through specialist businesses and more general activities by professionals and building trades, giving rise to £584 million GVA per annum;
- The overall results of the analysis of tourism, the management and operation of heritage, and conservation and maintenance, suggests that some 39,680 jobs are supported in the Northwest, generating some £1.6 billion in GVA per annum.

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179 English Heritage (2011): Heritage at Risk North West 2011.

180 Locum Consulting and EDAW for the NWDA (2005) Historic Towns and Cities North West.

## 9.4 Environmental Characteristics of those Areas most likely to be Significantly Affected

### 9.4.1 National

#### UK

Although from 2000 to 2007 there has been a steady decrease in the number of buildings identified as at risk, for the first time between 2007 and 2008, the number of entries within the Buildings at Risk Register rose<sup>181</sup>. Furthermore, the average cost of repairing each building on the Register has steadily increased.

Redundancy is a major factor driving listed buildings into risk. The kinds of historic buildings now at greatest risk are those associated with defence (15%), agriculture (8%) and manufacturing industry (13%).

There are concerns that the current recession will reduce public spending which will further reduce conservation staff for local authorities and reduce grants and subsidies to problem sites at a time when there will be an reduction in the willingness of developers to take on more challenging buildings at risk, an increase in vacancy rates and a decrease in funds owners will be able to invest in repair and maintenance.

### 9.4.2 North West

The region has a large number of statutorily protected buildings, particularly industrial and commercial buildings, in comparison with many other regions. Many of the listed structures, particularly the industrial buildings are located in urban areas and are subject to development pressure.

The North West has a large number of buildings on the 'at risk' register however the situation is one of improvement over the 1999 baseline level. The economic downturn, may however restrict the ability of private owners of listed buildings and historic assets to fund repairs and exacerbate problems of vacancy and vandalism.

Farming and land management practices, particularly in the north of the region have a large impact upon rural historic assets, particularly, scheduled ancient monuments.

The region's historic assets are important to the region's economy, for example visitors to Chester are often attracted by the town's historic assets.

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<sup>181</sup> English Heritage, Heritage at Risk Report 2010, <http://www.english-heritage.org.uk/publications/har-2010-report/>

## 9.5 Likely evolution of the baseline

### 9.5.1 National

#### UK

The current trend in cultural heritage condition is generally towards little change in the number of historic assets and a decline in the percentage that are at risk.<sup>182</sup>

English Heritage report that there has been little change in the total number of historic assets between 2002 and 2009; the total number of listed buildings in England has increased by 0.9% during this period with the largest increase in Grade II\* (1.4%). The number of scheduled monuments has increased by 1.9% over the same period whilst registered parks and gardens increased by 7.3% (104) between 2002 and 2009. The number of scheduled monuments increased by 1.9% between 2002 and 2009.<sup>183</sup>

### 9.5.2 North West Region

The number of buildings at risk in the region is generally decreasing against the 1999 baseline; however new buildings are being added each year and English Heritage are concerned that the economic downturn may restrict the ability to fund repairs and may exacerbate problems of vandalism and vacancy and increase the number of assets at risk.

The number of properties being awarded statutory protection across the region is likely to increase over time and be protected under regional and national legislation.

## 9.6 Assessing Significance

**Table 9.3** sets out guidance utilised during the assessment to help determine the relative significance of potential effects on the biodiversity objective. It should not be viewed as definitive or prescriptive; merely illustrative of the factors that were considered as part of the assessment process.

**Table 9.3 Approach to determining the significance of effects on cultural heritage**

Effect	Description	Illustrative Guidance
++	Significant positive	<ul style="list-style-type: none"><li>Alternative would make a significant positive and long-term contribution to the setting and conservation of designated cultural heritage features (e.g. – through enhancement of settings, permanent removal of structures creating a negative visual impact, large scale enhancement of designated features).</li></ul>

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<sup>182</sup> [http://www.english-heritage.org.uk/hc/upload/pdf/HC08\\_National\\_Acc.pdf](http://www.english-heritage.org.uk/hc/upload/pdf/HC08_National_Acc.pdf)

<sup>183</sup> English Heritage, Heritage Counts 2009, England, [http://hc.english-heritage.org.uk/upload/pdf/HC09\\_England\\_Acc.pdf?1286268742](http://hc.english-heritage.org.uk/upload/pdf/HC09_England_Acc.pdf?1286268742)

<b>+</b>	Positive	<ul style="list-style-type: none"> <li>Alternative would bring minor short-term improvements to the setting and conservation of designated or locally important cultural heritage features.</li> </ul>
<b>0</b>	No (neutral effects)	<ul style="list-style-type: none"> <li>Alternative would not have any significant effects on any cultural heritage sites or assets.</li> </ul>
-	Negative	<ul style="list-style-type: none"> <li>Alternative would bring minor short-term degradation to the setting and conservation of designated cultural heritage features.</li> </ul>
--	Significant negative	<ul style="list-style-type: none"> <li>Alternative would cause long-term degradation to the setting and conservation of designated and locally important cultural heritage features (e.g. – through direct and permanent loss or damage to designated sites, introduction of structures that will have a considerable and permanent negative visual impact).</li> </ul>
?	Uncertain	<ul style="list-style-type: none"> <li>From the level of information available the effects the impact that the alternative would have on this objective is uncertain.</li> </ul>

## 9.7 Assessment of Significant Effects of Retention, Revocation and Partial Revocation

Table 9.4 summarises the significant effects identified in the detailed assessment of the North West of England plan policies against the cultural heritage topic.

**Table 9.4 Significant effects of retention and revocation on Cultural heritage**

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy DP2 Promote Sustainable Communities Retention	++	++	++	Policy DP2 sets out a series of principles for the promotion of sustainable communities including for the conservation of the region's heritage. It states that building sustainable communities is a regional priority in both urban and rural areas. It is therefore assumed that Core Strategies will have to put into place a policy framework which meets this regional priority.
Policy DP2 Promote Sustainable Communities Revocation	++	++	++	The NPPF supports the conservation and enhancement of the historic environment at section 12 'Conserving and enhancing the historic environment'. It requires, at paragraph 126, that local authorities should set out in their local plan a positive strategy for the conservation and enjoyment of the historic environment. As such the NPPF is considered to deliver the same level of policy support to that found within Policy DP2 and the result is that the effects post revocation are the same as those identified for retention.

## Appendix E: SEA for the Revocation of the North West Regional Strategy

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy DP7 Promote Environmental Quality Retention	+	++	++	<p>DP7 sets out high level policy on promoting environmental quality, which should be protected and enhanced. DP7 sets out a range of measures by which this should be achieved, such as the protection and enhancement of the historic environment, promoting good quality design in new development, reclaiming derelict land and remediating contaminated land, maximising opportunities for the regeneration of derelict or dilapidated areas, promoting policies relating to green infrastructure and the greening of towns and cities, maintaining and enhancing the tranquillity of open countryside and rural areas and the quantity and quality of biodiversity and habitat including water and water quality.</p> <p>This policy is likely to have an effect, increasing as the number of plans are adopted within the region. It is therefore unlikely to have a significant short term effect, but in the medium and long term will have benefits in a range of topic areas including cultural heritage.</p> <p>The RES recognises the importance of a high quality environment to the economy. Under its 'Conditions for Sustainable Growth' it aims to invest in quality public realm, greenspace and environmental quality (Action 119), this could also indirectly support historic areas.</p>
Policy DP7 Promote Environmental Quality Revocation	+	++	++	<p>Section 12 of the NPPF provides detailed policy on the preservation and enhancement of the historic environment. The section provides substantial advice upon the considerations which authorities should make when considering applications which have the potential to affect historic assets. This development management advice is a material consideration for all applications and therefore effects occur in the short medium and long term. Policy support provided by local authorities within their local plans will begin to reflect the NPPF guidance in the medium to longer term, hence significant positive effects over these latter time periods.</p>
Policy DP9 reduce emissions and adapt to climate change Retention	+	+	++	<p>DP9 states that, as an urgent regional priority, plans, strategies, proposals, schemes and investment decisions should contribute to reductions in the region's carbon dioxide emissions from all sources, including energy generation and supply, buildings and transport in line with national targets to reduce emissions to 60% below 1990 levels by 2050.</p> <p>It is recognised ('<i>Climate Change and the Historic Environment</i>' English Heritage 2008) that climate change is a significant threat to the historic environment. Therefore policy aimed at reducing climate change, should have the indirect effect of protecting the region's heritage. Given the time lag inherent in the climate dynamics, the level of significance is considered to increase over time.</p> <p>RES recognises also the threats posed by climate change and supports under Action 24 the development and implementation of a regional Climate Change Action Plan.</p>
Policy DP9 reduce emissions and adapt to climate change Revocation	+	+	++	<p>DP9 includes a number of suggestions for reducing carbon emissions. The sustainable development measures set out in the NPPF, and particularly those in the section on climate change, flooding and coastal change, provide a series of requirements which provide a strong framework for the mitigation of climate change impacts. Paragraph 99 in particular states that local plans should take account of climate change over the longer term, including factors such as flood risk, coastal change, water supply and changes to biodiversity and landscape. New development should be planned to avoid increased vulnerability to the range of impacts arising from climate change. Combating climate change has the potential for significant beneficial effects upon the historic environment over time, for the reasons set out under the retention option above.</p>

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy EM1 Integrated Enhancement and Protection of the Region's Environmental Assets retention	+	+	++	<p>The policy sets out a high level strategic approach to the conservation, restoration and enhancement of environmental assets which should lead to an improvement in their overall management. Benefits increase over time, reflecting the time taken for core strategies to be adopted (26 authorities in the region are still to adopt their core strategies). Benefits to the historic environment increase to significant in the long term.</p> <p>The historic environment in the region is protected and enhanced, leading to improvements in areas with regeneration potential which also contain historic assets.</p>
Policy EM1 Integrated Enhancement and Protection of the Region's Environmental Assets Revocation	+	+	++	<p>Policy EM1(C) links the protection, conservation and enhancement of the historic environment to the potential for exploiting the regeneration potential of certain locations with particular historic value based on key themes (such as the Pennine textile mill-town heritage that exists in East Lancashire and Greater Manchester, and the traditional architecture of rural villages and market towns of Cumbria, Cheshire and Lancashire).</p> <p>Paragraph 126 of the NPPF states that local planning authorities should set out in their Local Plan a positive strategy for the conservation and enjoyment of the historic environment, including heritage assets most at risk through neglect, decay or other threats. In doing so, they should have regard to the wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring. Given the importance of the key themes, and that the areas identified by EM1(C) are broad rather than specific, it is concluded that the NPPF links the conservation of the historic environment to the wider social, cultural, economic and environmental benefits of conservation sufficiently closely that the revocation of EM1(C) would be unlikely to have significant effects.</p>

### 9.7.1 Effects of Revocation

The North West has approximately 24,000 listed buildings which equates to 6.8% of the national total. A particular feature of the North West region is the relatively large number of statutorily protected industrial and commercial buildings reflecting its role at the birth of the industrial revolution. These buildings are often located within the inner core of the region's towns and cities and their re-use and refurbishment can provide the catalyst for wider regeneration. This is reflected both within the North West of England Plan, the RES and indirectly within the NPPF which recognises the positive contribution that conservation of heritage can make to sustainable communities including their economic vitality (paragraph 131).

Paragraphs 126 - 141 of the NPPF set out strong national policy on conserving and enhancing the historic environment. The paragraphs state that local planning authorities should set out in their local plan a positive strategy for the conservation and enjoyment of the historic environment, including heritage assets most at risk through neglect, decay or other threats.

The NPPF also provides for development management. It states that when considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation. The more important the asset, the greater the weight should be (paragraph 132).

The most important cultural heritage sites are subject to statutory protection. Following revocation of regional strategies, local authorities would still need to continue to work together on conservation, restoration and

enhancement of the heritage and historic environment.

In planning for the historic environment, local authorities should continue to draw on available information, including data from partners, to address cross boundary issues; they should also continue to liaise with English Heritage to identify and evaluate areas, sites and buildings of local cultural and historic importance.

Climate change is an acknowledged threat to the long term survival of some of the nation's (and region's) historic assets. Damage to these assets can be caused by flood, storms ground subsidence erosion and changing vegetation patterns. The revocation of Policy DP9 will not affect the significant benefits to cultural heritage that emission reduction can bring in the longer term. This is because NPPF policy, supported by statutory targets for emission reduction, will ensure that authorities continue to include climate change mitigation policies within their planning documents. .

### 9.7.2 Effects of Partial Revocation

The effects of partial revocation concern either

- Revoking all the quantified and spatially specific policies (for instance where a quantum of development, land for development or amounts of minerals to be extracted or waste disposal is allocated to a particular location in the region) and retaining for a transitional period the non spatial policies; or
- Retaining for a transitional period all the spatially specific policies where a quantum of development or land for development is allocated to a particular location in the region and revoking the non spatial policies, ambitions and priorities; or
- Retention for a transitional period of policies, the revocation of which may lead to likely significant negative environmental effects.

There is no change in significance identified for quantified or qualitative policies as a result of partial revocation.

### 9.7.3 Effects of Retention

Retention of the Regional Strategy would broadly result in continuation of the baseline with regard to the number of buildings and other historic assets protected by statute. Indirect negative effects upon historic assets may reduce as the environmental protectionist policies of the RS begin to influence local policy and development management decisions. The emphasis upon regeneration in the major regional centres may encourage the re-use of otherwise vacant historic buildings (particularly industrial/commercial buildings) which could support their long-term survival. The high brownfield targets promoted by the RS could have the indirect effect of protecting historic landscapes and unrecorded archaeological assets as the amount of greenfield land required for development is minimised

## 9.8 Mitigation Measures

As revocation is not identified to have any significant negative effects on cultural heritage no mitigation measures are proposed.

## 10. Landscape and Townscape

### 10.1 Introduction

The overview of plans and programmes and baseline information contained in this section provides the context for the assessment of potential effects of the proposals to revoke the regional strategies on landscape and townscape. Information is presented for both national and sub-regional levels.

Landscape in this context is defined by **The European Landscape Convention** as 'an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors'. This definition is stated as covering natural, rural, urban and peri-urban (i.e. the urban-rural fringe) and includes land, inland water and marine areas. For the purposes of this appraisal though, landscape is taken to apply to rural areas and townscape to urban areas. Visual effects are those effects that influence how people see a landscape or townscape, such as the erection of a building.

### 10.2 Summary of Plans and Programmes

#### 10.2.1 International

The **European Landscape Convention** is principally directed at the national level, but emphasises the importance of landscape as a cultural as well as an aesthetic asset. It commits signatories to promoting the protection, management and enhancement of landscapes across a country, and integrating landscape considerations into all relevant policies. The Convention's definition of landscape reflects the idea that landscapes evolve through time, as a result of being acted upon by natural forces and human beings. It also underlines that a landscape forms a whole, the natural and cultural components of which are taken together, not separately. The convention also calls for improved public involvement in landscape matters. The UK became a signatory to the European Landscape Convention in 2006.

#### 10.2.2 National

##### UK

In the UK, there are numerous Acts governing the protection of the countryside, landscape and natural environment. The **National Parks and Access to the Countryside Act 1949** makes provision for National Parks, confers powers for the establishment and maintenance of nature reserves, makes provision for the recording, creation, maintenance and improvement of public paths and for securing access to open country and confers further powers for preserving and enhancing natural beauty. National Parks are areas of relatively undeveloped and scenic landscape. Designation as a national park may include substantial settlements and human land uses which are often integral parts of the landscape. Land within a national park remains largely in private ownership. There are currently thirteen national parks in England and Wales. Each park is operated by its own national park authority, with two "statutory purposes":

- to conserve and enhance the natural beauty, wildlife and cultural heritage of the area, and

- to promote opportunities for the understanding and enjoyment of the parks.

The Norfolk Broads and Suffolk Broads has the same status as the national parks in England and Wales. The Broads Authority has powers and duties almost identical to the national parks, but is also the third-largest inland navigation authority. Because of its navigation role the Broads Authority was established under its own legislation on 01 April 1989. The Broads Authority Act 2009 improves public safety on the water.

AONBs are areas of high scenic quality that have statutory protection in order to conserve and enhance the natural beauty of their landscapes. AONB landscapes range from rugged coastline to water meadows to gentle lowland and upland moors. Natural England has a statutory power to designate land as Areas of Outstanding Natural Beauty.

The **Countryside and Rights of Way Act 2000** increased the duty of provision of public access to the countryside and strengthened legislation relating to Sites of Special Scientific Interest (SSSIs). In particular, it requires public bodies to further the conservation and enhancement of SSSIs both in carrying out their operations, and in exercising their decision making functions.

The **Marine and Coastal Access Act 2009** seeks to ensure clean healthy, safe, productive and biologically diverse oceans and seas, by putting in place better systems for delivering sustainable development of marine and coastal environment.

Other relevant Acts include:

- The **Forestry Act 1967 (as amended in 1999)** restricts and regulates the felling of trees. The **Countryside Act 1968** enlarges the function of the Agency established under the National Parks and Access to the Countryside Act 1949, to confer new powers on local authorities and other bodies for the conservation and enhancement of natural beauty and for the benefit of those resorting to the countryside;
- The **Agriculture Act 1986 (as amended)** covers the provision of agricultural services and goods, agricultural marketing compensation to tenants for milk quotas, conservation and farm grants;
- The **Commons Act 2006**, which protects common land and promotes sustainable farming, public access to the countryside and the interests of wildlife.

### England

The **Natural Environment and Rural Communities (NERC) Act 2006** implements key elements of the Government's Rural Strategy published in July 2004. The NERC Act is designed to help achieve a rich and diverse natural environment and thriving rural communities through modernised and simplified arrangements for delivering Government policy. The NERC Act established a new independent body - Natural England - responsible for conserving, enhancing, and managing England's natural environment for the benefit of current and future generations. The Act made amendments to the both the Wildlife and Countryside Act 1981 and the Countryside and Rights of Way Act 2000, which further enhance provisions to biodiversity generally and SSSIs in particular.

The **National Planning Policy Framework (2012)** includes strong protections for valued landscapes and townscapes as well as recognising the intrinsic character and beauty of the countryside. The importance of planning positively for high quality design is underlined and local and neighbourhood plans are expected to "develop robust and comprehensive policies that set out the quality of development that will be expected for the area". Planning policies and decisions are expected to respond to local character and history, and reflect the

identity of local surroundings and materials, while not preventing or discouraging appropriate innovation. The Framework states (paragraph 64) that “Permission should be refused for development of poor design that fails to take the opportunities available for improving the character and quality of an area and the way it functions”.

The Framework has a number of specific requirements relating to planning and landscape including a clear expectation that the planning system should contribute to and enhance the natural and local environment by protecting and enhancing valued landscapes. Local planning authorities are expected to set criteria based policies against which proposals for any development on or affecting protected landscape areas will be judged. In doing so, distinctions should be made between the hierarchy of international, national and locally designated sites and “great weight” should be given to “conserving landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty”. Local planning authorities in their plan-making are expected to take account of climate change and changes to landscape and contain a clear strategy for enhancing the natural, built and historic environment. Where appropriate, “landscape character assessments should also be prepared, integrated with assessment of historic landscape character and for areas where there are major expansion options assessments of landscape sensitivity”.

### 10.2.3 North West

There were no relevant regional plans or programmes identified for this topic.

## 10.3 Overview of the Baseline

### 10.3.1 National

#### UK

Statutory sites designated (wholly or partially) for their landscape value include National Parks, AONBs, Country Parks, Registered Historic Parks and Gardens, Historic Gardens and Designed Landscapes, National Scenic Areas (NSAs) and Regional Parks (in Scotland) and World Heritage Sites.<sup>184</sup>

Other important (non-statutory) sites include Areas of Great Landscape Value (AGLV) in Scotland; Heritage Coasts (in England and Wales); and National Trust/National Trust for Scotland properties.

The UK has 15 National Parks<sup>185</sup> and (excluding Scotland) 49 AONBs<sup>186</sup>. Each National Park is administered by its own National Park Authority whose duty it is to conserve and enhance natural beauty, wildlife and cultural heritage; and to promote opportunities for the understanding and enjoyment of the special qualities of National Parks by the public. The Broads Authority in England has a third purpose to protect the interests of navigation<sup>187</sup>. The primary purpose of AONB is to conserve and enhance the natural beauty of the landscape.

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<sup>184</sup> JNCC, landscape designations, <http://www.jncc.gov.uk/page-1527>

<sup>185</sup> Association of National Park Authorities, <http://www.nationalparks.gov.uk/>

<sup>186</sup> National Association of AONB, <http://www.aonb.org.uk>

<sup>187</sup> <http://www.nationalparks.gov.uk/learningabout/factsandfigures.htm>

### England

The 'Character of England Landscape, Wildlife and Cultural Features Map' produced in 2005 subdivides England into 159 areas with similar landscape character called National Character Areas (NCA).<sup>188</sup>

There are nine National Parks in England; the most recently designated National Park being the South Downs National Park (31 March 2010). Together with The Broads (which has similar protection to a National Park) they cover 9.3% of the land area in England.

There are 34 AONBs in England, one of which straddles England and Wales (the Wye Valley AONB). AONBs cover 18% of England and Wales.<sup>189</sup> The East Hampshire and Sussex Downs AONB designations were revoked on the 31 March 2010 when the South Downs National Park Designation Order came into effect. In all, AONB designation covers approximately 15 per cent of the land area of England.

England has been divided into areas with similar landscape character, which are called National Character Areas (NCAs). A total of 159 NCAs have been identified in England. The boundaries of the NCAs are not precise and that many of the boundaries should be considered as broad zones of transition.

Natural England are currently re-writing and re-designing all of England's 159 NCA profiles and aim to publish the first of the new versions from September 2012.

Heritage Coasts are areas defined (they are not statutorily designated) for the beauty and undeveloped nature of the coastline. They represent 33% (1,057km) of England's coastline and are managed to conserve their natural beauty and, where appropriate, to improve accessibility for visitors. Most Heritage Coasts are within the boundaries of National Parks or AONBs, although some including Lundy, the Durham Coast, and Flamborough Head stand alone.

A national record of nearly 1450 Registered Historic Parks and Gardens which contribute to the landscape is maintained by English Heritage. It is a non-statutory designation but the designation is a material planning consideration.

There are 17 World Heritage Sites in England, the most recent of these to be recognised as such is the Cornwall and West Devon mining landscape which was inscribed by UNESCO in 2006.<sup>190</sup>

#### 10.3.2 North West Region

There is no single landscape type which could be considered to be typical of the North West region which is distinguished by a huge diversity within a relatively small area, e.g. wide coastal plains, rolling lowland pastures, woodlands, industrial townscapes and upland fells and mountains.

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<sup>188</sup> See <http://www.naturalengland.org.uk/ourwork/landscape/englands/character/areas/default.aspx>

<sup>189</sup> See <http://www.aonb.org.uk/wba/naaonb/naaonbpreview.nsf/Web%20Default%20Frameset?OpenFrameSet&Frame=Main&Src=%2Fwba%2Fnaaonb%2Fnaaonbpreview.nsf%2F%24LU.WebHomePage%2F%24first!OpenDocument%26AutoFramed> (accessed 19.10.2009)

<sup>190</sup> See <http://whc.unesco.org/en/list/>

Some 29% of the region is designated as 'protected landscapes' (Figure 10.1), compared to 23% for England. This includes extensive areas of National Park (the Lake District National Park) which account for 18% of the entire region (only second to Yorkshire & Humber) and 11% as Areas of Outstanding Natural Beauty (AONB) below the national average of 16%. (The North Pennines AONB spans across Cumbria, Northumberland and Durham and is also a European Geopark). The Lake District is the largest of England's National Parks covering 229,159 ha. The North West has only 6 km of Defined Heritage Coasts (around St Bees Head). Heritage Coasts are special coastlines managed so that their natural beauty is conserved; it is a non-statutory landscape designation. There are 146 Sites of Special Scientific Interest (SSSIs) designated for one or more geodiversity feature.

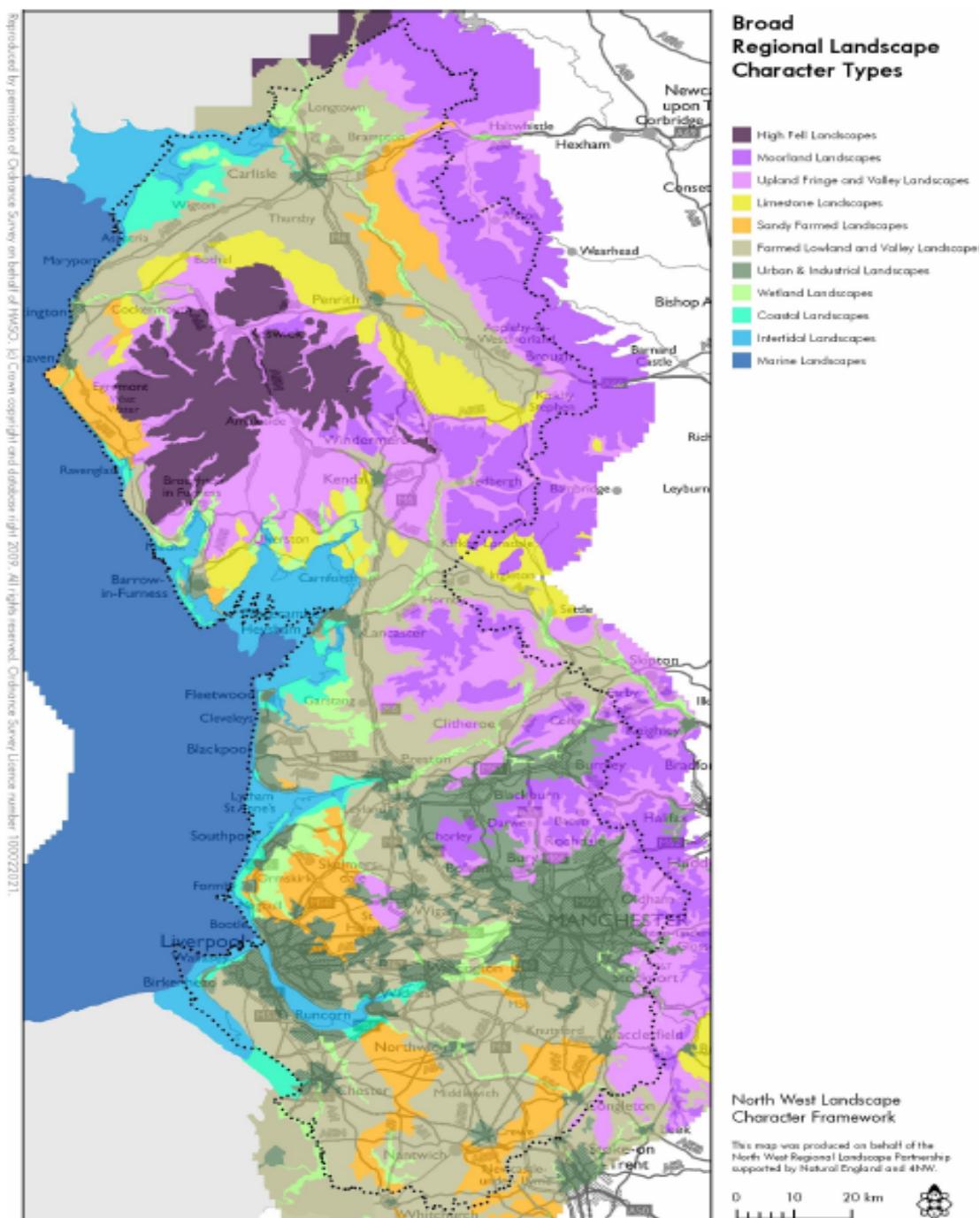
**Figure 10.1 Protected landscapes in the North West**



Source: Natural England and Countryside Agency (2008)

The region is producing a North West Landscape Character Framework led by Natural England as part of the implementation of the European Landscape Convention. The Regional Landscape Character Types and Areas are shown in Figure 10.2.

**Figure 10.2 Broad Regional Landscape Character Types and Areas**



The North West has a well-developed framework for protecting and managing important, valuable and sensitive landscapes. However the distribution of protected areas is highly uneven across the region, with Cumbria dominating through the Lake District National Park and other designations. This has had an impact on landscape management (as evidenced by the national Countryside Quality Counts monitoring, (Figure 10.3), whereby most of the northern part of the region has maintained its landscape character, except for Allerdale and Carlisle where

landscapes have been ‘neglected’. The southern part of the region has seen a change in landscape character, as places have increasingly urbanised, while parts of central Lancaster are ‘enhancing’.

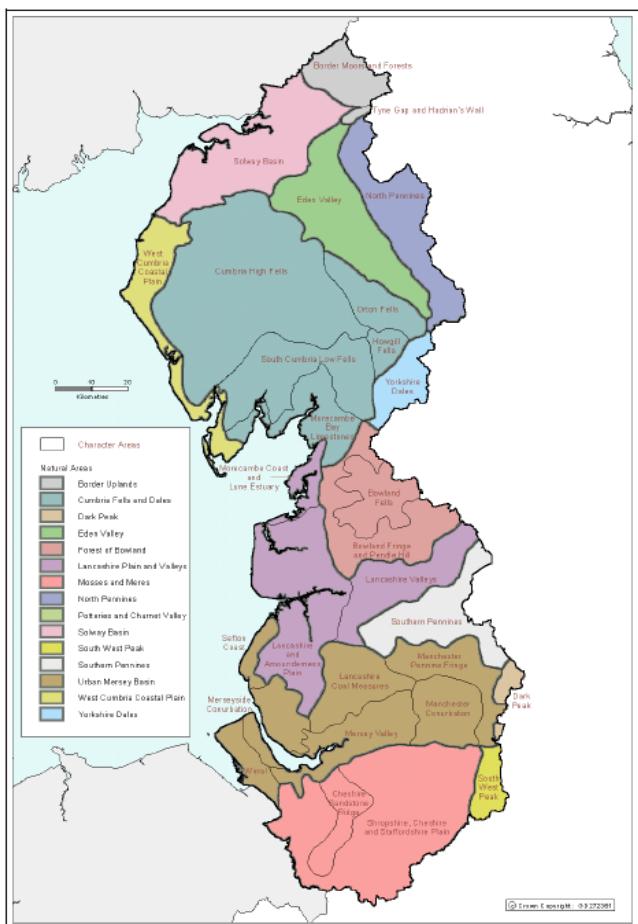
**Figure 10.3 Landscape Character Change 1998-2003**



Source: Countryside Quality Counts (2008)

Natural England’s Countryside Quality Counts study (2008) found that of the North West region’s 29 National Character Areas (Figure 10.4), 14% are enhanced in character, 41% have maintained character, 7% are neglected and 38% are diverging from baseline character (Figure 10.3). Areas that are neglected or diverging are largely around major centres of population and transport corridors. Landscape character is being maintained in protected areas such as Cumbria High Fells, which makes up a large part of the Lake District.

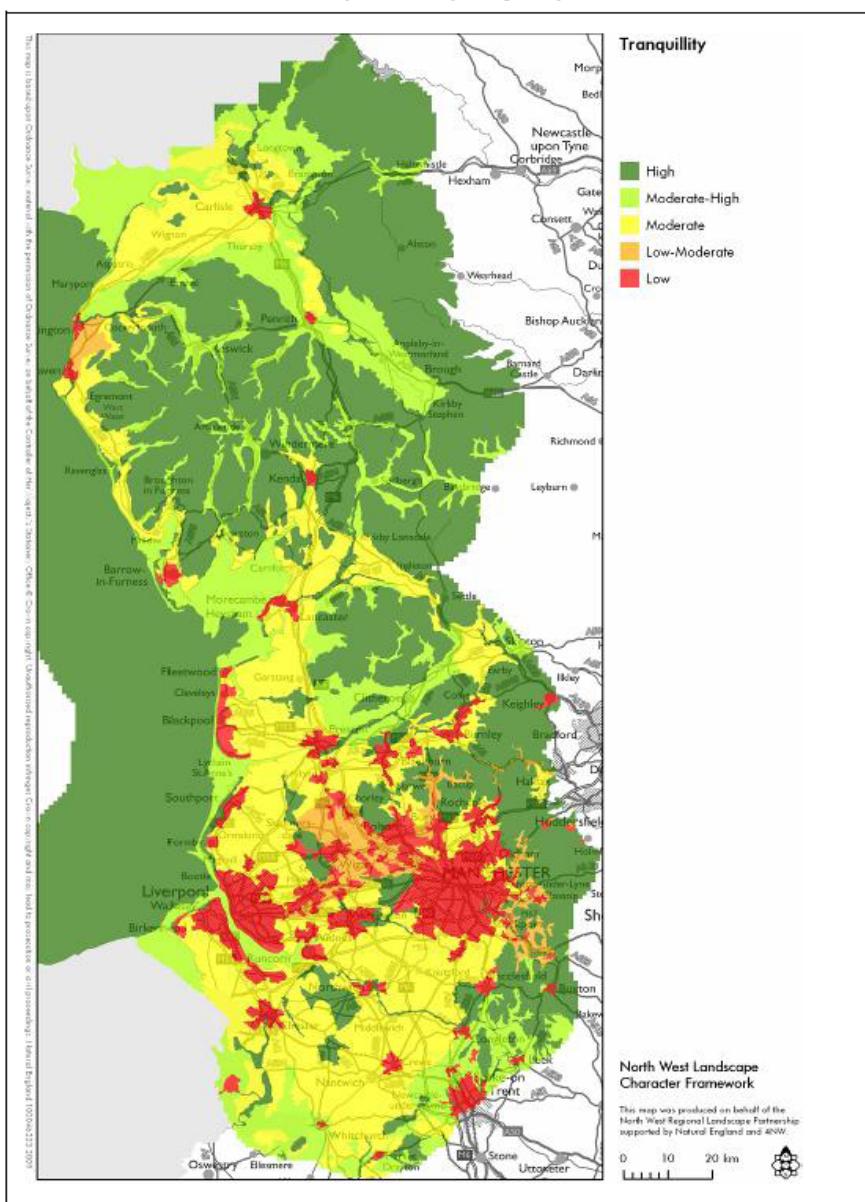
**Figure 10.4 National character areas in the North West**



Source: Natural England and Countryside Agency (2008)

Figure 10.5 shows the tranquility of the North West's landscapes which shows that the tranquil areas of the region tend to be located in more rural landscapes such as the Lake District National Park and Forest of Bowland AONB, rather than the urban areas of the Liverpool and Manchester City Regions. Tranquility is progressively being eroded by many factors including development, light and transport noise. Table 10.1 sets out the statistics relating to this erosion in the North West.

**Figure 10.5 Tranquility Map<sup>191</sup>**



Source: Northwest Landscape Character Framework (2009)

<sup>191</sup> [www.cpre.org.uk/resources/countryside/tranquil-places/item/1842](http://www.cpre.org.uk/resources/countryside/tranquil-places/item/1842)

## Appendix E: SEA for the Revocation of the North West Regional Strategy

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**Table 10.1 Erosion in Tranquility across the North West Region. 1960 -2007<sup>192</sup>**

County, Unitary Authority or Metropolitan District	Total area (km <sup>2</sup> )	Early 1960s		Early 1990s		2007	
		Disturbed area (km <sup>2</sup> )	% of region	Disturbed area (km <sup>2</sup> )	% of region	Disturbed area (km <sup>2</sup> )	% of region
Blackburn with Darwen	137.01	96.07	70.12	97.48	71.15	118.19	86.26
Blackpool	43.18	35.20	81.53	34.35	79.56	43.19	100.00
Bolton District	139.80	117.81	84.27	129.03	92.29	139.80	100.00
Bury District	99.48	84.25	84.69	87.55	88.00	99.37	99.89
Cheshire County	2107.55	867.60	41.17	1231.80	58.42	1450.53	68.83
Cumbria County	7185.07	556.86	7.75	1312.00	18.26	1578.40	21.97
Halton	90.33	75.82	83.94	76.07	84.21	89.82	99.44
Knowsley District	86.47	86.47	100.00	86.47	100.00	86.47	100.00
Lancashire County	3083.41	1010.58	32.77	1492.07	48.39	1780.07	57.73
Liverpool District	133.54	113.52	85.01	110.17	82.50	133.54	100.00
Manchester District	115.65	115.61	99.97	115.65	100.00	115.65	100.00
Oldham District	142.35	98.10	68.91	92.28	64.82	110.50	77.63
Rochdale District	158.08	125.78	79.56	138.38	88.16	156.21	98.82
Salford District	97.19	92.17	94.84	97.19	100.00	97.19	100.00
Sefton District	204.77	122.29	59.72	114.87	56.08	183.73	89.72
St Helens District	136.39	131.68	96.55	129.42	94.89	136.39	100.00
Stockport District	126.05	114.65	90.95	112.04	88.88	125.39	99.48
Tameside District	103.19	99.70	96.62	98.42	95.38	101.08	97.95
Trafford District	106.03	99.85	94.17	104.43	98.48	106.03	100.00
Warrington	182.37	172.14	94.39	178.89	98.09	182.37	100.00
Wigan District	188.19	174.50	92.73	187.32	99.54	188.19	100.00
Wirral District	156.40	157.89	61.58	158.91	61.98	222.90	86.93
<b>North West Total</b>	<b>14922.52</b>	<b>4548.54</b>	<b>30.48%</b>	<b>6185.73</b>	<b>41.45%</b>	<b>7245.02</b>	<b>48.55%</b>

<sup>192</sup> [www.cpre.org.uk/resources/countryside/tranquil-places/item/1758-englands-fragemented-countryside-north-west-intrusion-statistics](http://www.cpre.org.uk/resources/countryside/tranquil-places/item/1758-englands-fragemented-countryside-north-west-intrusion-statistics).

## 10.4 Environmental Characteristics of those Areas most likely to be Significantly Affected

### 10.4.1 National

#### UK

The UK has many important and protected landscapes which may be sensitive to development. The character of the UK's landscapes are broadly being maintained, however 20% show signs of neglect.

The natural environment of the UK is much less 'rich' than 50 years ago and remains under pressure from more intense use of the land and sea; continuing economic development, climate change and increased pressures from public access.

Although it is recognised that some changes in landscape, such as restoration of derelict industrial sites, have led to improvements in the quality of the natural environment, Natural England state that landscape change on the whole is resulting in declining diversity, distinctiveness and ecological richness<sup>193</sup>.

### 10.4.2 North West

In total, 29% of the region is designated as a protected landscape. Restrictions on development within these protected landscapes have the potential to increase development pressures elsewhere in the region.

Threats to the region's landscape include:

- Urban development pressure: Urban characteristics such as light, noise and traffic pollution are beginning to encroach on rural areas and the urban fringe due to development pressure. This is particularly relevant to the southern part of the region;
- Loss of local distinctiveness: the region's diversity, which includes the use of local buildings materials, is being lost by the use of standardised designs and materials;
- Pressured landscapes: Protected landscapes including the Lake District National Park are being threatened by development in the form of agricultural intensification, residential development, and recreation;
- Mineral and aggregate extraction: Minerals and aggregate extraction are important to the region's economy and therefore region may be subject to further mineral and aggregate extraction, which may affect the tranquil areas and landscapes, particularly in the North of the region.

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<sup>193</sup> <http://www.naturalengland.org.uk/ourwork/landscape/threats/default.aspx>

## 10.5 Likely evolution of the baseline

### 10.5.1 National

#### UK

Over the last century the following landscape character trends have been experienced:<sup>194</sup>

- a gradual erosion of local distinctiveness in some areas, through a process of standardisation and simplification of some of the components that make up landscape character;
- a loss of some natural and semi-natural features and habitats such as ancient woodlands and unimproved grassland;
- a decline in some traditional agricultural landscape features such as farm ponds and hedgerows, and a loss of archaeological sites and traditional buildings often as a result of changing agricultural practices;
- increased urbanisation, often accompanied by poor design standards and a decline in the variety of building materials, and the importation of urban and suburban building styles into rural areas; and
- a loss of remoteness and reduced tranquillity because of built development and traffic growth.

There are a number of pressures and risks outlined in the ***State of the Natural Environment 2008*** that may affect the quality of landscapes in England. These include<sup>195</sup>:

- **Sea-level rise:** Over the next few decades it is anticipated that there will be major sea incursions inland during storms, particularly on the south and east coasts of England. If measures such as managed retreat are not adopted in low-lying areas, there may be widespread losses of intertidal and coastal habitats. In the coastal zone, sea-level rise may also result in the direct loss of freshwater habitats such as reedbeds and wet grasslands;
- **Fire:** More droughts in the future will make the countryside increasingly vulnerable to wildfire, with potential for heathland, grassland, broadleaved woodlands and bogs to undergo major change in their structure;
- **Grazing management:** More summer droughts may mean that grazing is no longer possible in some open habitats such as fens, grasslands and heathlands due to die-back of vegetation and a lack of drinking water for animals. The spread of diseases (e.g. bluetongue) related to climate change may also reduce livestock numbers and restrict movement, altering grazing patterns and landscapes;
- **Energy production:** The production of biofuels in the countryside may result in changes to landscapes. Wind energy developments are likely to be more common;
- **Development pressure:** Within rural England, the area of developed land has increased by about 4% since 1990. It is expected that the pace of development within England will increase in the future to

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<sup>194</sup> Natural England, State of the Natural Environment 2008, Landscape Characterisation and Change, <http://www.naturalengland.org.uk/publications/sone/sections.aspx>

<sup>195</sup> Natural England (2008) State of the Natural Environment <http://www.naturalengland.org.uk/publications/sone/default.aspx>

make up for the current shortfall in housing provision. The effect of this increase pressure for development is likely to be felt most acutely in central and southern England, particularly around identified Growth Areas and Growth Points.

## England

Natural England report that in 2008 existing landscape character was being maintained in 51% of England's landscapes, whilst in a further 10% existing character was being enhanced. However, 20% of landscapes were showing signs of neglect.<sup>196</sup>

Data from 1990 to 2003 indicates that in England the number of Character Areas with patterns of change that either maintain or enhance character has increased from 36% to 61%. The number of Character Areas with evidence of neglect or erosion of character has decreased. This evidence suggests that the character of the majority of English landscapes, at Character Area scale, is being sustained.

Forestry Commission England seeks to maintain the area of certified woodland and to ensure that 95% of woodland SSSIs are in favourable condition by 2011<sup>197</sup>.

The protected nature of National Park and AONB landscapes make it less likely that these landscapes will be affected by some of the risks outlined (e.g. development pressure) although those protected landscapes nearest to existing urban areas are more likely to be at risk.

### 10.5.2 North West Region

The Regional Strategy sets out a requirement for significant development in the North West which will have an impact upon landscape character. The Strategy directs much development to existing urban areas and promotes the use of brownfield land; however there is an established need for development in rural areas.

## 10.6 Assessing Significance

**Table 10.2** sets out guidance utilised during the assessment to help determine the relative significance of potential effects on the biodiversity objective. It should not be viewed as definitive or prescriptive; merely illustrative of the factors that were considered as part of the assessment process.

**Table 10.2 Approach to determining the significance of effects on landscape and townscape**

Effect	Description	Illustrative Guidance
++	Significant positive	<ul style="list-style-type: none"> <li>Alternative would make a significant positive contribution to statutorily-designated landscapes.</li> <li>Alternative would have a significant positive effect on the setting and attractiveness of local landscapes and townscapes (e.g. through the replacement of poorly designed/derelict buildings with</li> </ul>

<sup>196</sup> Natural England, State of the Natural Environment 2008, Landscape Characterisation and Change, <http://www.naturalengland.org.uk/publications/sone/sections.aspx>

<sup>197</sup> Forestry Commission England, 2008, Delivery Plan 2008-2012: England's Trees, Woods and Forests.

		high quality development).
		<ul style="list-style-type: none"> <li>• Alternative would enhance public access to the countryside and increase open space provision.</li> </ul>
+	Positive	<ul style="list-style-type: none"> <li>• Alternative would serve to enhance statutorily-designated landscapes.</li> <li>• Alternative would have a positive effect on the setting and attractiveness of local landscapes and townscapes.</li> <li>• Alternative would enhance public access to open spaces and the countryside.</li> </ul>
0	No (neutral effects)	<ul style="list-style-type: none"> <li>• Alternative would not have any effects on landscapes or visual amenity.</li> <li>• Alternative would not enhance or restrict public access to open spaces and the countryside.</li> </ul>
-	Negative	<ul style="list-style-type: none"> <li>• Alternative would have short-term negative effects on statutorily-designated landscapes.</li> <li>• Alternative would have a negative effect on the intrinsic character of landscapes and townscapes.</li> <li>• Alternative would affect the visual amenity of local communities.</li> <li>• Alternative would temporarily restrict public access to open spaces and the countryside.</li> </ul>
--	Significant negative	<ul style="list-style-type: none"> <li>• Alternative would have long-term negative effects on statutorily-designated landscapes (such as AONBs).</li> <li>• Alternative would severely affect the intrinsic character of landscapes and townscapes.</li> <li>• Alternative would severely affect the visual amenity of local communities.</li> <li>• Alternative would result in the loss of open spaces and restrict public access to the countryside.</li> </ul>
?	Uncertain	<ul style="list-style-type: none"> <li>• From the level of information available the effects the impact that the alternative would have on this objective is uncertain.</li> </ul>

10.7

## Assessment of Significant Effects of Retention, Revocation and Partial Revocation

Table 10.3 summarises the significant effects identified in the detailed assessment of the North West of England plan policies against the landscape topic.

## Appendix E: SEA for the Revocation of the North West Regional Strategy

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**Table 10.3 Significant effects against the Landscape and Townscape topic**

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
DP7 Promote Environmental Quality Retention	+	++	++	<p>DP7 sets out high level policy on promoting environmental quality, which should be protected and enhanced. DP7 sets out a range of measures by which this should be achieved, such as reclaiming derelict land and remediating contaminated land, maximising opportunities for the regeneration of derelict or dilapidated areas, promoting policies relating to green infrastructure and the greening of towns and cities, maintaining and enhancing the tranquillity of open countryside and rural areas and the quantity and quality of biodiversity and habitat including water and water quality.</p> <p>This policy is likely to have an effect, increasing as the number of plans are adopted within the region. It is therefore unlikely to have a significant short term effect, but in the medium and long term will have benefits to both the landscape and townscape.</p>
DP7 Promote Environmental Quality Revocation	+	++	++	<p>Section 11 of the NPPF provides clear and robust policies for protection and enhancement of the natural environment which in most cases match or improve on the policies set out in DP7.</p> <p>Paragraph 109 states that the planning system should protect and enhance valued landscapes. The NPPF also maintains protection for and seeks enhancement of the Green Belt and it encourages the use of landscape assessments in policy formulation.</p>
DP9 Reduce Emissions and adapt to climate change Retention	+	+	++	<p>DP9 states that, as an urgent regional priority, plans, strategies, proposals, schemes and investment decisions should contribute to reductions in the region's carbon dioxide emissions from all sources, including energy generation and supply, buildings and transport in line with national targets to reduce emissions to 60% below 1990 levels by 2050. Local authorities, when drawing up plans or taking decisions, are under a duty take account of the need to mitigate and adapt to climate change.</p> <p>RES recognises also the threats posed by climate change and supports under Action 24 the development and implementation of a Regional Climate Change Action Plan. Climate change is likely to lead to significant negative effects upon the existing landscape of the region; mitigation through a reduction in carbon emissions has the potential to derive significant benefits over the longer term.</p>
DP9 Reduce Emissions and adapt to climate change Revocation	+	+	++	<p>DP9 includes a number of suggestions for reducing carbon emissions. The sustainable development measures set out in the NPPF, and particularly those in the section on climate change, flooding and coastal change, provide a series of requirements which provide a strong framework for the mitigation of climate change impacts than the suggestions set out in DP9. Paragraph 99 in particular states that local plans should take account of climate change over the longer term, including factors such as flood risk, coastal change, water supply and changes to biodiversity and landscape.</p> <p>A similar policy approach is therefore to be in place on revocation with similar indirect benefits for the landscape.</p>
RDF4 Green Belts Retention	++	++	0	<p>The policy maintains the Green Belt across most of the region stating that there is a presumption against strategic release post 2012 but identifying areas where detailed review of the boundaries may be necessary.</p> <p>In areas of review, subject to the outcome of the review there could be some negative effects but this is uncertain. Maintaining the Green Belt should protect local landscape quality.</p>

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Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
RDF4 Green Belts Revocation	++	++	0	<p>The NPPF contains strong policies to protect for Green Belt land, which marry well with the protections provided by policy RDF4.</p> <p>RDF4 allows for revisions to Local Plans should it be necessary to accommodate the development of Manchester Airport and Liverpool John Lennon Airport; and an inter-modal freight terminal at Newton-Le-Willows. The NPPF states that once established, Green Belt boundaries should only be altered in exceptional circumstances, through the preparation or review of the Local Plan. The requirement for a review of Plans in both cases makes it highly unlikely that the revocation of policy RDF4 will have a significant different impact from its retention.</p>
EM1 Integrated Enhancement and Protection of the Region's Environmental Assets Retention	+	+	++	<p>A high level strategic approach to the conservation, restoration and enhancement of environmental assets should lead to an improvement in their overall management. Benefits increase over time, reflecting the time taken for core strategies to be adopted (26 authorities in the region are still to adopt their core strategies). Fewer benefits are evident in the short term and early medium term, but significant long term benefits are expected in the SEA receptors that have been identified within the assessment matrix.</p> <p>Plans are to identify, protect, maintain and enhance natural, historic and other distinctive features that contribute to the character of landscapes and places within the North West.</p> <p>Tree and woodland cover increases, which have the potential to improve the quality of the landscape where such cover is a defining feature. RES is supportive of EM1(D) through Action 117 which sets out to implement the Regional Forestry Framework.</p>
EM1 Integrated Enhancement and Protection of the region's Environmental Assets Revocation	+	++	++	<p>Policy EM1(A) seeks to protect landscape. Paragraph 113 of the NPPF carries forward the policy direction previously set out within PPS7 requiring local planning authorities to set criteria based policies against which proposals for any development on or affecting protected wildlife or geodiversity sites or landscape areas will be judged, with distinctions made between the hierarchy of international, national and locally designated sites.</p> <p>Paragraph 115 of the NPPF places great weight on the conservation of landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to landscape and scenic beauty. National Parks and AONBs are explicitly mentioned within Policy EM1.</p> <p>Landscape character assessments should be prepared where appropriate (paragraph 170).</p> <p>EM1(D) is a high level policy which seeks to encourage a steady targeted expansion of tree and woodland cover and promote sustainable management of existing woodland resources. It supports the continued role of community forestry, and the identification and protection of ancient semi-natural woodland and veteran trees. It also supports the aims and priorities of the North West Regional Forestry Framework and sub-regional forestry strategies.</p> <p>The NPPF recognises the importance of community forests (paragraph 92), and maintains the protection for ancient woodland and aged or veteran trees previously found in PPS9 (paragraph 118). The Northwest Regional Forestry Framework's strategy paper 'Agenda for Growth' sets out a long term approach to significantly increasing tree planting and woodland cover in the region, which enjoys the support of a wide range of public and private organisations.</p> <p>Given all of the above, it is concluded that the revocation of EM1 is unlikely to have negative effects. Because this policy should be implemented immediately, benefits begin to arise in the short term, and carry forward indefinitely.</p>

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Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy EM3 Green Infrastructure Retention	0	+	++	<p>EM3 is also supported by RES Action 117 which recognises that it is important to nurture the natural resources of the region and to develop a strategy for green infrastructure and transport corridors.</p> <p>Though EM3 references sites of national and international importance it is assumed that these are protected in any case through designation, and EM3 does not bring about any additional benefits.</p> <p>Benefits to landscape could be brought about if a significant increase in green infrastructure occurs, but this will depend on where and when development is brought forward.</p> <p>EM3 is also supported by RES Action 117 which recognises that it is important to nurture the natural resources of the region and to develop a strategy for green infrastructure.</p>

Regional Plan Policy	Score			Commentary
	Short Term	Medium Term	Long Term	
Policy EM3 Green Infrastructure Revocation	0	+	++	<p>Paragraph 114 of the NPPF states that local planning authorities should plan positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure.</p> <p>Paragraph 117 builds on this principle, stating that planning policies should, amongst others, plan for biodiversity at a landscape-scale across local authority boundaries.</p>

### 10.7.1 Effects of Revocation

The North West region consists of a variety of landscape types including wide coastal plains, rolling lowland pastures, woodlands, industrial townscapes and upland fells and mountains.

Policy protection of these landscapes can be found within various North West Plan policies and in particular Policy EM1 which seeks both to protect and enhance the region's environmental assets, including landscape.

Certain parts of the region's landscapes are recognised as being of particular quality, and are consequently given statutory protection either as national parks (The Lake District and parts of the Peak District, and Yorkshire Dales) or AONBs, (The Forest of Bowland, Arnside and Silverdale, the Solway Firth and parts of the North Pennines). The AONB partnerships will continue to operate post revocation whilst the National Park, (The Lake District) has an approved Core Strategy consistent with the North West of England Plan. It is assumed that this Core Strategy will continue in place in the short to medium term.

Policy protection provided by EM1 will continue to be provided post-revocation. The NPPF sets out policy guidance which retains recognition of the importance both protected landscapes as well as wider landscape character.

Green Belt policy set out within the North West of England Plan, has a presumption against the strategic release of land in the Green Belt post 2011 instead suggesting that detailed changes would require the support of the now defunct Regional Planning Body. Two key locations are identified for considered release from the Green Belt at Manchester Airport, John Lennon Airport and at Newton-le-Willows. The adopted and/or emerging Core Strategies (For Cheshire East, Liverpool and St Helens respectively) maintain Green Belt boundaries and where reference is made state that any strategic review would be undertaken at the sub-regional level. Revocation is therefore unlikely to lead to strategic change in Green Belt boundaries in the short and medium term with consequential beneficial effects upon the landscape.

### 10.7.2 Effects of Partial Revocation

The effects of partial revocation concern either

- Revoking all the quantified and spatially specific policies (for instance where a quantum of development, land for development or amounts of minerals to be extracted or waste disposal is allocated to a particular location in the region) and retaining for a transitional period the non spatial

policies; or

- Retaining for a transitional period all the spatially specific policies where a quantum of development or land for development is allocated to a particular location in the region and revoking the non spatial policies, ambitions and priorities; or
- Retention for a transitional period of policies, the revocation of which may lead to likely significant negative environmental effects.

The likely significant effects on landscape associated with spatially specific policies (RDF4) do not change as a result of revocation. Similarly there are no likely significant effects resulting from the revocation of non spatial policies that are not identified within one or more of the timescales for retention.

### 10.7.3 Effects of Retention

The effects of retaining the Regional Strategy would see a continuation of the baseline albeit with greater focus upon development in urban areas, particular the key city regions of Manchester, Liverpool and Central Lancashire. A high level of protection will continue to be given to those landscapes of national and local importance. It is anticipated that landscape quality could improve over time given the policy requirement to enhance as well as protect although it should be acknowledged that policy can only influence matters surrounding development and not the wider trends in the landscape (e.g. agri-environmental schemes which may have the potential to improve the conditions of the landscape, or changes in agricultural activities resulting from changes in the economic circumstances of landowners or market demand).

### 10.8 Mitigation Measures

No significant effects resulting from the revocation of the Regional Strategy have been identified, therefore no mitigation is proposed.