

**Liverpool City Region  
Ecological Framework  
&  
Strategic Overview**



**Merseyside Environmental Advisory Service**

**October 2011**

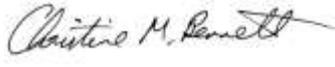
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## **Aims of the LCR Ecological Framework**

1. The overall aim of the Liverpool City Region Ecological Framework is to reduce the loss of and / or fragmentation of our important habitats; by improving the value of the core biodiversity resource and reconnecting our important habitats thus providing greater resilience for our natural assets.

The Ecological Framework links closely with the UK Biodiversity Action Plan and the England Biodiversity Strategy, which have similar aims<sup>1</sup>.

The Strategic Overview is one element of the LCR Ecological Framework. It sets out the higher level strategic assets and opportunities that are needed to secure delivery of a step-change in biodiversity that will be supported by more district-specific delivery, as links and stepping stones are put in place.

## **Background**

### ***The Need for the Ecological Framework***

1. Government has set out its intentions for biodiversity across a wide range of sectors and given its commitment to coherent ecological networks and well-functioning ecosystems<sup>2</sup> as:

*“Our 2020 mission is to halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people.”*

2. At the same time, a revised, updated and more clearly focused England Biodiversity Strategy<sup>3</sup> was published with a target to deliver the 2020 Mission. The Draft National Planning Policy Framework<sup>4</sup> has also been published for consultation. It sets the direction for how planning authorities need to plan for biodiversity at a landscape scale including across local authority boundaries. The LCR Ecological Framework is currently compliant with the draft NPPF and will be reviewed against the final NPPF.
3. Government is committed to the development of “Ecological Networks” as a means to :
  - Meet internationally agreed biodiversity targets known as “halt biodiversity loss by 2010” and “reverse isolation and fragmentation of habitats and species by 2020”<sup>5</sup>

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<sup>1</sup> 1994 UK BAP, 2002 England Biodiversity Strategy

<sup>2</sup> 2011 The Natural Choice: securing the value of nature. CM 8082. H M Government

<sup>3</sup> DEFRA 2011 Biodiversity 2020: A strategy for England’s wildlife and ecosystem services

<sup>4</sup> CLG 2011. Draft National Planning Policy Framework – consultation paper

<sup>5</sup> Convention on Biological Diversity, 1992 and 2010 report

- Take on board the recent innovations in “Ecosystems Services” approaches<sup>6</sup>

and

- Accepts that current reviews of the piecemeal approach to biodiversity conservation across the UK clearly show that existing approaches are not working well enough<sup>7,8</sup>

4. An accepted and working definition of “Ecological Networks” can be found in Professor Lawton’s report ‘Making Space for Nature’<sup>9</sup> as

*Box 1: Ecological Network definitions*

### **An Ecological Network**

**“...is a network of core sites connected by buffer zones, wildlife corridors and smaller but still wildlife-rich sites that are important in their own right and can also act as ‘stepping stones’**

**Or**

**“...comprises a suite of high quality sites which collectively contain the diversity and area of habitat that are needed to support species and which have ecological connections between them...”**

and is illustrated in Figure 1.

5. There have been, and continue to be, a number of drivers for the Ecological Framework process since October 2008, which are:
  - Continuing losses of habitats and species across the Liverpool City Region
  - Publication of the North West Regional Spatial Strategy, with its emphasis on ecological networks and frameworks, and on green infrastructure
  - Changes to Local Planning with the introduction of the Local Development Frameworks and proposed changes once the Localism Bill is enacted
  - Need to identify and deliver co-ordinated opportunities for improving the ecological resources (the biodiversity) of the Liverpool City Region while making the most of regeneration benefits, and adapting to climate change

<sup>6</sup> UK National Ecosystem Assessment (2011). The UK National Ecosystem Assessment: Synthesis of the Key Findings. UNEP-WCMC, Cambridge.

<sup>7</sup> Prof Sir John Lawton. Making Space for Nature: A review of England’s Wildlife Sites and Ecological Network. 2010

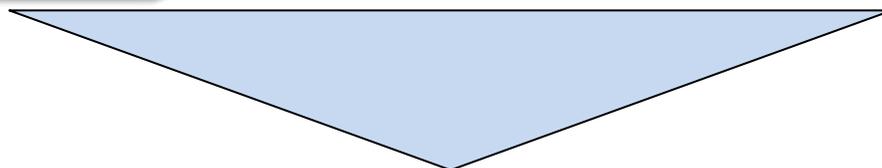
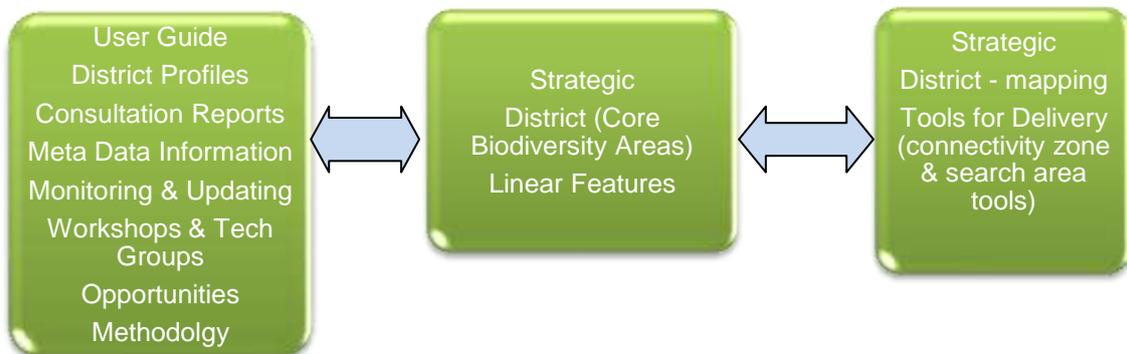
<sup>8</sup> DEFRA 2010 Consultation on Natural Environment and Consultation Response Report

<sup>9</sup> See footnote 7

- Opportunity to manage costs through a joint approach and to provide a consistent evidence base, across the City Region
  - Need to provide the evidence to inform Local Development Frameworks and other key plans and strategies across the Liverpool City Region
  - Opportunity to provide an integrated functional framework of improved ecosystem services and goods across the Liverpool City Region
  - Need to provide the ecological component of the Green Infrastructure Framework for the Liverpool City Region
  - Need to provide an enhanced sub-regional framework for delivery of the Regional Biodiversity Delivery Plan and Local Biodiversity Action Plans.
6. The work undertaken since October 2008 for the Liverpool City Region Ecological Framework and also the Green Infrastructure Strategy means that the City Region is ideally placed to:
- Make a significant contribution to achieving economic growth and helping adaptation to climate change
  - Identify the strategic assets and opportunities for improving biodiversity and resilience
  - Integrate the multiple and varied natural environment directives, legislation, guidance and best practice advice,
  - Deliver a coherent and consistent response for safeguarding and improving the natural environment
7. The Ecological Framework is an umbrella concept that encompasses the assets and opportunities supported by a range of evidence including the outcomes from public consultations. This is illustrated in Figure 1.
8. Some areas of the UK have also invested in preparing Ecological Frameworks or networks, e.g. Cheshire ECONET, an EU *Life* funded pilot project; other areas have taken a Green Infrastructure route which are based more on creating complementary green infrastructure in and around strategic regeneration areas e.g. Thames Grid. The overarching theme is the recognition that nature underpins our physical, economic regeneration delivery and growth, together with underpinning our health and physical and mental well-being.
9. Figure 2 (page YY) highlights the strategic assets and opportunities in the Liverpool City Region. Habitats and species occur readily where they can and hard definitive boundaries both within and outside the Liverpool City Region often do not reflect healthy and well-functioning ecological networks. Working across boundaries is essential to improve and deliver resilient ecological networks and their habitats and species.

***Figure 1: Key Parts of the LCR Ecological Framework***

# Ecological Framework



## **The Purpose**

10. The aims of the UK Biodiversity Action Plan and the England Biodiversity Strategy are to reduce the loss to and / or fragmentation of our important habitats. The Liverpool City Region is a clear example of the fragmenting impact of ‘human activities’ on important habitats and species. Box 2 shows the impact on lowland neutral grasslands – our wildflower meadows.

### *Box 2: loss of neutral grasslands in north Merseyside*

By 1984, in lowland England & Wales, neutral grassland had declined by 97% since 1934.

In North Merseyside, 298 ha of neutral grassland had been lost between 1990 and 2002 – from a starting point of approximately 1,270 ha. These losses continue through development for other uses such as housing, industry and community forestry.

11. The UK’s current ecological policy relies on a system of legal protection for a hierarchy of designated sites which has been in place since 1949<sup>10</sup>. Over the years the level of legal protection has increased, in terms of the number of designated sites and the types of designated sites. However, over the same time, the loss and fragmenting of habitats and species populations outside of designated sites has increased significantly. While designated sites account for 60% of our biodiversity, this means that loss continues for the biodiversity outside of designated sites, and many designated sites have no statutory protection such as Local Wildlife Sites. What this means is that 40% of our biodiversity is not within a protected site and for the most part, is unprotected from loss, changes in management, inappropriate management or no management. Box 3 explains the areas covered by designated sites in the Liverpool City Region. Many of our designated sites have multiple designations which accounts for the difference in total area covered by the Core Biodiversity Area.
12. To deal with the unprotected 40% of UK’s biodiversity resource, further legislation was introduced, most recently in 2006<sup>11</sup>, requiring Local Authorities to take account of biodiversity in exercising all their functions. This is called “The Biodiversity Duty”. There is a similar duty that applies to all Public Bodies, such as Government, statutory agencies, harbour authorities among many others, through the CROW Act<sup>12</sup>.
13. The Liverpool City Region Ecological Framework brings together the disparate elements of designated sites, priority habitats and species both within and

<sup>10</sup> National Parks and Access to the Countryside Act 1949

<sup>11</sup> 2006. Natural Environment & Rural Communities Act.

<sup>12</sup> Countryside and Rights of Way Act 2000

outside designated sites, as our **Core Biodiversity Area**. It sets out what our biodiversity resource is, as a whole, and what is strategically important. It does not replace the existing legal requirements for designated sites or priority habitats (the biodiversity duty).

*Box 3: Designated sites (note: several designations overlap – 60% by area)*

<b>Biodiversity Designations</b>	<b>LCR Area Covered (approx. ha)</b>
Special Area of Conservation	9,800
Special Protection Area	12,760
Ramsar Site	13,800
Site of Special Scientific Interest	22,500
National Nature Reserve	520
Local Nature Reserve	810
Local Site	15,522

14. The **Core Biodiversity Area** covers some 30,397 ha (Box 3) which is 33% of the total area of the Liverpool City Region. This seems to be a high figure **but** only 10% of the land area of the Liverpool City Region is included, with 23% of the Core Biodiversity Area being coastal including large expanses of sand and mudflats to mean low water.

*Box 4: Core Biodiversity Area defined*

<p><b>Core Biodiversity Area</b> includes:</p> <p><u>Designated Sites</u>  International = Ramsar, Special Protection Areas (SPAs), Special Areas of Conservation (SACs)</p> <p>National = Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs)</p> <p>Local = Local Nature Reserves (LNRs), Local Wildlife Sites (LWS), Local Geological Sites (LGS)</p> <p><u>Priority Habitats</u>  Habitats of Principle Importance in England (Section 41, NERC Act 2006), may be within or outside designated sites.  area = 12,640 ha</p> <p>UK Biodiversity Action Plan (BAP) Priority Habitats</p>
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15. The Liverpool City Region Ecological Framework goes further than simply identifying our biodiversity assets – the **Core Biodiversity Area** – it identifies where re-connections are essential and where they can take place. These are often broad areas and site-specific actions should be taken forward on a case-by-case basis.

### ***Bottom-up Approach and data provision***

16. While the overall stock of ecological assets (the biodiversity resource) has continued to decline primarily through habitat loss, fragmentation and poor or no management, the types of habitats and species present have remained fairly constant for hundreds of years. Previous studies on Merseyside from the 1970s and 1980s provide indicative areas of a range of habitat types, although, the different ways that the information was categorised means that it is not directly comparable. For example, the Merseyside Land Use Surveys in the 1960s & 1970s, record losses of dunes, saltings and grasslands of around 8.2% (350 ha).
17. We have drawn on good practice from a number of research-led projects; on work taking place from other sub-regions in the UK and from further afield e.g. Germany and the Netherlands to inform our method and techniques. This process is set out the method consultation reports<sup>13</sup>. As the Liverpool City Region Ecological Framework is to be delivered at both a strategic and a local scale, it was crucially important to work with a local partner to test and refine the approaches early in its preparation. St. Helens Metropolitan Borough Council has undertaken a ***pilot study***, using the same approach, to identify local opportunities known as Biodiversity Action Zones. The local opportunities guide partners and stakeholders in St. Helens in acting together to address the loss and fragmentation of important habitats<sup>14</sup>.
18. The information used in preparing the Liverpool City Region Ecological Framework is set out in the Metadata Report<sup>15</sup>. This information forms the baseline and reconnection, restoration and creation of habitats will be monitored from this base.

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<sup>13</sup> MEAS, various dates. Reports on Consultation 1, 2 and 3.

<sup>14</sup> 2011. St. Helens MBC. Biodiversity Supplementary Planning Document.

<sup>15</sup> 2011. Liverpool City Region Ecological Framework. Metadata Report.

## **Strategic Ecological Assets**

19. Government has established England's *2020 mission* and recognises that, to play a leading role outcomes must be delivered in partnership. In particular, the Natural Environment White Paper recognises that local authorities possess the strategic overview, local knowledge and statutory powers required to make the mission a reality. This strategic overview sets the scene for where the most significant benefits can be achieved and where opportunity mapping and delivery will add to the overall stock of assets and connect with people and business at the local level.
20. Typically, the value and services that our natural capital or strategic ecological assets provide is unknown and the Liverpool City Region reflects this trend. Studies, such as *The Economics of Ecosystems and Biodiversity (TEEB)* and the *UK National Ecosystem Assessment (NEA)*, have shown how the financial benefits that we get from nature – sometimes known as natural capital – are often underestimated or overlooked. Some of these natural services are costed and understood and valued e.g. for centuries the value of timber has been recognised, while others such as regulating climate, have not.
21. Research and case studies demonstrate the importance of working with our strategic ecological assets to sustain our economic growth<sup>16</sup>. The UK National Ecosystem Assessment<sup>17</sup> confirms that  
  
*“The natural world, its biodiversity and its constituent ecosystems are critically important to our well-being and prosperity, but are consistently undervalued in conventional economic analyses and decision making.”*
22. The Liverpool City Region is uniquely located and provides us with a wealth of hugely important and often undervalued natural assets that underpin our economy wealth-being, support our health and well-being and provide us with significant economic and health opportunities. These include our estuarine and coastal habitats and species; inland our water courses and associated wet habitats such as ponds, bogs and mosses are crucial in linking habitats and species populations; drier habitats such as lowland heath (on sandstone in Wirral and Halton, and sand in Sefton), ancient semi-natural woodlands (mainly in Wirral and St. Helens), together with acidic and neutral grasslands (mainly in small patches, often highly fragmented). These Strategic Ecological Assets are shown on Figure 2, and are based on information on habitat type and extent from the Core Biodiversity Area data set.

## **What and Where?**

### *Coastal and Estuarine Habitats and Species*

23. Our estuaries and coast are significant biodiversity resources at a variety of levels for a number of habitats and species. Box 4 sets out a range of examples of why **Coasts** and **Estuaries** are an essential part of the Core Biodiversity

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<sup>16</sup> SoS, 2010, Natural Environment White Paper.

<sup>17</sup> UK National Ecosystem Assessment (2011). The UK National Ecosystem Assessment: Synthesis of the Key Findings. UNEP-WCMC, Cambridge.

Area. At the same time, these habitats provide and support a range of economic (e.g. ports, tourism, renewable energy, golf) and recreational (e.g. physical health and mental well-being; angling, para-sailing, horse riding, golf) services. These economic and recreational activities are heavily dependent on the healthy functioning of these ecosystems to sustain economic regeneration. Recent work has shown the economic value of our ‘soft’ coastal defences (sand dunes and salt marshes) in reducing the need for costly hard defences that require expensive maintenance regimes<sup>18</sup>. Other work has shown the value of our wetland and water courses to manage increased surface water run-off from heavily developed areas or increased rainfall to prevent flooding to homes and business<sup>19</sup>.

*Box 5: Examples of significant coastal habitats and species in the Liverpool City Region*

<b>Habitat or Species</b>	<b>Level of Importance</b>
Sand dune	European; largest sand dune complex on the west coast of England
Intertidal mud and sand flat	European; essential component of the NW England coastal resource
Dune slack	40% of UK resource in Sefton
Pink-footed Goose	90% of world’s population overwinters (shared with SW Scotland and Norfolk)
Salt marsh	Approx 9% of UK resource, in Wirral and Sefton
Sand Lizard	Northernmost naturally occurring populations in Sefton
Isle of Man Cabbage	Only found in the UK; steady populations in Sefton, recent translocation to be monitored
Overwintering water birds	International – regularly over half a million birds of the Eastern Atlantic Flyway populations dependent on our estuaries and coast

24. The key messages and issues for the **Coast** and **Estuaries** are summarised in Box 7.

#### *Water and Wetland Resources*

25. In previous years, the wetland resources of peat bog and mossland were often considered to be ‘land without a value or function’ and available for a wide range of other uses, such as landfill, commercial use of peat, infilling of pond and drainage channels for urban development or intensive agricultural uses. With our changing perceptions about climate change, peat bogs and mosslands are now considered to be significant stores of carbon and provide a natural service benefit in mitigating climate change gas emissions. Within the Liverpool City Region, only tiny fragments of the once extensive peat bogs and mosslands remain. These tiny fragments have retained high plant species

<sup>18</sup> North West England and North Wales Shoreline Management Plan SMP2. 2010.

<sup>19</sup> North West River Basin Management Plan 2010. Environment Agency.

diversity and have the potential to act as a plant and seed resource for newly created wet landscapes as part of the North West Wetland Vision.

26. Our lowland rivers, streams and canals, such as the Alt (Knowsley, Liverpool and Sefton), Dibbin and Birket (Wirral), Sankey Brook (Halton and St. Helens), are havens for iconic species such as Water vole ('ratty' from "Wind in the Willows, Kenneth Grahame). We have been recognised as a 'hot spot' for water voles and are bucking the national position with water voles at significant risk of extinction in southern England and other regions. More recently, otters have been exploring and using our water courses.
27. As well as providing a haven for iconic species, the water courses form a linear network of habitats that encourages and enables species dependent on water to access new areas. Our river corridors provide significant opportunities for ecological enhancements and ecological services. The Liverpool City Region Ecological Framework has taken on board the concept of watercourses as a strategic asset as they clearly show the importance of linking and reconnecting habitats and species in reducing habitat loss and fragmentation.
28. The key messages and issues for the **Water** and **Wetlands** are summarised in Box 8.

#### *Terrestrial strategic resources*

29. Circling the inner heavily urbanised cores of our major city and towns, larger remnants of once widespread habitats remain. At one time, much of our land was covered with woodland that was used for a variety of purposes, such as deer parks, hunting and food production, fuel, furniture and building, supporting industry e.g. coal mine props and shipping<sup>20</sup>. The areas of the ancient semi-natural woodlands that are left are concentrated in two districts, Wirral and St. Helens.
30. The importance of trees, both young and old, to store carbon and the value of extending woodland habitats to assist in climate change mitigation is captured in recent research<sup>21</sup>. Choosing to extend woodland creation around existing ancient semi-natural woodlands provides an opportunity to link woodland habitats, provide areas for the specialised plants and animals to colonise and extend the resource over time.
31. Our other strategic terrestrial habitats are more scattered and in smaller patches than the woodland, such as lowland heath in Wirral and Sefton, but with even tinier patches in St. Helens. Many of our remaining grasslands are not in the best shape and would benefit from management. They do provide a strategic resource that is under continuing threat – as with many of our strategic ecological assets, the role of permanent grasslands (those that are not subject to regular ploughing) contribute a greater amount of carbon storage than

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<sup>20</sup> NW Wetlands Survey 1990 and onwards

<sup>21</sup> FC Research Information Note 160. The storage of carbon in trees and timber. Thompson, D.A and Matthews, R.W.

woodlands and again, help in mitigating climate change and potentially to adapt to climate change<sup>22</sup>.

32. To help our communities and sectors work towards implementing the LCR Ecological Framework, a number of guiding principles are provided and the strategic opportunities need to be read in combination with these.

*Box 6: LCR Ecological Framework – Guiding Principles*

### **LCR Ecological Framework – Guiding Principles**

- ✓ Protect and improve the quality of the existing wildlife sites and priority habitats
- ✓ Increase the size of existing wildlife sites through buffering
- ✓ Enhance connections between sites, either through physical corridors or through ‘stepping stones’
- ✓ Create new sites
- ✓ Reduce the pressure on wildlife by improving the wider environment

By:

- ✓ Improving the multiple benefits from the ways we use and interact with our environment – the win-win outcomes for business and people
- ✓ Considering how our decisions can deliver improvements
- ✓ Valuing our natural services

## **Strategic Opportunities**

33. The Liverpool City Region Ecological Framework goes further than retaining and managing our biodiversity assets – the **Core Biodiversity Area** – it identifies where re-connections are essential and where they can take place. The strategic opportunities for re-connection are essential and often include broad areas. Site-specific actions should be taken forward on a case-by-case basis informed by the LCR Ecological Framework. Delivering the strategic opportunities to deliver a functioning ecological framework that meets the **Purposes** (paragraph AA).
34. Achieving delivery and resilience in the natural environment requires a clear vision of what is needed, where and by when. The ‘by when’ means that the improved management, expansion and creation of new habitats needs to be in place and functioning before it can support sustainable economic growth or cope with increased tourism and recreational demands without being damaged further. A number of guidelines for implementing the Liverpool City Region Ecological Framework are listed in Box 6.

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<sup>22</sup> Pilot Analysis of Global Ecosystems (PAGE): Grassland Ecosystems. 2000. White, R., Murray, S and Rohweder, M.

## What and Where?

### Locations

35. Our **coast and estuaries** are key Strategic Ecological Assets, yet there are ongoing threats from a number of directions. An example is the predicted increase in coastal erosion from changes in local and world climate, known as coastal squeeze, as well as pressure from development. At the same time, the coast has always changed and always will; by working with natural coastal processes investment in sustainable tourism and economic growth can be protected and quality of life improved through improved management of coastal defences and recreational spaces.
36. The following broad locations are **strategic opportunity areas** :
- Sefton Coast (including Ribble & Alt Estuaries)
  - Mersey Estuary
  - Dee Estuary
  - North Wirral Coast

### Box 7: Key messages – Coast and Estuaries

#### Key messages – Coast and Estuaries

- Are of incredible intrinsic value and importance and form part of much larger connected coastal environment
- Are vulnerable to the ‘nibbles’ from development, coastal squeeze effects
- Provide a range of essential, functional and cost-effective natural services such as:
  - ✓ protecting the coast and hinterland from flooding and erosion;
  - ✓ the tourism offer – day trippers, recreational activities
  - ✓ the health offer – physical and mental well-being
  - ✓ significant role in helping the LCR to adapt to climate change
- Sand dunes and saltmarsh are threatened by inappropriate habitat management or by being ‘taken for granted’

#### Strategic Opportunities

- Improving management is essential to maintain the cost-effective natural services
- Recognising that we are reliant on healthy, resilient and well-functioning coastal and estuarine environments

37. The Liverpool City Region has a wealth of **watercourses and wetlands**. Many of these features were seriously affected by last century’s demands for

unsustainable economic growth. The legacy of poor water quality, very limited ability to cope with heavy rainfall, development on flood plains and the number of physical obstructions (such as culverts) has led to recent legislation<sup>23</sup> to better manage and assess the risks from surface water flooding. Reconnecting our watercourses and their supporting wetlands (marshes, ponds) by expanding and making new wetlands and improving their management leads to lower flood risks. Identifying suitable locations has been informed by discussion with the Environment Agency and has focused on the following **strategic opportunity areas**:

- River Alt corridor (Little Altcar to Sefton Meadows)
- River Alt, Kirkby Brook, Knowsley Brook, Croxteth Brook and Croxteth Park Corridor
- Simonswood Moss, Kirkby Moss, Kings Moss & Holiday Moss
- Blackbrook, Stanley Bank and Carr Mill Dam
- Sankey Valley Corridor
- Netherley Brook and Ditton Brook Corridor
- Bridgewater Canal, Halton Moss and Keckwick
- Dibbinsdale and Raby Mere
- Birket Catchment

*Box 8: Key messages – Water and Wetlands (also see Box 12)*

#### **Key messages – Water and Wetlands**

- Only tiny fragments of peat bogs and mosslands remain
- Nationally we are a 'hotspot' for water vole and home to many priority species
- Our watercourses are mostly classed as Heavy Modified under the Water Framework Directive and the network is under pressure
- Agricultural land is maintained by active pumping with significant costs and environmental implications.
- Management of watercourses and wetlands is patchy depending on ownership and use; loss of wetlands such as ponds is continuing through in-filling for agriculture or development
- Provide a range of essential and cost-effective natural services such as:
  - ✓ Helps manage risk flooding in urban and rural areas
  - ✓ Capacity to help the LCR adapt to climate change
  - ✓ Recreation activities – angling, canoeing

#### **Strategic Opportunities**

- Main challenge is in achieving **Good Ecological Status** under WFD
- Reconnecting the broken links through a programme of risk-assessing culvert removal and re-instating river channels
- Improving resilience of our ecological assets to adapt to current and future issues

<sup>23</sup> HMSO. 2010. Flood and Water Management Act.

## **Habitats**

38. Our **Grassland** losses during the recent past are set out in *Box 1* and unfortunately, these losses are continuing. Grasslands in and around the urban area are often viewed as land suitable for development and the value and importance of the range of grassland types overlooked. Permanent wildflower rich grasslands are a resource and provide opportunities for local food production from extensive grazing with cattle and sheep. These are tried and tested techniques on urban fringe agricultural land. Honey production and maintaining healthy and productive beehives support agricultural crop production. Permanent grasslands can be dry or wet, mainly grass or full of grasses and wildflowers and are habitats and food for birds, insects and butterflies. At the same time, permanent grasslands are a significant store of carbon. This carbon storage is lost when soils are ploughed or built on. Retaining grasslands is a significant contribution to reducing carbon build up; and this affects all of us. With locations in urban and agricultural areas, the strategic opportunity is widespread throughout the Liverpool City Region.

*Box 9: Key messages – Grasslands*

### **Key Messages – Grasslands**

- Grasslands are the most vulnerable of habitats to changes in use – from development, changes in management, poor or inappropriate management
- Highly fragmented resource, with huge swathes of species-poor grasslands
- With woodlands, our grasslands are the habitat that most people directly experience, in parks, gardens, and natural spaces
- Grassland losses are continuing in the LCR (see Box 2)
- Provide a range of efficient and cost-effective natural services such as:
  - ✓ Significant storage of carbon helping to mitigate climate change
  - ✓ The health offer – physical and mental well-being through regular contact and direct experience with nature

### **Strategic Opportunities**

- Changing management to improve quality of urban park / amenity grasslands
- Increasing the overall area of grassland in conservation management
- Provision of permanent grasslands in urban and rural areas

39. Much of the Liverpool City Region is within the Mersey Forest project area. The prime driver for the Mersey Forest was to increase the area of **woodland** from its all time low of less than 4% in the 1980s. The success of the Mersey Forest is shown in the number of new broadleaved and mixed woodlands and urban trees that have been planted; with some plantings now starting to become more diverse and mature as woodlands are brought into beneficial management.
40. The extent of our **ancient semi-natural woodlands** has remained unchanged over this time. The strategic opportunity has two themes:
- 1) Buffering our ancient semi-natural woodlands with suitable new tree planting and management will help to protect the woodlands and help their plants and animals adapt to expected changes in climate.
  - 2) Extending urban tree planting and improving management with a view to improve cooling in major towns and cities by reducing the urban heat island affect and enabling adaption to climate change; recycling previously developed land (that doesn't have existing ecological interest) to green end uses such as biomass crops, carbon sequestration through long-term woodland and grassland habitats.

*Box 10: Key messages – Woodlands*

**Key Messages – woodlands**

- Area of woodland has increased to around 8% through the success of the Mersey Forest
- More woodlands would offer improved biodiversity by better management or being brought into management
- Provide a range of efficient and cost-effective natural services such as:
  - ✓ Products to support energy security e.g. biomass
  - ✓ Health and well-being benefits to individuals and communities
  - ✓ Mitigation of climate change through carbon storage

**Strategic Opportunities**

- Buffering our ancient semi-natural woodlands to increase their resilience and functionality
- Extending tree planting to help in adapting to climate change by improving cooling in urban areas
- Improving management of trees and woodlands
- Developing habitat mosaics

41. The Liverpool City Region has a significant amount of high quality **Agricultural Land**. Earlier targeting of Higher Level Stewardship towards areas of known

'biodiversity hotspots' using farmland birds as an indicator, led to changes in the way some of our agricultural land is managed. This is a theme that we need to continue and develop, by working with farmers and estate managers, to manage high quality and quantity crop production with significant biodiversity features such as stepping stones (copses, ditches, ponds, field edges) and corridors (hedges, ditches, verges, field boundaries).

*Box 11: Key messages – Agricultural Land*

### **Key Messages – agricultural land**

- Approximately of the LCR is rural / agricultural.
- Significant areas of best and most versatile agricultural land occur throughout
- Range of agricultural businesses including agricultural contracting
- Provides a huge area and improving resource for a wide range of priority species e.g. brown hare, water vole, farmland birds
- Provides significant and essential feeding areas for Pink-footed Geese
- A number of hotspots for farmland birds and priority species
- Good take up of Environmental Stewardship options
- Most stepping stones are in our farmland
- Provides a range of efficient and cost-effective natural services such as:
  - ✓ Local food production and security
  - ✓ Number of 'green' jobs

### **Strategic Opportunities**

- Improve connection of stepping stones and linear features such as hedgerows and ditches
- Improve management to increase resilience of species to current and future changes
- Maintain and develop crop production and management in an environment- friendly manner

42. We are criss-crossed by motorways and other roads, railways, canals, all of which are tremendously important in underpinning our economic regeneration and growth. Use of these linear parts of the '**grey infrastructure**' varies between its location and function; some have been transformed into recreational routes such as The Trans-Pennine Trail along the old Liverpool Loop Line. Others are very busy and management of the 'green' part of the infrastructure may not be the first priority in terms of maintenance.
43. These linear features have a strategic importance in linking undervalued habitats such as grasslands, and in future could be a strategic resource. The opportunity is to enable informed choices about management, and deliver improved biodiversity as part of refurbishment of the 'grey infrastructure'. Linking improved biodiversity with refurbishment to improve resilience to

climate change is the challenge, while at the same time facilitating the demands for increased housing and employment.

*Box 12: Key messages – Linear features*

### **Key Messages – linear features**

- A significant and currently undervalued resource
- Includes a range of habitats such as grassland, woodlands and wetlands (watercourses and floodplains)
- Helps spread of invasive species linked with inappropriate or poor management
- Links are often broken where one feature crosses another
- Provides a range of efficient and cost-effective natural services such as:
  - ✓ Managing flood risk in urban and rural areas
  - ✓ Physical access for health and well-being e.g. green gyms, walking and running
  - ✓ Transportation links other than roads

### **Strategic Opportunities**

- Improve connections between linear features, stepping stones and Core Biodiversity Area
- Target management to treat and remove invasive species
- Improved management leading to improved resilience of the network

## Achieving Delivery

### Relationship between Green Infrastructure and the Ecological Framework

44. The developing LCR Green Infrastructure Framework has six themes (see Box 13). Delivery of five of the themes is dependent on healthy functioning ecosystems as informed by the implementation of the LCR Ecological Framework. For example: adapting to climate change may require the provision of upstream wetlands to prevent and reduce potential and actual, flooding in the urban areas or areas proposed for new housing development; at the same time, with urban areas becoming hotter in summer, there is a need to increase the provision of trees that provide shade and by evapotranspiration provide a locally cooler and more comfortable environment.

Box 13: LCR Green Infrastructure Framework - principles

Essential Sub Regional Actions	Setting the Scene for Growth	Supporting Adaptation to Climate Change	Providing recreation, leisure and tourism	Enhancing the Ecological framework	Developing the Rural Economy	Supporting Health and Well being
Long term vision	A world class, low carbon economy, LCR maximises the benefits that are delivered through strategic GI planning to support sustainable economic growth and competitiveness.	The LCR has adapted well to climate change and supports others in making their change.	The LCR provides a playground (as per Adapting the Landscape) for its communities and those who visit the area	The developing ecological framework is a precious resource for the LCR, providing critical ecosystem, services and safeguarding our biodiversity.	The GI in the rural economy is central to the ongoing success of LCR, providing fuel and food security as well as the setting for a high tech and knowledge based economy	People in the LCR state that the natural environment and their enjoyment of it is a major contributor to their wellbeing

45. Both the GI Framework and the Ecological Framework have been developing together. The opportunity to use the skills, experience and knowledge of a range of partners to inform the content and development of each Framework has led to much closer working relationships across the LCR.

### Supporting Sustainable Economic Growth and Sustainable Housing Provision

46. Helping our business and enterprise sectors achieve sustainable economic growth is a huge challenge in an area like the Liverpool City Region. To support and improve our ecological resilience and character can, at times, seem to be another hurdle to overcome. For some of our business partners, these hurdles can seem insurmountable. Delivering the LCR Ecological Framework is a mechanism by which all partners can benefit – it has the potential to facilitate sustainable economic development in the most suitable locations and also

provide opportunity to strengthen ecosystem resilience and the services provided to society. As part of integration of working with Green Infrastructure these issues can be developed with the strategic biodiversity opportunities to deliver multi-functional benefits.

47. Similarly, the local authorities are in the process of preparing their Local Development Frameworks and Core Strategies. These planning documents set out how the authorities will provide housing, land for economic development and at the same time, meet their environmental responsibilities. The LCR Ecological Framework has been instrumental in bringing the full range of ecological parameters to a wider awareness and helping to identify the most ecologically sustainable options for new housing and employment uses.
48. The recent draft Mersey Ports Master Plan<sup>24</sup> has signalled the intention to work with the natural environment to deliver its aspirations for the Seaforth area of the Port. Peel Ports has planned its approach and phased its business strategy in a way that helps secure its continued green and grey investment in the Mersey Ports.
49. Using the strategic opportunity areas to prepare for the anticipated housing provision, such as how to maintain or create links and where the new habitat provision could be located and delivered, is the next stage. Current thinking is that new housing will be supported by a range of habitat provision to meet various needs. Examples include the provision and location of local high quality recreational areas as part of the stepping stones of habitat linked to existing habitats and newly expanded habitats such as grasslands, woodlands and wetlands

### ***Opportunity mapping and Action on the ground***

50. The LCR Ecological Framework has identified strategic assets and opportunities (Figure 2). As part of embedding the LCR Ecological Framework within Local Development Frameworks and regeneration proposals and master plans, it is essential that implementation of the Framework is set out in policy terms. An example of an appropriate model policy is included in St. Helens Core Strategy and its Biodiversity Supplementary Planning Document.
51. While working with St. Helens Council as part of the pilot study for the Ecological Framework, the issue of how to deliver the strategic opportunities at a local level came to the fore.
52. The St. Helens Biodiversity SPD<sup>25</sup> explains how this will work as:
  - Use the **District Profiles** to identify strategically important features, such as key wildlife corridors that can play a role in enabling wildlife to adapt

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<sup>24</sup> Mersey Ports Master Plan 2011. Consultation Draft. Peel Ports.

<sup>25</sup> St. Helens Biodiversity Supplementary Planning Document. 2011.

to climate change, and major opportunities for habitat creation (Biodiversity Opportunity Sites)

- Develop a more locally focused framework (local opportunity mapping) at the district level that provides guidance within a series **Biodiversity Action Zones (BAZ)**. These action zones are derived from the City region Connectivity Indicator which has been broken down into more locally distinctive and manageable sections.
- Prepare a profile for each **BAZ** that sets out priorities and actions for that area in order to increase habitat quality. The profile identifies areas where new habitat should be created and what needs to be protected in order to maintain a functioning ecological framework within the Borough.

53. A number of the more local **Biodiversity Action Zones** have been identified as **Strategic Opportunities**. This is not unexpected and shows how local delivery contributes significantly at the strategic level.

## The Next Steps

54. In June 2011, the Natural Environment White Paper set out proposals to establish **Local Nature Partnerships** and called for expressions of interest to trial:

- Nature Improvement Areas
- Biodiversity Offsetting

55. The Liverpool City Region Ecological Framework is ideally placed to provide the strategic guidance to potential projects here. At the same time, developing the more local opportunity mapping across the remaining five local authority areas will provide a significant on-the-ground delivery mechanism for targeted biodiversity delivery. Following agreement in October 2011, work will commence with districts on taking forward the district-level opportunity mapping.

56. When endorsed formally as part of the Local Development Frameworks' evidence bases, the link to biodiversity offsetting would be strengthened by the indicative outcomes of the districts' Habitats Regulations Screening Reports.

57. Much more work is needed on how we understand and calculate the value of the natural services provided by our natural assets. This will need to build on the work of the functions of green spaces undertaken by the Mersey Forest and integrate the outcomes and tools used by the NEA.

58. We also need to consider how we will know when we have made progress and capture the detail of that progress – a monitoring and evaluation process. Four areas have been identified to use to capture progress – see box.

*Box 14: Suggested evaluation measures*

**Land** – e.g. area of land brought into positive conservation management; land converted to buffer ancient semi-natural woodland;

**Value for Money** - e.g. new funding mechanisms in place; jobs created or supported;

**People** – e.g. private landowners and business engaged; volunteers supported and active;

**Policy** – e.g. land use policies embedded in core strategies; site allocations supporting delivery

## ***The 2020 Vision***

### **By 2020:**

The Liverpool City Region has explored opportunities to reconnect its strategic **Core Biodiversity Area** and is showing progress in the amount and quality of habitats provided in the right place guided by the Ecological Framework.

The strategic assets and their monetary values are recognised and accepted; strategic assets have been brought into positive conservation management through a combination of policy and protection, funding, provision of ecological advice and guidance using a Nature Improvement Area mechanism.

Habitat losses have been reduced to a minimum. Through **biodiversity offsetting**, businesses are helped to plan for growth sustainably and are offered a range of ways to contribute towards securing and valuing our natural environment.

**Figure 2: Strategic Ecological Assets and Opportunities**

