



**WIGAN:
A LANDSCAPE CHARACTER ASSESSMENT**

Final Report

Prepared for Wigan Council

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March 2009

CONTENTS

		Page No
1.	INTRODUCTION	01
2.	METHODOLOGY	05
3.	LANDSCAPE CONTEXT	09
4.	PHYSICAL INFLUENCES ON THE LANDSCAPE	13
5.	ECOLOGICAL CONTEXT	16
6.	HUMAN INFLUENCES AND THE HISTORIC ENVIRONMENT	23
7.	LANDSCAPE CHARACTER TYPES AND AREAS	33
	CHARACTER TYPE 1: UNDULATING ENCLOSED FARMLAND	37
	AREA 1.A EAST LANCASHIRE ROAD CORRIDOR LOWTON HEATH TO LATELY COMMON	42
	AREA 1.B ASPULL COMMON, LEIGH TO BAMFURLONG	49
	AREA 1.C EDGE GREEN TO LAND GATE	57
	AREA 1.D BOARS HEAD, LOWER HAIGH AND HINDLEY HALL	63
	AREA 1.E FRAGMENTED AREAS INCLUDING ALDER FARM (HINDLEY), BICKERSHAW/CRANKWOOD, GIBFIELD, HOWE BRIDGE/ATHERTON HALL, SHAKERLEY/MOSLEY COMMON, GARRETT HALL AND HIGHER GREEN (ASTLEY)	71
	CHARACTER TYPE 2: ELEVATED ENCLOSED FARMLAND	81
	AREA 2.A BILLINGE AND ORRELL RIDGE	88
	AREA 2.B THE DOUGLAS/GATHURST VALLEY	97
	AREA 2.C SHEVINGTON AND STANDISH SPURS	104
	AREA 2.D STANDISH CREST	112
	AREA 2.E ASPULL RIDGE	119
	CHARACTER TYPE 3: STEEP-SIDED WOODED VALLEYS	127
	AREA 3.A SMITHY BROOK	131
	AREA 3.B DEAN BROOK AND ACKHURST BROOK	137
	AREA 3.C CALICO BROOK, HULLET HOLE BROOK AND WORTHINGTON BROOK	143
	AREA 3.D MILL BROOK AND FRODSHAM'S BROOK	148
	AREA 3.E RIVER DOUGLAS (ADLINGTON PARK TO BOTTLING WOOD)	154
	AREA 3.F BORSDANE BROOK	163
	CHARACTER TYPE 4: WETLANDS AND FLASHES	168
	AREA 4.A APPLEY BRIDGE TO MARTLAND MILL	173
	AREA 4.B WIGAN FLASHES	179
	AREA 4.C HEY BROOK CORRIDOR. ABRAM FLASHES TO PENNINGTON FLASH	186
	AREA 4.D PENNINGTON FLASH	192
	AREA 4.E HOPE CARR	197

CHARACTER TYPE 5:	DEGRADED AND RESTORED LANDSCAPES	202
AREA 5.A	THE THREE SISTERS	207
AREA 5.B	KIRKLESS	213
AREA 5.C	INCE MOSS/AMBERSWOOD COMMON	222
AREA 5.D	HINDLEY DERELICT AND RECLAIMED LAND	229
AREA 5.E	BICKERSHAW	248
AREA 5.F	DANGEROUS CORNER	253
AREA 5.G	PICKLEY GREEN	258
AREA 5.H	GIN PIT	264
AREA 5.I	ASTLEY GREEN	270
CHARACTER TYPE 6:	MOSSLAND LANDSCAPE	275
AREA 6.A	HIGHFIELD MOSS	282
AREA 6.B	BEDFORD MOSS AND MOSS SIDE, ASTLEY	287
AREA 6.C	ASTLEY MOSS	296
BIBLIOGRAPHY		304
ACKNOWLEDGEMENTS		307
APPENDICES:		
APPENDIX 1	FIELD STUDY SHEETS	
APPENDIX 2	MAP INCORPORATING STATION POINTS	
APPENDIX 3	MAP INCORPORATING PHOTOGRAPH STATION POINTS	

1.0 INTRODUCTION

1.1 Context of the Borough

The Borough of Wigan is located in north-west England in Greater Manchester, historically in the County of Lancashire. It is one of the largest Boroughs in England with an area of approximately 77 square miles and with a population of approximately 300,000.

Higher ground is located to the east, west and north of the Borough, enclosing a distinctive basin of lower lying land. The town of Wigan is located to the west centre of the Borough and is surrounded by a number of settlements and open countryside. Settlements to the east and south-east are very much interconnected and are the product of C19th industrial activity. The River Douglas runs from the north of the town of Wigan through a steep-sided valley before flowing to the west through a broader valley at Gathurst. The town of Wigan stands on a shallow promontory within the bend of the river. Hey Brook flows to the south and east but, as a result of subsidence, flows through a series of flashes, dividing the east of the borough roughly into two halves to north and south.

A location and context plan is illustrated on Figure i).

1.2 The Landscape of Wigan Borough

Wigan is seen today as a mainly post-industrial town, with its urban core the legacy of the C19th. It has, however, more complex origins than the Industrial revolution. Wigan sits in a varied agricultural landscape, influenced as much by the town and its needs as by nature itself. Throughout the entire area of the Borough the evidence of the Industrial Revolution is rarely far away, it is indeed one of the greatest assets of the Borough. Few towns in the UK can boast of so much industrial archaeology and few have had such inventive and industrious inhabitants.

The town of Wigan is situated in a basin formed by higher ground to the west and north of the area, a sandstone ridge which consists of a prominent escarpment and a series of ridgelines before gently sloping back to the east towards Manchester. The River Douglas, flowing from the north of the Borough, loops around the town and then flows out of the Borough to the south-west. Hey Brook, with its flashes, forms a central, low-lying area, while to the north and especially to the south, mainly arable farmland exists.

To the south-east of the area, peat moss is present and the Borough includes the north-western part of Chat Moss, a trackless waste until two hundred years ago. This mossland, now largely reclaimed, is high quality farmland.

The Borough has a number of strategically important routes passing through it, many of historic interest. The A49, running north-south is a former Roman Road and the principal north-south route through northwest England until the construction of the M6. The main west coast railway line also runs north-south through the area. The Leeds to Liverpool and the Bridgewater Canals also pass through the area from east to west, ascending the Douglas valley via a steep series of locks to exit the Wigan basin to the north-west. The East Lancashire Road (A580) is a major arterial route and passes east-west to the south of the Borough, in part along the Borough boundary.

The Borough includes a series of smaller settlements mainly situated within the lower lying areas of the Makerfield Basin. These notably include the settlement areas of Hindley, Leigh, Atherton, Tyldesley, Golborne and Ashton-in-Makerfield. Important villages on the higher land to the west include Billinge and Orrell with Standish on higher land to the north and Aspull on higher land to the east. Settlements within the Makerfield Basin have in many areas become linked together as a result of the building associated with industrial development of the area. The Makerfield Basin is generally open in nature, with a number of smaller settlements at its heart, including Abram, Bamfurlong and Platt Bridge.

The Wigan area is closely associated with the coal industry, which appears to have begun on an industrial scale around 1450 and grew massively during the Industrial Revolution and into the late C20th before being closed down in the early 1990's. No town in the north-west is so closely associated with coal as Wigan and no landscape in Britain has been so radically affected by the extraction of coal and its associated industries.

The coal industry changed the landscape of Wigan immeasurably, in a way which no other industry could ever do, with giant spoil heaps being formed and 'flashes' forming as a result of subsidence. Opencast mining took place on a wide scale and railways were being constructed almost everywhere to take the coal to the main rail lines. Wigan engineering firms built locomotives, pumps, winding gear and other associated equipment to extract the coal.

1.3 Purpose of the Report

When reading this report, it should always be borne in mind that landscape is dynamic. It has changed considerably to form the countryside we find familiar today and will inevitably change in the future. Whereas change was very much due to local pressures, particularly extractive industries as well as farming, change in the future is more likely to be as a result of global pressures.

We see the hedged field patterns of our landscape as fundamental to the structure of the countryside and almost sacrosanct. These came under attack in the C20th as a result of widespread mechanisation; yet many of these same hedges were planted merely a hundred or two hundred years before that, when 'common field' farming began to come an end.

This report is intended to provide an objective view of Wigan Borough's landscape as it stands today, to define its current landscape character and to recognise the pressures of change upon it. The report ultimately considers judgements and recommendations for management, which will assist in shaping Wigan's landscape for the future.

1.4 Planning Context

In 2004 the UK Government carried out major reforms to planning in the country. Strategic decisions are now to be determined by Regional Assemblies, which are required to draw up a 'Regional Spatial Strategy' to be approved by Government. These strategies include the location of housing and industrial developments, together with health, education and energy strategies.

At the local level authorities such as Wigan are also obliged to create Local Development Frameworks to comply with the Regional Strategy. The Local Development Framework entails the preparation of core strategies, which include a vision for the Borough, together with its core policies.

The Landscape Character Assessment (LCA) will form part of the evidence base for the Local Development Framework. When adopted, the LCA will provide the Council and users of the local planning system with additional guidance and advice on development. Most importantly it will provide information on the status of the existing landscape, a 'snapshot in time', recording the existing and potential threats to the landscape.

The LCA will also provide base information on the visual status of the landscapes around Wigan, from which Visual Impact Assessments can be judged. These are increasingly important assessments and are required when large or particularly dominant developments are proposed, such as landfill sites, opencast mining, large warehouses, housing developments and new roads.

Local Development Frameworks also include items known as Supplementary Planning Documents (SPD). These provide additional guidance to the Authority, and can include Village Design Statements (VDS), which should be closely linked to the surrounding landscape character.

1.5 Structure of the Report

The report is structured as follows:

Chapter 1 - Introduction

Provides the area context and outlines the landscape of Wigan Borough. Also sets out the purpose and structure of the report and its planning context.

Chapter 2 - Methodology

Outlines the methods used to undertake the study.

Chapter 3 - Landscape Context

Explains the context of the national and regional surrounding landscape character studies.

Chapter 4 - Physical Influences on the Landscape

Provides information on topography, geology, hydrology and pedology, exploring how these factors have affected the area's landscape.

Chapter 5 - Ecological Context

Provides an overview of the area's ecology and inter-dependence with the landscape.

Chapter 6 - Human Influences and Cultural History

Sets out the impact of human influences and historic events on the landscape.

Chapter 7 - Landscape Character Types and Areas

Sets out and describes, on an area by area basis, the Borough's distinctive landscape, its cultural history, landscape sensitivity and landscape change.

Bibliography

Acknowledgements

Appendices

2.0 METHODOLOGY

2.1 BACKGROUND

The methodology for carrying out the landscape character assessment follows the guidelines provided by the Countryside Agency and Scottish National Heritage as set out in their document '*Landscape Character Assessment Guidance for England and Scotland*' published in 2002.

2.2 THE PROCESS ENTAILED

- Scoping
- Desk top study
- Field survey
- Landscape classification and description
- Consultation
- Analysis, judgements and recommendations

2.3 BASE PLAN

Information was provided by Wigan Council, together with Geographic Information System (GIS) and printing services.

2.4 BRIEF

Wigan Council provided a brief for the Landscape Character Assessment with minimal amendments as suggested by Agathoclis Beckmann. The study specifically excluded the main urban core and suburban areas associated with Wigan.

2.5 DESK TOP STUDY

Data and plans were collected from a variety of sources for several months prior to commencing field survey work. The major sources included:

- Landscape Character Assessment reports for surrounding Boroughs
- Wigan Local Development Framework Documents
- Agricultural Land Classification
- National Countryside Character
- A Landscape Strategy for Lancashire
- Solid and drift geology
- Ordnance Survey Plan 1:25,000

FIELD SURVEY

Field survey work was undertaken over a 9 month period between March and December 2008. This enabled an assessment of the landscape at different times of the year, providing a more balanced assessment of the landscape character. All parts of the Borough were either assessed or viewed from a series of field station points and a comprehensive number of photographs were taken, both across the Borough generally and specifically at the field station point. Locations of those photographs selected for use in this report, can be found in Figure viii).

2.6 FIELD STUDY SHEETS

These were produced at every field station point, setting out and assessing the following:

- Topography
- Hydrology
- Communications
- Land Cover
- Trees & Woodland
- Buildings
- Boundaries
- Perception
- Local Materials
- Architectural Style
- Condition
- Key Characteristics

Copies of these can be found in the Appendix (A/1).

2.7 CLASSIFICATION AND DESCRIPTION

Desk top studies and field study work were combined to confirm various areas of landscape character, setting out the different landscape character types. Further site surveys confirmed the more detailed boundary line between each area within the character type. This information was plotted onto 1:25,000 O.S. base plan which was considered appropriate for the level of study.

Although villages have been included within the landscape character type boundaries, no specific urban or suburban character assessment has been carried out.

2.9 AREA DELINEATION

It must be stressed that in most locations the Landscape Character Type does not form a neat boundary line between one 'type' and another. The boundary often forms a zone of transition which, in some instances, may be of considerable width.

The boundary lines illustrated on the Landscape Character Types and Areas Plan (Fig. ix) should therefore be viewed as approximate, although a careful judgement has been made of the boundary line on site in each case.

2.10 CONSULTATION

Consultation, mainly in the form of meetings, has continued throughout the study between February and December 2007. In addition, progress meetings have taken place with Wigan Borough Council Officers to ensure that the report fulfils the Council's requirements.

The following individuals and organisations have been consulted:

- Red Rose Community Forest
- Gary Harold, Chief Assistant Planning Officer (Environment), Environmental Services Department, Wigan Council
- Nick Clarke, Chief Assistant Planning Officer (Policy), Environmental Services Department, Wigan Council
- Adrian Smith, Principal Officer, Environmental Services Department, Wigan Council
- Roz Smallshaw, Senior Ecologist, Environmental Services Department, Wigan Council

The aim of the consultation work was to provide input to the following stage of Analysis and Judgements.

2.11 ANALYSIS AND JUDGEMENTS

Following the description of specific landscape types and areas, it was possible to evaluate key points and negative elements and traits in the landscape. These were highlighted under the following headings:

- Landscape Sensitivity
- Landscape Change

Together they formed the basis for a series of Management and Landscape Objectives for each area, specifically tailored to either improve existing positive landscape character or mitigate against current adverse trends in management or development.

A similar analysis was made of the settlement areas, together with guidelines for future development.

2.12 EVALUATION

The purpose of the evaluation work was to aid in strategic landscape planning and management and to assist in providing a more informed approach in responding to development proposals in the landscape.

3.0 LANDSCAPE CONTEXT

3.1 What is a Landscape Character Assessment?

This is described by the Countryside Agency as “a tool for identifying the features that give a locality its ‘sense of place’ and pin-pointing what makes it different from its neighbouring areas”.

A Landscape Character Assessment provides a framework for describing an area in a systematic way. It enables different interest groups to make better judgements by knowing what is present and what is distinctive so that any change can respect local character or add to it, or even change it if that is what is required.

3.2 Why does Wigan’s Landscape Matter?

Wigan’s landscape has taken many thousands of years to evolve and develop into the form we see today. It is now perceived both as a setting for the built areas and as ‘given space’ in its own right. It provides an historic link to our past and affects people’s lives today – bringing a sense of identity, well-being, enjoyment and inspiration.

Much of Wigan’s landscape has been fundamentally affected by the industrial revolution and, in particular, by its long history of coal mining. This has greatly affected the central areas of the Makerfield Basin. Although no collieries are working today, their previous impact on the landscape is widespread, leaving a legacy of disturbed ground in the form of reclaimed spoil heaps and large unmanaged tracts of underused and neglected land, together with numerous bodies of water and wetland resulting from subsidence. These form Wigan’s new landscapes, with great potential to create attractive open space environments of both recreational and wildlife value.

The surrounding higher land in Wigan to the north, east and west, still remains predominantly rural in nature and is mainly farmed. The majority of the land today is under pasture, although significant areas, particularly to the west, support arable crops. This ratio has continued to change and evolve over time as farming techniques became ever more efficient and mechanised and will inevitably continue to change due to global economies and possibly climate change.

Evidence of previous ‘parkland’ landscape is also present within the farming areas and based on large estates centred on old halls built in the C18th and C19th. These are typified by large hedgerow-free fields set amongst blocks of plantation woodland, often related to river valleys. This development fundamentally altered the character of large areas of Wigan’s agricultural landscape.

It is important to understand the character of and previous changes to Wigan’s landscape and to manage and mitigate future changes in a positive way.

3.3 The Wigan Landscape Character Assessment in a Regional and National Context

Natural England have produced a Joint Character Areas (JCA) plan for England; identifying areas of similar landscape on a regional scale. The Wigan Borough areas fall within Area 56 (Lancashire Coal Measures) and Area 60 (Mersey Valley). These areas provide a character assessment appropriate to a national scale.

Wigan Borough occupies a highly urbanised low-lying central area known as the Makerfield Basin, surrounded on 3 sides to the north, east and west by steeply sloping land, mainly comprising of farmland with scattered village settlements.

To the south, low-lying undulating farmland and mossland extend into Warrington and Salford. To the east, Wigan's boundary is closely linked to the character of the Pennine foothills, with the Pennines proper at Horwich and Rivington forming a dominant backdrop. To the west, beyond the landmarks of Billinge Hill and Ashurst Beacon, the ground drops sharply down to the West Lancashire Plain with views to the coast at Southport and Blackpool. The land remains elevated to the north, beyond the boundary of Wigan, passing seamlessly from the 'Standish Crest' through undulating farmland.

3.4 Wigan's Greenheart Initiative

The core of the former Wigan coalfield is an area of approximately 20 square kilometres of reclaimed formerly derelict land, flashes and areas of relict habitats, linked by the Leeds to Liverpool Canal through the Hey Brook Corridor. This largely low-lying area is bounded by Wigan, Ashton, Golborne, Leigh and Hindley, with Abram and Platt Bridge near its centre.

Since the 1970's, work has been ongoing to reclaim much of Wigan's derelict land, the legacy of the Borough's industrial past. Much of this former industrial derelict land is situated at the heart of the Borough, the Makerfield Basin.

As a result of reclamation, an extensive network of community parks, wetlands, open spaces, nationally important habitats, recreational facilities and greenways has now taken shape and has become a key driver for Wigan's environmental regeneration. Greenheart has been identified as one of the North West's Regional Parks, bringing together a diverse range of recreational facilities and wildlife habitats. This thriving countryside setting makes a major contribution to Greater Manchester's green infrastructure and brings the countryside back into the city region.

- The creation of a Regional Park Project, bringing the countryside to the doorstep of Wigan's residents, and a gateway to the countryside from the conurbation of Manchester and Salford.
- The creation of a sustainable visitor destination that combines canals, woodlands, wetlands, industrial heritage, culture, sporting leisure and commercial attractions in a countryside setting.
- The development of a Regional Park Project that will help regenerate the economy, benefit local communities and radically change the image of the area.

- To provide local communities with a diverse range of opportunities through the 'Getting Wigan Active' programme to improve their overall health and well being.

Greenheart is being delivered by Wigan Council in partnership with a wide range of stakeholder organisations including the North West Development Agency, Lancashire Wildlife Trust, The Forestry Commission, Red Rose Forest, the Woodland Trust and the Wigan Biodiversity Partnership.

The Greenheart Regional Park has a Vision Statement which sets out a number of key objectives. It is a collective aspiration of the partnership which helps to inform the North West Development Agency's Regional Park Policy. Greenheart will involve the local community and enhance the biodiversity and recreational value of the area as well as linking the area with adjoining Authorities and facilities.

3.5 Landscape Character Assessments For Surrounding Areas

A number of local authorities surrounding Wigan have already produced Landscape Character Assessments. Whilst these have been carefully considered, particularly where their character areas adjoin the Wigan Borough boundary, they have not affected the findings and conclusions of this study. It should be noted, however, that in most situations the descriptions and definitions of landscape character run in a reasonably seamless fashion across the Borough boundary.

The following completed or nearly completed Landscape Character Assessments adjoin the boundary of Wigan:

- Lancashire County Council – Landscape Character Assessment
- Red Rose Forest Landscape Assessment 1992 (undertaken by Wollerton Truscott).
- Bolton Metropolitan Borough Council 2001 'A Landscape Character Assessment of Bolton'.
- St Helens Borough Council 'Landscape Character Assessment' undertaken by Land Use Consultants. January 2006
- Salford City Council 'Landscape Character Assessment' (Consultation Draft) September 2007
- Warrington Borough Council 'Landscape Character Assessment' (Consultation Draft) 2008

3.6 Red Rose Forest Landscape Assessment

The Red Rose Forest Landscape Assessment was undertaken by Woolerton Truscott for the Countryside Commission and the Forestry Commission in 1992. This study provided an assessment of the landscape across a whole area, which included Wigan Borough, together with the Metropolitan Boroughs of Bolton, Bury and Trafford and the cities of Manchester and Salford.

The study classified Wigan's landscapes under the regional headings of Lancashire Coal Measures, Mossland and Pennines – breaking these down into the landscape

areas of North-West Wigan, Leigh, South Golborne, Chat Moss, the Billinge Ridge and Blackrod Ridge and The Wigan Flashes/Hey Brook Corridor. Landscape character types included open farmland, rural fringe farmland, undulating farmland, urban fringe, rolling open farmland, Haigh Hall, incised river, degraded rural fringe, parkland, degraded rural fringe with flashes, restored flashes, derelict land/Wigan Flashes, elevated farmland and escarpment, open fringe valley, wooded rural fringe and mossland fringe.

The Red Rose study was undertaken on a West Greater Manchester sub-regional scale and differences are therefore apparent with the current Wigan Borough Landscape Character Assessment, which deals with the area in closer detail.

Similarities to the current Character Assessment are found in the Red Rose Forest definition of the Billinge Ridge (Billinge and Orrell Ridge), the Blackrod Ridge (Aspull Ridge) and with the Mossland areas .

4.0 PHYSICAL INFLUENCES ON THE LANDSCAPE

4.1 Geology

The landscape of the Borough of Wigan is fundamentally influenced by its geological glacial and fluvial history.

- Solid Geology

The main solid geology of the Wigan area is Carboniferous rock of two types. These are the Namurian Series, containing gritstones such as Millstone Grit and the Westphalian Series, comprising of coal measures.

Coal measures routinely outcrop in the Wigan area, particularly in the steep wooded valleys around the town. Elsewhere in the region, the coal measures occur at greater depth and are covered with drift geology.

- Drift Geology

Drift material was mainly deposited during the Quaternary Ice Age. The main deposition was glacial boulder clay, from which most of the Borough's top soil has derived. Within the clay deposits were left lenses of gravel and sand, together with outwash deposits and meltwater channels. Sand and gravel extraction has taken place locally wherever these materials were exposed.

At the end of the Ice Age, numerous clay-lined depressions and basins were left in the landscape which filled with water, bog vegetation and, in particular, sphagnum mosses. Over time this material built up to form the great peat moss of Chat Moss, part of which is within the southeast of the Borough. A much smaller example is to be found at Highfield Moss. Ince Moss, once considerably larger than the present area, was another mossland area located in the low-lying area of the Wigan basin just east of the town of Wigan.

4.2 Hydrology

Wigan is drained by two river systems. To the west, the River Douglas, which flows into the Borough from the north-west, flows south and then dramatically turns west around Wigan town centre and then off to the west, through the Gathurst Gap. From there, the River Douglas flows generally north-north west, discharging into the Ribble Estuary. The Douglas is joined by numerous small streams from the higher ground to the north and west, such as Dean Brook, Mill Brook and Calico Brook.

To the east of Wigan, Hey Brook drains all the central section of the Borough, joining the River Glaze, which flows south into the River Mersey and the Manchester Ship Canal. Hey Brook is joined by Borsdane Brook and Westleigh Brook from the north and Hindsford Brook from the east. The Glaze forms part of the boundary of the Borough along the western site of Astley and Bedford Moss receiving the waters of Black Brook which runs from the east through the northern part of the moss. In addition, Millingford Brook flows southwards through Golborne and towards St Helens.

Hey Brook ran through a shallow valley with water meadows along its length until the late C19th / early C20th when flashes started to form as a result of subsidence from

coal mining. Hey Brook flooded these depressions creating a vast chain of wetlands running from close to Wigan town centre out to the east to Pennington Flash, Leigh.

There are many small ponds on the clay soils of parts of the Borough and one characteristic of the landscape of Wigan is the large number of historic moated sites within the Borough, many of which date back to early medieval times.

The hydrology of the Borough is illustrated in Fig iii).

4.3 Agricultural Land Quality

The Borough contains three main soil types supporting a variety of agricultural uses. To the north and west, over the sandstone escarpment, soils are generally well-drained sandy loams associated generally with arable land farming. The peat mosses of the area have, through artificial drainage, produced a very high quality and fertile agricultural soil suitable for arable, root crop and market garden uses. The margins of the mossland, to the north and west of Bedford and Astley Mosses are now frequently used as grazing land. The remaining areas, generally to the east of the Borough, have been heavily influenced by glacial till deposition and have resulted in predominantly clay loam, often requiring field drainage to improve permeability. These areas are mainly used for cereal crop production currently, but were formerly used for pastoral farming. Substantial areas of colliery spoil have been reclaimed for farming, but this appears to be restricted to grazing land. Around Astley Green colliery, opencast mining areas have been restored for crop production but the drainage appears to have been disrupted in several places.

4.4 Topography

The highest land in the Borough of Wigan is to the west, formed by the Billinge – Upholland Ridge on a north-south alignment. It is separated by the Gathurst valley from further high ground running along the northern boundary of the Borough. The Gathurst valley is a pre-glacial valley, which later became the valley of the River Douglas. This higher ground has been defined in this study as the Standish Crest and is broken into a number of southward pointing spurs. The higher land is dissected by a number of fast flowing streams, which have incised courses in steep-sided valleys, flowing into the River Douglas.

To the north east of Wigan is the Aspull ridge, generally whale-backed in form with Aspull at its summit. It is separated from the higher ground to the west by the steep-sided valley of the River Douglas and a series of reservoirs known as the Worthington Lakes. The Aspull ridge slopes gradually to the east along the northern boundary of the Borough falling towards Tyldesley.

Within this arc of higher land the Makerfield Basin forms the central part of the Borough, characterised by the chain of flashes and wetlands extending from the Wigan Flashes along the Hey Brook corridor to Pennington Flash, The Rushes Country Park and Hope Carr.

To the far south of the Borough, the ground is slightly higher to the west and falls very gently to the east with an undulating topography. Around Land Side to the south of Hope Carr, Leigh, the ground is almost flat with resulting marshy ground, but still further east and south of the Bridgewater Canal the ground falls towards the Chat Moss basin and an extensive area of the mosslands at Chat Moss.

5.0 ECOLOGICAL CONTEXT

5.1 Introduction

The Borough of Wigan is highly urbanised and populated, particularly within the low-lying areas of the Makerfield Basin. Despite this the Borough is very important for wildlife both in the surrounding rural areas and within the reclaimed former derelict areas associated with the wetlands and flashes of the Hey Brook corridor. The mossland areas also provide excellent habitats normally providing quiet and secluded areas for wildlife.

Connecting many of these habitats are a series of steeply sided wooded stream valleys running towards the centre of the urban areas from the north, east and west. These are generally undeveloped and in the main, densely covered with mature deciduous woodland creating valuable wildlife corridors from the urban areas of the Makerfield Basin up to surrounding higher farmland.

Much of Wigan's countryside however is a totally artificial landscape created by centuries of human management or industrial activity with only isolated pockets of semi-natural habitat such as relict ancient woodlands and small areas of un-cultivated peat moss.

5.2 Habitats

Present day habitats across the Borough are rich and varied and their value and importance is being increasingly recognised. They include the following:

- Farmland

Farmland constitutes the largest area of wildlife habitat, surrounding the central core and town of Wigan. Areas between the urban development in the Makerfield Basin tend to be generally disturbed by former mining activity and are often under pressures from the urban fringe leading to poorer less intensive agriculture, mainly comprising of pasture. Occasionally these areas are simply not viable in agricultural terms and have been left as rough grassland. This habitat is highly favoured by seed eating birds and provides excellent cover for wildlife generally. A number of these habitats have been designated as SBI's (Sites of Biological Importance) including areas to the north of Tyldesley, near New Manchester and to the northern fringes of Golborne. Further to the south and occupying higher sloping ground to the west, north and east the land is more agriculturally productive and represented by a mixture of both pasture and arable land. The pasture provides invaluable habitat for ground nesting birds such as skylarks and lapwings, whilst badgers also require pasture as part of their feeding territory.

Survey work as part of the Landscape Character Assessment has unfortunately shown that field boundary hedgerows and hedgerow trees have been in sharp decline historically throughout the Borough, due to neglect or inappropriate management and often left restricted to road boundaries or as divisions to large fields.

This is particularly the case in arable areas, where their function is unnecessary as a stock proof barrier and where their presence may be seen as a hindrance to crop growth or an obstacle to efficient mechanisation.

Since the 1940's native field boundary hedgerows have been grubbed up and removed in a number of areas in order to achieve larger fields thus maximising crop yield. The maintenance and upkeep of hedgerows in arable areas is therefore often seen as an unnecessary cost, with little or no benefit to profit margins. Many field boundaries, hedgerows and hedgerow trees have also been historically lost due to a combination of factors including open cast coal and sand extraction and the creation of a number of open parkland landscapes. Hedgerow decline can also be seen in some areas of pasture farmland where it has been found easier to maintain gapped or missing hedge sections with barbed wire or post and rail fencing. This is particularly noticeable where horse grazing paddocks are extending out into traditionally farmed areas, giving rise to browsing, bark removal on hedgerow trees, and poached ground.

Well-hedged landscapes however are still largely intact within a small area immediately to the south of Pennington Lake and to a certain extent along the Aspull ridge. Hedgerows have the potential to support more than 500 vascular plants, provide nesting sites for over 60 species of birds and are an invaluable habitat for our native mammals and invertebrates.

Hedgerow trees are sparse and consistently found as mature or over-mature specimens and are not being replaced by new trees for future generations or for wildlife.

Arable land is geared to producing maximum crop yields through improved farming practices, including the use of pesticides, herbicides and fertilizers – all of which tend to reduce bio-diversity and the area's ecological value. Even so, growing crops can provide cover and nesting sites for birds such as grey partridge, skylark, corn bunting and tree sparrow (all UK Priority Species). The brown hare is present in arable land, and is also a UK Priority Species. Arable fields are important for over wintering birds, such as those mentioned above together with twite (a UK Species of Conservation Concern), stock dove, reed bunting and chaffinch. Arable field margins are a valuable habitat for a range of wild flower species, such as corn marigold, wild pansy, field pansy and tall rambling fumitory. Uncultivated field margins form an invaluable linear habitat particularly valuable for both food and wildlife cover.

- Wet Meadows

Wet meadowland is mainly found in association with land adjacent to Hey Brook which has been subjected to mining subsidence. Isolated strips of wet meadow are also found in the lower sections of the River Douglas at Marylebone and in association with Borsdane Brook together with the main Douglas Valley bottom downstream and to the west of Martland Mill. These meadows are very limited due to the use of flood prevention levees and the restricted nature of the valley sides. They do however represent a significant habitat regularly prone to inundation and create a rich habitat particularly for breeding birds such as lapwing, red shank, curlew and snipe. Lapwings often use the fields to over winter.

The meadows are mainly used for grazing sheep or cattle and occasionally for hay crops. Botanically, flora tends to be poor although a large part of the Hey Brook Corridor, The Abram Flashes, has been designated as an SBI and SSSI (Site of Special Scientific Interest).

- Peat Mosslands

Most of the area's peat mosslands have been radically altered by drainage, peat extraction and farming and are now harnessed for agricultural production. They were originally formed under extremely wet conditions during Mesolithic times, through the growth and deposition of sphagnum moss forming lowland raised bogs. Residual areas still survive however as habitats of local, national and international importance. They are extremely sensitive to changes in the water table and are particularly valuable for their unusual flora and associated invertebrates.

Since the beginning of the C19th the extent of active raised bog has declined by 94%. The majority of raised bog has always been in North West England, but it is here that most have been drained and made into high grade agricultural land. In Lancashire, 98% of raised bog present at the beginning of the C19th has been turned into farmland.

Designated sites include a number of separate SBIs within the Astley and Bedford Moss and the entire area of Highfield Moss, south of Golborne. Both Highfield Moss and a large central section of Bedford Moss have also been designated as an SSSI.

Raised bogs are listed in Annex 1 of the EC Habitats and Species Directive and active areas are considered priority habitat for conservation under the Directive. They are also a UK Key Habitat. An extensive part of the mossland is designated as a Special Area of Conservation (SAC). The nightjar, formerly common on the mosses, is a UK Priority Species.

- Woodland

Following the Ice Age, most of the north-west of England would have been covered with native broadleaved woodland. Most of Wigan's mature native broadleaved woodlands are now only found either within the steep sided valleys, such as those of the Douglas and Borsdane Woods, cutting through the higher ground to the north, east and west of Wigan town centre or situated in large rectangular blocks of plantation woodland associated with the former parkland estates at Winstanley, Bispham, Standish and Haigh Hall. All these wooded areas comprise of mature deciduous woodland and most have been designated SBI's. The only coniferous trees are found as small plantations in association with a reservoir at Chair Wood and Moss Wood on the Billinge and Orrell Ridge and as a mixed woodland plantation at Amberswood Common and at Kirklees Wood.

Tree species are mainly native but also contain considerable proportions of Sycamore and Beech. The invasion of rhododendron does not appear to be a major problem and is only associated with the core areas of the parkland estates usually around the original 'Halls'.

Woodland which has been in existence from 1600 AD is classed as Ancient Semi-natural Woodland. This designation has been given to 40 woodlands

across the Borough, most of which are in the north and west. The most extensive ancient woodlands are to be found at Borsdane (Hindley) in the west, Bedford and Atherton Woods in the east.

Lowland mixed broadleaved woodlands are important for a wide range of birds, mammals and invertebrate species, such as blackcap, willow warbler, chiffchaff, great tit, marsh tit, tree creeper, nuthatch, spotted flycatcher, sparrow hawk, tawny owl, great spotted woodpecker and green woodpecker (all UK Species of Conservation Concern). Mammals of note include badger, grey squirrel and wood mouse.

- Open Water, Reed Beds, Marsh, Swamp and Carr Scrub

These habitats are associated with the low lying areas of the Makerfield Basin including the Wigan Flashes, the Hey Brook corridor (the Abram Flashes) and Pennington which have resulted from subsidence following mining. They now form a network of extremely important wetland habitats between Hope Carr and Pennington in the east and the Wigan Flashes adjacent to Wigan Town Centre in the west.

They support a wide range of plants and provide a nesting and feeding habitat for waterfowl including the nationally rare Bittern, Heron, Tufted Duck, Coot, Pochard, Goldeneye, Gadwall, Great Crested Grebe, Water Rail, Common Tern, Sedge Warbler, Reed Bunting, Willow Tit and Reed Warbler. They are also important for invertebrates including 15 species of dragonfly.

Wigan Flashes includes six SBI's, with Bryn Marsh having SSSI status and a large part has also been designated as a Local Nature Reserve (LNR). In addition the Abram Flashes also have SSSI status and Pennington Flash and Hope Carr are SBI's.

- Degraded and Partially Restored Landscapes

Degraded and partially restored landscapes are located within the Makerfield Basin in association with former mining activity often adjoining the wetland areas described above. Their substrates tend to be highly disturbed and often impoverished favouring a broad diversity of flora. They are all immature often reclaimed and/or regraded landscapes but have now reached a form of maturity to attract a wide range of birdlife and mammals into areas surrounded or semi-enclosed by dense urban development. Colliery spoil supports a range of wildflowers which would not otherwise compete with topsoil rich areas. Species favouring this environment include Common Spotted Orchid, Marsh Orchid, Evening Primrose, Pale Toadflax and Vipers Buglass. Also found less frequently are Marsh Helleborine, Yellow Birds Nest and Round Leaved Wintergreen. Some of these areas have also been planted with native woodland such as at Gin Pit, the Three Sisters, Ince Moss and Amberswood. The later area has a combination of relict mossland together with regraded spoil, native woodland planting together with open areas supporting a diverse range of flora. This is an important area for wildlife and has been designated as an SBI.

- Rivers and Streams

In terms of channel size the River Douglas forms the main watercourse in the Borough. It enters the area through farmland to the north of Adlington Park and creates a steep sided valley as it cuts through the Standish Crest flowing south towards Wigan Centre. Three reservoirs known as the Worthington Lakes have been created along its course in the valley's upper reaches. The river is essentially a small stream at this point flowing rapidly and creating a number of small falls and riffles as it passes industrial works and mills.

As the River Douglas reaches the floor of the Makerfield Basin it turns abruptly to the west, passing through Wigan centre and out through a broader valley at Gathurst. At this point the river creates a meandering channel with a slower flow.

Associated with the River Douglas are its tributary streams principally of Dean Brook, Mill Brook and Smithy Brook. Dean Brook and Mill Brook have a similar character forming steep sided wooded valleys in a similar manner to the upper reaches of the Douglas Valley. Both streams appear to be clear and unpolluted. Smithy Brook, however, is partly fed by water from polluted mine workings and has a minewater remediation scheme, consisting of a reed bed filtration system at Goose Green, to filter out the ochre.

Hey Brook drains the Makerfield Basin to the south-east from Wigan centre passing through Pennington Flash and Hope Carr before being re-named as the River Glaze at the borough boundary at Lately Common. It appears that Borsdane Brook is a tributary of Hey Brook passing through a typical steep sided wooded valley cutting through the Aspull Ridge to the north-east. Much of its length through the urban areas is culverted.

The lower sections of watercourses in the Makerfield Basin tend to be higher in nutrients as they gather run off and excess fertiliser from the surrounding farmland on higher ground. Historically they have also gathered higher pollution levels from industry based along their banks although this has greatly decreased over recent years and in particular with the closing of the coal mines. Also associated with the lower courses of the River Douglas and Hey Brook is the spread of the alien and invasive species Himalayan Balsam and Japanese Knotweed.

Riverside trees to the lower river/stream sections are locally sparse to absent. Fish species present include Trout, Perch and Roach. Waterfowl comprise mainly of Moorhen and Mallard.

- Canals

The Leeds and Liverpool Canal enters the Borough on elevated ground to the east of the Worthington Reservoirs and runs in a south easterly direction as far as Top Lock where it turns 90 degrees and rapidly descends via a series of locks to the south-west towards Wigan centre. From here it divides forming two routes; the first follows the line of the River Douglas to the north-west passing the villages of Crooke and Appley Bridge, whilst the second route turns south to south east passing through the Wigan Flashes on an

embankment before joining the Bridgewater Canal to the east of Leigh towards Salford, Runcorn and Liverpool.

The canal system is now used for recreational purposes with leisure boats moored at Crooke Marina. Marginal vegetation is locally present and the canals are generally popular for fishing and boating. The canals contain a high proportion of sediment in suspension although aquatic life is still present. Plants present include aquatic species such as duckweeds, spiked water milfoil, yellow water lily, amphibious bistort and pondweeds. Emergent vegetation includes arrowhead, flowering rush and water plantain. Marginal vegetation includes common reeds, reed sweet grass, reed mace, branched bur-reed, marsh woundwort, sweet flag and yellow iris.

Fringing vegetation provides nesting and cover for a variety of water birds including moorhen, mallard, reed bunting, sedge warbler, kingfisher, heron and swans. Associated invertebrates include damsel flies, water snails, water beetles, mayflies and other aquatic invertebrates. Canal bridges are particularly useful for bat roosts and canal towpaths are often associated with semi-natural unimproved grassland and scrub.

5.3 The Red Rose Forest Initiative

The Red Rose Forest, which includes Wigan, covers over 250 sq.miles of the west of Greater Manchester and is one of 12 community forests established nationally in 1992. The Forest's aim is to transform the sub-region into a greener, healthier and more satisfying place to live, work and invest. Together with Wigan, the Red Rose Forest partnership brings together the Metropolitan Boroughs of Bolton, Bury, Trafford and the Cities of Salford and Manchester. It is committed to improving and increasing green infrastructure across Greater Manchester through the planting of locally indigenous species of trees and shrubs and the creation of woodlands forming a balanced landscape of farmland, open space and wetland areas. Completed areas of woodland planted as part of the Red Rose Initiative include Viridor Wood, located to the south and east of Bryn Gates, Collier's Wood at Higher Folds (Tyldesley), Barlow's Farm (Bickershaw), Lady Mabel's Wood (Haigh) and Byrom Hall (Golborne). Most of these woodlands are reclaimed former colliery sites which have been designed for informal recreation and include many footpaths, linking them to the Borough's strategic greenway network.

5.4 Wildlife Corridors

Wildlife corridors facilitate the movement of wildlife through an area between varying habitats. A series of wildlife corridors have been identified within the Borough based on geographic features and linking to most of the landscape character areas.

a) *Steep sided wooded river and stream valleys.*

These are a feature of the area particularly to the northern half of the borough where they provide continuous links between areas in the low lying Makerfield Basin and the surrounding higher land to the north, east and west. These valleys are in the main continuously wooded and provide a valuable wildlife corridor to open farmland at a higher elevation.

Unfortunately a number of streams and their steep sided valleys, including Borsdane Brook, Smithy Brook and the River Douglas, terminate abruptly as they meet the peri-urban environment around Wigan town centre. Dean Brook, and to a certain extent Mill Brook, however provide a more fully linked area of linear open space fully connecting to farmland and wetlands habitats on the valley floor.

b) The Hey Brook Corridor

A second major important wildlife corridor follows Hey Brook and the Leeds and Liverpool Canal and runs along the floor of the Makerfield Basin from the north west to the south east. The corridor forms a broad band of low lying land connecting the Wigan Flashes and surrounding marshes and wet meadows and forms a contiguous 11km corridor of nationally important wetland habitat from Wigan centre through to Pennington Flash and Hope Carr, Leigh. The corridor is also linked along the course of the Leeds and Liverpool Canal, through Wigan town centre, to connect with the valley floor to the west at Gathurst and east to Hope Carr, the Mosslands and beyond to the conurbations of Manchester and Salford along the Bridgewater Canal.

The major central section of the corridor however between the Wigan Flashes and Pennington Flash is extremely valuable for wildlife and creates important links to the south into Viridor Wood and the Three Sisters Recreation Area and to the north linking with the rich habitats of Ince Moss, Amberswood Common and Low Hall Local Nature Reserve. The Hey Brook Corridor also links to the Rushes, the extensive 250 hectare country park and activity destination currently being developed through the reclamation of the former Bickershaw Colliery, Leigh. The Corridor also links to the greenway network northwards towards Victoria Fields, Hindley.

c) Other Wildlife Corridors

The canals of the area connect an aquatic and semi-rural grassland habitat associated with the towpath and embankments through most of the borough. They are particularly important in providing a strategic greenway link through developed areas between the broader wetland habitats of the Douglas Valley and Martland Mill through Wigan to the Wigan Flashes, the Hey Brook Corridor, the Abram Flashes and from Pennington Flash Country Park through Leigh Sports Village to Hope Carr and beyond to the mosslands at Astley.

Railway routes also provide continuous or semi-continuous corridors along which wildlife can travel. Wigan has an unprecedented number of railway lines, many of which are now disused and have naturally regenerated scrub and woodland forming ideal linear routes for wildlife and recreational routes, making a valuable contribution to Wigan's extensive greenway network. Across Greenheart and the Makerfield Basin most of these routes are raised on high embankments increasing their surface area and wildlife potential.

Hedgerows are always important as wildlife corridors creating a small scale woodland habitat often linking to woodlands and other differing habitats. Wigan's remaining hedgerows are therefore particularly valuable and should be conserved and enhanced where possible.

5.5 Designated Areas of Ecological Importance

SSSI's, SBI's, SAC's, Local Nature Reserves and Ancient Woodlands are illustrated on Figure iv) and have been previously referred to.

6.0 HUMAN INFLUENCES AND THE HISTORIC ENVIRONMENT

Introduction

'Landscape' is the product of human interaction with the land over time. The landscape of Wigan is particularly complex, involving not only rural communities but also the urban community. Many of Wigan's urban areas originated during the Industrial Revolution although they do not form part of this study. The rural areas of Wigan have been greatly influenced not only by topography, geology and soils but also by human exploitation and management, creating the landscape we see today. The Borough of Wigan differs from many others due to its concentrated exploitation of the landscape for coal mining and associated activities.

The following paragraphs are a summary of the influences of human actions on the landscape of Wigan.

The Neolithic Period

The area of the Douglas Basin (now forming Central Wigan) would have been inhospitable for humans, comprising of large densely wooded river flood plains interspersed with mossland. To the south and east of Wigan, the more gently rolling landscape would also have been well wooded, whilst the mossland of Astley Moss, part of the larger Chat Moss, would have formed a huge and formidable wilderness, useful for summer hunting but little else. There is evidence of Mesolithic clearances to the mossland woodland, made by burning, possibly to create grazing grounds for game.⁽¹⁾ It is probable that the clearings were relatively short-lived, although in later Neolithic times it is likely that some clearances were made for farming purposes.

The hills to the north and west of Wigan, with their lighter, sandier soils are likely to have been the earliest areas to be cleared of woodland. There is no extant evidence of Neolithic activity within the Borough but 'Round Loaf', a large prehistoric mound, lies in the Pennine foothills to the north of Wigan, just east of Chorley. 'Toot Hill' at Bryn could be a barrow as could 'Boar's Den' at Wrightington, just outside the Borough. A flint scraper was discovered by Greater Manchester Archaeological Unit (GMAU) at Gadbury Fold near Atherton in 2003, but the context remained unclear.

The Bronze and Iron Ages

The clearances for farming referred to above accelerated through this period. By the end of the Bronze Age, tribal groupings of the Celtic peoples were well established throughout Britain. Areas to the north of the Mersey were held by the Brigantian confederation of tribes. These tribal groups tended to be based on hill forts. Although there is currently no evidence for such forts in the Wigan area, the high ground on which Standish lies today would have been a favoured location

Local tribes apparently did not adopt iron working prior to the Roman invasion (Higham 1993), and this undoubtedly would have reduced their capacity to clear land for arable farming. The Celtic 'ard' was a relatively primitive plough and such arable farming as

there would have been on the lighter, sandy soils in the Borough, such as those around Billinge and the slopes of the gritstone escarpment.

It is quite likely that local tribes kept cattle and practised fairly extensive pastoral farming, but there is little archaeological evidence for this. The mosslands were possibly used for hunting, but are likely to have been regarded with some dread, as dark, mysterious places and the haunt of spirits. The human sacrifice at Lindow Moss, in Wilmslow to the southeast and other apparently sacrificial remains in bogs in the northwest suggest some form of Celtic religious belief commonly associated with wells and water bodies.

The Roman and Romano - British Period 43 - 410

The invading Roman army would have advanced into the area from the lowest bridging point on the Mersey at Warrington. From here they constructed the Roman Road known as King Street, running north and now largely overlain by the A49. Wigan was probably known as 'Coccivm' as mentioned in the Antonine itinerary as a small settlement. The Roman road between Wigan and Warrington is clearly defined, but is less clear as it runs to the north of Wigan. It should be remembered that the principal use of Roman roads was for moving troops rapidly and not primarily for trade. Only small, generally high-grade goods would have travelled by road, often by packhorse.

Further evidence of Roman activity in the area includes an early C2nd bathhouse, excavated by GMAU in Wigan town centre in 2005. The presence of a Roman fort is now regarded as certain following this discovery. Many coins have also been found over a long period, but are poorly recorded. A substantial industrial site existed at Wilderspool in Warrington, associated with a pottery manufacturing area. Coal, used to fire the Wilderspool kilns, probably came from the Wigan / St Helens coalfield via the River Sankey. There is some evidence, although not conclusive, that the Romans mined coal at Wigan; what is certain is that the Romans clearly used coal in their manufacturing.

Roman arable farming activities would have followed the Celtic civilisation before and was generally confined to the lighter soils of the gritstone escarpment. Roman ploughs, while more efficient than their predecessors, were probably still not capable of tackling the heavier clay soils

At the close of the Roman era, much of the woodland clearance of the area had probably been accomplished and was being farmed. The mosslands, however, remained largely untouched, and were considered largely unusable except for hunting and a limited amount of turf cutting for fuel.

The withdrawal of the Legions in 410 AD did not herald any major changes to agrarian systems and it is likely that many formal areas survived unchanged well into Saxon times. However, large scale production and trade collapsed very quickly, with consequent impacts on extractive industries, such as clay and mine workings etc.

The Anglo - Saxon Period 410 - 1066

During the Anglo Saxon Period, Wigan was part of the Kingdom of Northumbria. The southwest frontier of the kingdom was formed by the River Mersey. Many of the

townships of Wigan have Saxon names e.g. Aspull, which is probably named from 'Aspen' and 'hill'.

Specific evidence of the period in the Wigan area has not been found. Saxon clearances of woodland generally however were very effective and larger areas of land were probably brought under cultivation.

Norse influence on the area was clearly strong. This is evidenced by the fact that some of the streets in Wigan, such as Wallgate, Hallgate and Standishgate have the Norse suffix 'gata' meaning road. To the west of Wigan, Skelmersdale and Burscough are also Norse names. Norse settlements in the Pennines are associated with sheep farming and it may be that sheep were kept on the hills to the north and west of the Borough. The settlement of Norse peoples in the Lancashire plain is thought to date to post 902 AD when they were ejected from Ireland.

The Medieval Period 1066 - 1499

Woodland clearances by the beginning of this period were probably at their maximum historic extent. Rackham, (1) states *'Even the bigger wooded areas were not uninhabited wildwood; it was nowhere possible in Norman England to penetrate into woodland further than four miles from some habitation'*. At this time clearances were carried out in a more organised way than previously with many villages 'assarting' (creating clearings) in woodlands for fields.

After the Norman Conquest Wigan was in the area known as Makerfield in the Hundred of West Derby and appears to have been held by two barons, one based at Warrington and another at Newton. Wigan itself is not mentioned in the Domesday Book. A number of manors are attested in later documentary sources, the names of which correlate with existing settlements, such as Tyldesley, Ince and Orrell.

Coal appeared on the surface in various areas of Wigan, but apart from its use by the the Romans, fuel does not appear to have been further exploited until the early C14th when cannel coal (a form of high-grade coal producing little smoke) was found in more accessible areas near Haigh and Aspull.

A large number of moated sites were built during the C12th and C13th on areas of Wigan that had clay soils; many of these have been subsumed by later urban development. Those in the countryside include a site at Gorse Hill Wood in Winstanley Park, a site near Dodd's Farm south of Dicconson Lane (still occupied), Haighlands, Morley's Hall and Marsland Green (still occupied).

The Post – Medieval Period, 1499 – 1800

The latter end of this period saw the beginnings of the Agrarian Revolution and the Industrial Revolution.

There were many small pits mining coal around the Wigan area by the C16th. It appears that landowners often allowed tenants to contribute to the sinking of shafts or pits in exchange for free coal. In 1565 a document for Haigh Hall estate required tenants to account for the number of loads of cannel coal they obtained from the town pit so that a

tax to be levied to help pay for new pits. Many of these pits were small and employed low numbers of miners and 'pit brow lasses'. This practice continued into the late C20th.

In 1536, John Leland ⁽²⁾ wrote, '*Wigan paved; as big as Warrington and better builded.... Some merchants, some artificers, some farmers*'. In 1610, William Camden ⁽³⁾ recorded of the River Douglas and Wigan.

'Duglesse, a riveret, creepeth and stealeth along quietly by this place,... At the head hereof standeth the towne of Wiggin, called in ancient times Wibiggin, of which names I have nothing else to say but that in Lancashire they call buildings and houses biggins: neither of the towne, but that it is faire and a Corporation also with a Major and burgesses, and the person [parson] of the church, as I have learned, is Lorde of the Towne.' Other eyewitnesses recorded the high quality of the town of Wigan during the period. '*Wiggons (Wigan) is another pretty market town built of stone and brick; here it is that the fine Channell (Cannel) Coales are in perfection, burns as light as a candle – set the coales together with some fine and it shall give a snap and burn up light..'*' ⁽⁴⁾

During the English Civil Wars Wigan was the Royalist Earl of Derby's headquarters in the northwest and was subjected to several ruthless plunderings. There were two battles within the Borough as well as numerous skirmishes. The town of Wigan appears to have been royalist as were areas to the north and west. Atherton and some surrounding areas towards Manchester were strongly non-conformist and therefore strong supporters of Parliament. The destruction caused by the Civil Wars had long-lasting effect on Wigan, which only began to recover by the end of the C17th.

In 1670, Sir Roger Bradshaigh, owner of Haigh Hall, completed the construction of the 'Wigan Great Sough' a massive tunnel to remove water and enabling the large-scale extraction of cannel coal.

'Cannel, a rich, smooth form of coal which was especially popular with ship owners as it was liable to spontaneous combustion; cannel could be lit with a match, and it was popular with merchants in New England who preferred it to logs. It was also remarkably clean. A speciality of the Wigan area – elaborate carvings made out of it were often exhibited – cannel was exported to France and Italy from the late eighteenth century, but by the nineteenth century commercially workable seams were almost exhausted.'

Alan Godfrey 'Kirkless and Hindley Hall 1907' map commentary.

Wigan also became a spa town by 1788, on the discovery of '*.a strong sulphurous water..'*' near Scholes Bridge, when a new coal mining adit struck a plentiful supply of water.

In 1720 an Act of Parliament authorised the canalisation of part of the River Douglas, to supply coal from Wigan down to the Ribble and out to Preston. A larger rival soon eclipsed this canal. In 1770 another Act of Parliament authorised the construction of the Leeds and Liverpool Canal with James Brindley as Chief Engineer. The Canal constructed differed from the original route, but linked to the Bridgewater Canal in 1820 allowing access to Manchester as well as to Leeds and Liverpool. The most important cargo on the Canal was coal, most of it from Wigan, which supplied factories in

Manchester, Leeds and Liverpool as well as steam ships in the Port of Liverpool. The effect of the coalfield on Wigan was traumatic, the Leeds and Liverpool Canal was so successful that it competed, with some success, against the railways until late in the C20th.

The three major industries in the Wigan area, coal, engineering and textiles, all have their origins in the C16th and C17th with coal workings concentrated around Aspull, Billinge and Haigh. By 1789 Wigan had become established as the centre of the Lancashire coalfield, with the industry concentrated in a series of distinct areas. These were Billinge, Haigh, Orrell and Standish in the north and west, Abram, Ashton-in-Makerfield, Ince-in-Makerfield and Golborne in the south and Atherton and Tyldesley to the east and southeast. Wool and flax industries were established in the late C16th and by the end of C18th, linen checks, calicos and fustians were being produced. The manufacture of iron commenced at Haigh Foundry in 1788, producing rails, locomotives, structural ironwork, swing bridges etc. Other factories were built around the same period, mainly in the urban areas. Lack of suitable streams to provide waterpower slowed Wigan's development in textile manufacturing, but the invention of steam power changed this situation.

The Early Modern Period, 1800 - 1900

This period saw further massive expansion in industrial manufacturing and a major extension of the urban area of Wigan, with large numbers of terraced properties and many larger houses, particularly to the south of the Borough. Neighbouring towns and cities in the region were also rapidly expanding with a corresponding increase in the demand for raw materials and natural resources, such as water, clay and especially coal. This demand had a cataclysmic impact on the local Wigan landscape. Coal mining towns grew around the existing centres of Atherton, Leigh and Tyldesley, while a number of scattered coal settlements were built all across the coalfields. *'In 1854 there were 54 collieries recorded around Wigan and 15 around Leigh, a fifth of those in Lancashire'* ⁽⁵⁾.

The railways arrived in the area in the 1840s and massively increased the exploitation of the Wigan coalfield. Numerous mineral lines were constructed to link to the main rail routes and the Borough of Wigan was criss-crossed with numerous railway lines. Many viaducts and bridges were also built as a result of the railway expansion.

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In 1887, a *'Gazetteer of the British Isles'* described Wigan's industries;-

'Wigan is an ancient place, but has become of consequence only since the rise of the cotton mfr. Its position in the midst of a great and rich coalfield, and its easy means of transit by railway and canal, have given it peculiar facilities for mfrs., which consist chiefly of calicoes, checks, fustians, and other cotton fabrics. It has also linen works, iron foundries, iron forges, iron rolling mills, railway waggon works, chemical works, breweries, and a papermill. Some of its cotton mills and iron works are among the largest in the kingdom.'

There were indeed many cotton mills and associated finishing works both in Wigan and in Leigh. Other factories, such as engineering works, a foundry, bolt-making works etc. were

also built, many supplying the collieries and mills around the area. Experience in the engineering works in Wigan during this period was very highly valued – a ticket to success.

Grain production rapidly increased in the early part of this period and the introduction of the Corn Laws in 1805 and again in 1815 encouraged wheat production. The effect on the landscape of Wigan is clear, with hedgerow removals to make larger fields and the construction of many threshing barns. Cereal crops were used both for bread and for brewing. The repeal of the Corn Laws in 1846 saw a major change in agriculture as foreign wheat could then be imported.

The period saw a revitalisation of some of the parklands around the fringes of Wigan, particularly to the north and west, where wealthy manufacturers invested their money in extensive estates. Haigh Hall and Winstanley Park are two examples of such parklands, where the previous field pattern was almost completely expunged by game coverts and plantations. Hedgerows were again removed.

Drainage to the mosslands to the south of the Borough began to be systematically undertaken from the latter half of the C19th.

The Modern Period 1900 – Present

The arable farming of the previous century continued to expand, particularly with the impact of the two World Wars.

Major 'reclamation' works drained the mosslands sufficiently to allow farming and exploitation of very rich soils for arable crops. This process was accelerated during the two World Wars.

The coal industry continued to expand in the area, particularly as technology improved enabling previously inaccessible coal seams to be accessed. Abruptly in the 1980s, the coal industry was closed down, creating widespread unemployment and serious deprivation for the Borough. Various coalfield initiatives were set up by central government to assist the coalfield communities, including those in the Borough of Wigan.

The textile industry remained remarkably intact in Wigan compared to the far larger cotton towns around. It was ranked 14th of the Lancashire cotton towns in 1903, but by 1962 was ranked 5th, having overtaken Preston, Stockport and even Manchester. Despite this, the textile industry continued to decline.

Communications in the C20th continued to improve, the construction of the A580 in 1934 and the M6 in 1959 further improved goods and private transport.

Communications – General

The Makerfield Basin originally presented a low-lying area of wetland and mosses, with a ring of higher land to the west, north and east. This would historically have represented a challenge for communications. In prehistoric days the area would have been surrounded by a series of ridgeways, but this changed in Roman times. The settlement of Wigan was founded on the north side of the River Douglas at a point where the Douglas, enters the area from the north, curves around the base of the prominent Standish spur and then flows to the northwest. Land to the south and east of Wigan town centre would have been low-lying and

on the south side of the River Douglas was an extensive area of mossland known as the Ince Moss.

Historically, the main north-south route of northwest England, originally a Roman road and latterly the A49 runs into the Wigan area from Warrington via Newton-le-Willows. It crosses the River Douglas to the west of the town centre and then follows the Douglas valley north up to Boar's Head. At this point the road climbs the Standish Ridge, passing through the centre of the township before continuing northwards towards Preston. Another Roman road was also constructed to the east of Wigan, connecting the settlement to the fort at Manchester. This may have utilised part of an existing route along the ridgeline, now represented by the A577.

A number of important road routes also run north-south through the Wigan area; from west to east these are the B5206 – a ridgeway running along the Billinge – Orrell ridge, the M6 running a little further east along the side of the ridge, the A49 (previously mentioned) now largely replaced as the principal major route by the M6, the A573 which runs to the east of the A49 through Abram and Golborne, joining with it at Warrington and Wigan town centres. The A579, a newly constructed road follows a former railway line and links Howe Bridge to the A580, close to Westleigh, Leigh and Pennington. Two important road routes run east-west through the Wigan area; from north to south these are the A577 (previously mentioned) running from Worsley to the east, through Wigan and out to the west through Skelmersdale and the A580 (East Lancashire Road) which runs between Liverpool and Manchester across the south of the Borough.

Canals running through the area include the Leeds and Liverpool Canal which enters the Borough from the west and curves around the town centre, climbing the Douglas valley to the east via a chain of locks and exiting the Borough to the north. A branch of this canal runs to the south-east and east from its junction at Lower Ince. This branch connects to the Bridgewater Canal, which enters the Borough from the east.

The history of railways in Wigan is particularly complex. Horse drawn railways or tramways servicing mines throughout the area had been in existence for some time before steam engines were introduced. Innumerable sidings serving mines were opened throughout the C19th and these connected through to the main lines. In 1832 the Wigan Junction Railway opened which connected Wigan to the Liverpool – Manchester Railway at Parkside near Newton-le-Willows. The North Union Railway, connecting Wigan to Preston, opened in 1838; this in turn also connected to the Liverpool – Manchester Railway at Parkside. In 1848 the Lancashire and Yorkshire Railway (L&YR) opened, running between Liverpool and Lostock junction (on the Manchester to Preston Line). Another passenger route was opened in 1888, when the L&YR connected Pendleton in Salford to Hindley via Atherton. Finally, in 1888, a line was opened between Hindley and Pemberton. This by-passed Wigan station but allowed faster travel for the L&YR trains between Liverpool and Manchester.

Wigan is served by two stations, Wallgate and Wigan North Western. The latter serves the main West Coast Line (electrified since 1974), while the former serves the more local northwest lines.

Field enclosures

There are few Post Medieval Enclosures evident in the Wigan area. This is at least partially because of the disruption caused by the extensive mining operations of the C19th and C20th. It is clear from studying old maps (the 1849 OS series) that much of the agricultural landscape of Wigan was divided by hedgerows and these were lost during the later C19th and C20th.

C18th - C19th Field systems are preserved in the mossland areas of Wigan, notably to the north of Bedford Moss. There are larger areas of Late Medieval Agricultural Improvement, which reorganised earlier field systems, possibly because of urban growth pressure or because of land quality. These areas dominate the landscape to the south of the Borough.

Woodland

Wigan has several extensive areas of woodland, often associated with the generally unproductive steep sided river and stream valleys to the west, north and east at Wigan centre. Large blocks of plantation woodlands are also found associated with these valley systems, often planted as parkland areas or as shelterbelts. However, there are also extensive areas of moss woodland in Bedford Moss and increasingly semi-mature areas of woodland associated with land reclamation, particularly with former colliery workings.

Ancient woodland is generally limited to the steep-sided valleys in the areas of elevated farmland. Notable areas of ancient woodland include Dean Wood and Elnup Wood, (Shevington), in the north east and Borsdane Wood (Aspull) and Hindley in the north west of the Borough.

Designed Landscapes

Landscaped parks within the area consist of two types:-

Post Medieval Enclosed Parkland – These are mainly Victorian creations with examples at Haigh Hall, Standish Hall Park, Hindley Park and Winstanley Park. Many of these parks have an earlier ‘core’, such as Standish Hall Park and Bispham Hall – these are substantially intact, but overgrown.

C19th/C20th public parks include Lilford Park, Leigh and Mesnes Park.

Wigan has a legacy of extensive areas of ‘reclaimed’ land, mainly from former colliery workings. These, substantially remediated, could be categorised as designed landscapes. They include Amberswood and Low Hall (Hindley), Kirkless (Ince), Victoria Fields (Bickershaw), Collier’s Wood (Higher Folds) and Viridor Wood and Three Sisters Recreation Area, (Bryn). The reclamation of sites is continuing, including those at Sandyforth, Winstanley and the former Bickershaw Colliery site (The Rushes) at Leigh.

Industrial Landscapes

As mentioned previously, the three ‘staples’ of Wigan’s industry were coal, engineering and cotton. Of these, the legacy of the cotton industry is relatively limited in the wider landscape,

although many former cotton mills in the urban fabric of Wigan and Leigh still create a powerful presence by virtue of their often immense size.

The coal industry has without doubt had the greatest influence on the landscape of Wigan. The impact of coal extraction varies from the presence of an occasional pit ventilation shaft to extremely large areas of contaminated land and spoil heaps to vast areas of water-filled subsidence. The latter include the area occupied by the Wigan Flashes running across from the south-east of the Wigan town centre out to Pennington Flash in the east. These are now described as the Wigan Wetlands.

The engineering industry of Wigan was originally established to serve the collieries and included foundries and various other works throughout the Borough. Some of these works also created large spoil mounds, such as those at the reclaimed former Kirkless Iron and Steel works at Ince.

Connecting all these industrial developments are the associated communications of roads, canals and railways which have also had a powerful effect on Wigan's landscape

Military

There are no recognised military landscapes in the area although Wigan does possess two battlefield sites. These are not of great significance or particularly large and neither of the two sites are included in the English Heritage List of Battlefield sites. The Wigan battlefields relate to the English Civil Wars, when Wigan was generally Royalist and supported the Earl of Derby whose seat was at nearby Lathom House. Unfortunately, many of the townships to the east and Manchester itself were strongly puritan leading to considerable conflict. The Battle of Wigan Lane was fought in 1651 and a monument to Sir Thomas Tyldesley who was killed in the action stands on Wigan Lane a little to the south of the Royal Albert Edward Infirmary on Wigan Lane (the A49).

HISTORIC LANDSCAPE CHARACTER

The Greater Manchester Archaeology Unit has commenced a Historic Landscape Character Survey of the Greater Manchester area, including Wigan. Given the size of the area, the density of development and the large volume of Industrial Archaeology in the area, this is a massive undertaking which will take some years to complete. Unfortunately the Wigan area is one of the last areas scheduled for surveying and no information is currently available for inclusion within this Landscape Character Assessment.

- (1) Rackham O 1986 *'The History of the Countryside'* p. 78
- (2) John Leland c. 1536 Hall published, in 1709, *Commentarii de Scriptoribus Britannicis. The Itinerary of John Leland, Antiquary*, was published by Thomas Hearne, at Oxford, in nine volumes in 1710, with a second edition printed in 1745, with considerable improvements and additions.
- (3) William Camden 1607 (translated from Latin by Philemon Holland in 1610), quoted in www.visionofbritain.org.uk *'Britain, or a Chorographical Description of the most flourishing Kingdomes, England, Scotland and Ireland'*
- (4) C. Morris (ed) 1982 *'The illustrated journeys of Celia Fiennes'*
- (5) McNeil, R. and Nevell, M. 2000, *'A Guide to the Industrial Archaeology of Greater Manchester'*
- (6) John Bartholomew's *'Gazetteer of the British Isles'* 1887