

Strategic Environmental Assessment of Wigan Flood Risk Management Strategy



April 2014

Further amendments made in June 2014 in response to consultation comments received

Contents

1. Introduction to flood risk management strategy and the strategic environmental assessment	3
2. What is Strategic Environmental Assessment?	4
3. The Scoping Report (A)	7
4. Testing the objectives against the sea framework (B1)	11
5. Alternatives and testing the implications of no local flood risk management strategy (B2)	11
6. Findings of the SEA (B3/B4)	13
7. Details of appraisal (B5)	15
8. Monitoring (B6)	25
Appendix A: Plans and programmes reviewed	26
Appendix B: Baseline information	76
Appendix C: Consultation responses	93

1. INTRODUCTION TO FLOOD RISK MANAGEMENT STRATEGY AND THE STRATEGIC ENVIRONMENTAL ASSESSMENT

Wigan Council is the unitary authority for the borough of Wigan – home to 318,000 people with a mix of dense urban and open rural areas and a number of waterways and watercourses. Under Section 9 of the Flood & Water Management Act 2010, Wigan Council, as a Lead Local Flood Authority is required to produce a strategy for managing Local Flood Risk, which means:

- Flooding from groundwater (where the ground becomes over-saturated)
- Flooding from surface water run-off (where rainwater cannot drain away quickly enough and begins to pond on the surface)
- Flooding from ordinary watercourses (non-main rivers, canals, ditches and ponds)

Section 9 of the Flood & Water Management Act 2010 also details what Local Flood Risk Management Strategies (LFRMSs) should contain:

- the risk management authorities in the authority's area,
- the flood and coastal erosion risk management functions that may be exercised by those authorities in relation to the area,
- the objectives for managing local flood risk (including any objectives included in the authority's flood risk management plan prepared in accordance with the Flood Risk Regulations 2009),
- the measures proposed to achieve those objectives,
- how and when the measures are expected to be implemented,
- the costs and benefits of those measures, and how they are to be paid for,
- the assessment of local flood risk for the purpose of the strategy,
- how and when the strategy is to be reviewed, and
- how the strategy contributes to the achievement of wider environmental objectives

The Strategic Environmental Assessment Directive (2001/42/EC) requires that certain plans and programmes undergo an environmental assessment, due to the likelihood that they will have significant environmental effects once implemented. The Environmental Assessment of Plans and Programmes Regulations 2004 („the SEA Regulations“) transpose the Directive into UK law.

The Councils has determined, in consultation with the bodies specified in the Regulations (English Heritage, the Environment Agency and Natural England), that SEA will be required for their LFRMS. This means that the Council must prepare an environmental report which identifies, describes and evaluates the likely significant effects on the environment of implementing their LFRMS and any reasonable alternatives taking into account the objectives and geographical scope of the strategy.

2. WHAT IS STRATEGIC ENVIRONMENTAL ASSESSMENT?

Strategic environmental assessment is a method for predicting, evaluating and mitigating the likely environmental impacts of a policy, plan or programme. The assessments follow a systematic process that ensures plans and programmes are as environmentally friendly as possible when they are being prepared and eventually adopted.

The requirement for this stems from a European Directive (2001/42/EC) on “the assessment of the effects of certain plans and programmes on the environment”. The Directive came into force in the UK on 21st July 2004 and applies to a range of English plans and programmes including local development framework documents.

To satisfy the legislation, an SEA has to address a number of points:

- Outline of the contents, main objectives of the plan or programme, and relationship with other relevant plans and programmes.
- The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme.
- The environmental characteristics of areas likely to be significantly affected.
- Any existing environmental problems which are relevant to the plan or programme.
- The environmental protection objectives which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation.
- The likely significant effects on the environment.
- The measures envisaged to prevent, reduce and offset any significant adverse effects on the environment of implementing the plan or programme.
- An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties encountered in compiling the required information.
- A description of measures envisaged concerning monitoring.
- A non-technical summary of the information provided under the above.

This will be done through a number of stages:

Stage A: Setting the context and objectives, establishing the baseline and deciding on the scope

A1: Identifying other relevant policies, plans and programmes, and Strategic Environmental Assessment objectives. (Contextual review)

A2: Collecting baseline information.

A3: Identifying Strategic Environmental Assessment issues.

A4: Developing the Strategic Environmental Assessment framework and outlining what happens next.

A5: Consulting on the scope of the Strategic Environmental Assessment.

The Scoping Report and its consultation will inform the remaining stages of the Strategic Environmental Assessment:

Stage B: Developing and refining the options and assessing the effects

B1: Testing the objectives against the Strategic Environmental Assessment Framework.

B2: Developing options and alternatives for the Flood Risk Management document.

B3/B4: Predicting and evaluating the effects of the draft Flood Risk Management document.

B5: Considering ways of mitigating adverse effects and maximising beneficial effects.

B6: Proposing measures to monitor the significant effects of implementing the Flood Risk Management document.

Stage C: Preparing the Strategic Environmental Assessment Report

C1: Preparing the Strategic Environmental Assessment Report.

Stage D: Consulting on draft Flood Risk Management Document and Strategic Environmental Assessment Report

D1: Public participation on the Sustainability Appraisal Report and draft Flood Risk Management document

D2: Appraising significant changes.

Stage E: Monitoring the significant effects of implementing the Flood Risk Management Document

E1: Finalising aims and methods for monitoring.

E2: Responding to adverse effects.

This sustainability appraisal meets the requirements of a Strategic Environmental Assessment (SEA). We have outlined where these requirements have been met in the table below.

Information required in Environmental Report	Where can this be found?
Outline of the contents, main objectives of the plan or programme, and relationship with other relevant plans and programmes.	Chapter 1 Chapter 2 Appendix A
The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme.	Chapter 5 Appendix B
The environmental characteristics of areas likely to be significantly affected.	Chapter 3 Appendix B
Any existing environmental problems which are relevant to the plan or programme.	Chapter 3 Appendix B
The environmental protection objectives which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation.	Chapter 3 Chapter 4 Chapter 6
The likely significant effects on the environment.	Chapter 6 Chapter 7
The measures envisaged to prevent, reduce and offset any significant adverse effects on the environment of implementing the plan or programme.	Chapter 6. (Also LFRMS Report)
An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties encountered in compiling the required information.	Chapter 5 Chapter 6
A description of measures envisaged concerning monitoring.	Chapter 8
A non-technical summary of the information provided under the above.	Separate document

3. THE SCOPING REPORT

A1: Identifying other relevant policies, plans and programmes, and Strategic Environmental Assessment objectives. (Contextual review)

The LFRMS needs to be consistent with other plans and programmes (Task A1) and therefore a review of relevant plans and programmes at International, National, Regional/Sub-regional and Local levels has been undertaken. The details of this can be found in **Appendix A**.

Equality and Diversity

The Council currently carries out equality and diversity impact assessments (Customer Impact Assessments) on its strategies, plans and proposals. This process involves several stages.

The Strategic Environmental Assessment should complement the Customer Impact Assessment process. We envisage that the SEA will mirror the first stages of the equality assessment process, helping to identify impacts that require more detailed appraisal. However, as Customer Impact Assessment should be carried out on the LFRMS.

Habitats Regulation Assessment

The Council is required under Regulation 48 (1) of the Conservation (Natural Habitats, &C) (Amendment) (England and Wales) Regulations 2006, to carry out an Appropriate Assessment in respect of any plan or project which would either alone or in combination with other plans or projects would be likely to have a significant effect on a European Site and is not directly connected with the management of the site for nature conservation. European sites include Special Areas of Conservation (SAC) and Special Protection Areas (SPA). Manchester Mosses SAC is partly in Wigan. A draft Habitats Regulation Assessment has therefore been carried out by Greater Manchester Ecology Unit and this informs the LFRMS and SEA. It is available as a separate document alongside the SEA.

A2: Collecting baseline information.

Baseline information helps to provide a basis for predicting and monitoring the effects of plans and to identify sustainability issues. The aim is to gather sufficient data on the current and likely position of the Borough without the plan, to enable the effects of the relevant options and policies to be predicted and evaluated. There are a number of areas where we have collected relevant information.

The SEA Directive requires that we consider biodiversity, fauna, flora, population, human health, soil, water, air, climatic factors, material assets, cultural / architectural / archaeological heritage and landscape. **Appendix B** outlines the baseline position in Wigan borough for all these issues.

A3: Identifying Strategic Environmental Assessment issues.

The following issues were considered at the scoping stage:

- Biodiversity
- Community/IMD
- Community Safety (Crime)
- Neighbourhood Quality
- Waste
- Housing
- Education
- Economy
- Health
- Recreation
- Soil and Minerals
- Water
- Air Quality
- Climate change
- Energy (infrastructure)
- Accessibility and Transport
- Infrastructure impacts
- Cultural Architectural and Archaeological Heritage
- Landscapes

Of these, the following were identified as being issues relevant to the SEA of the LFRMS with other issues scoped out:

- Biodiversity
- Community/IMD
- Neighbourhood Quality
- Housing
- Economy
- Health
- Recreation
- Soil and Minerals
- Water
- Climate change
- Key infrastructure
- Cultural
- Landscapes




The aim is to achieve a balance between environmental, social and economic sustainability issues. This then translated through to a set of SEA objectives:

- 1 To protect and enhance the borough's biodiversity
- 2 To minimise impacts on socially and economically deprived areas
- 3 To protect and improve, where possible, neighbourhood quality
- 4 To reduce the impact of flooding on properties at risk
- 5 To protect and support economic activity and employment provision
- 6 To protect and enhance the health and wellbeing of the population
- 7 To minimise impact on opportunities for leisure and recreational activities
- 8 To preserve and enhance the borough's soil and mineral resources
- 9 To protect and enhance, where possible, the quality of water resources
- 10 To promote climate change adaptation and community resilience
- 11 To protect and current and future infrastructure and assets
- 12 To protect and enhance the cultural, architectural and archaeological heritage of the borough
- 13 To protect and enhance the landscapes and green infrastructure of the borough




The objectives will not work separate from each other as the SEA needs to be considered as a whole. Therefore, we need to be aware of any potential conflicts that may arise from these objectives. The table below demonstrates how compatible these objectives are with each other.

	Biodiversity	Community/IMD	Neighbourhood Quality																	
Biodiversity																				
Community/IMD																				
Neighbourhood Quality																				
Housing																				
Economy																				
Health																				
Recreation																				
Soil and Minerals																				
Water																				
Climate change																				
Key infrastructure																				
Cultural																				
Landscapes																				

Key

-  Likely to be compatible
-  Potentially incompatible
-  Uncertainty

SEA implication

-  Should be addressed in SEA
-  Should be addressed in SEA
-  May be explored in SEA



Likely insignificant link






Unlikely to be addressed in SEA

A4: Developing the Strategic Environmental Assessment framework and outlining what happens next.

The assessment criteria are set out below.

Objective	Suggested Criteria
To protect and enhance the borough's biodiversity	Does it affect designated sites or species? Does it support plans to protect/enhance biodiversity?
To minimise impacts on socially and economically deprived areas	Are areas of high deprivation affected? Are vulnerable areas protected?
To protect and improve, where possible, neighbourhood quality	Is neighbourhood amenity quality affected? Is there any environmental gain to the neighbourhood?
To reduce the impact of flooding on properties at risk	Are properties protected from flooding?
To protect and support economic activity and employment provision	Are there positive impacts on provision of employment such as through protecting employment areas?
To protect and enhance the health and wellbeing of the population	Is human health protected?
To minimise impact on opportunities for leisure and recreational activities	Are leisure and recreation activities protected? Are leisure and recreation activities created?
To preserve and enhance the borough's soil and mineral resources	Is soil contamination risk reduced? Are mineral resources protected?
To protect and enhance, where possible, the quality of water resources	Is flood risk reduced? Is the condition of local waterbodies enhanced?
To promote climate change adaptation and community resilience	Is adaptation to climate change improved? Are communities more resilient?
To protect and current and future infrastructure and assets	Are key assets protected? Is access to key assets enhanced?
To protect and enhance the cultural, architectural and archaeological heritage of the borough	Are cultural Are conservation areas affected? Will key archaeological sites be impacted?
To protect and enhance the landscapes and green infrastructure of the borough	Is Green Infrastructure identified and protected? Are landscapes improved?

To allow the final SEA Report to focus on significant impacts, the assessment approach will be to identify positive, negative and neutral impacts.

	Significant Positive Impact
	Potential Positive Impact
	Neutral Impact
	Potential Negative Impact
	Significant Negative Impact

This is reflective of and consistent with the SEA/SA of the Local Plan (September 2013).

A5: Consulting on the scope of the Strategic Environmental Assessment.

Consultation was held with statutory consultees and relevant infrastructure providers between March and April 2014. (Consultation responses can be found in **Appendix C**)
These were:

- The Environment Agency
- Natural England
- English Heritage
- Electricity North West
- United Utilities
- Coal Authority

4. TESTING THE OBJECTIVES AGAINST THE SEA FRAMEWORK (B1)

It is important that the objectives of the Local Flood Risk Management Strategy are in accordance with sustainability principles. To help achieve this we ensured that the sustainability appraisal helped to guide the LFRMS as it developed.

The LFRMS is fully integrated with the sustainability appraisal, so the objectives of the LFRMS are informed by the same evidence and key issues as the sustainability objectives. We are therefore confident that the LFRMS objectives are broadly compatible with the sustainability objectives.

Subsequent stages of appraisal were sufficient to identify potential issues with the LFRMS approach and opportunities for improvement. The LFRMS responded to the issues raised in the appraisal and appropriate changes were made. The appraisal shows that the LFRMS has responded to all aspects of sustainability and mitigated where possible. This does not mean there will be no detrimental impacts but, where there are, mitigation is in place.

5. ALTERNATIVES AND TESTING THE IMPLICATIONS OF NO LOCAL FLOOD RISK MANAGEMENT STRATEGY (B2)

The Local Flood Risk Management Strategy has been through several draft stages in its preparation following consultation both internally and outside of the Council. Limited alternatives to the draft LFRMS have been identified. However, those that have are discussed below.

Alternative: Rely on current policies (implications of no LFRMS)

This was not a viable option as the production of a Local Flood Risk Management Strategy is a legislative requirement. However, it does not need to be considered for SEA purposes.

The Local Flood Risk Management Strategy seeks to address a number of issues associated with responding to and preparing for flooding in the local area. It sets out who is responsible for what and asks Wigan Council to determine what its approach will be to managing flood risk and how it will work with others in delivering this. Without the Strategy, this would remain unclear for many people especially the general public. Whilst many things would still happen in preparing for and responding to floods, there may be a lack of coordination in how this is achieved.

One main issue for Wigan Council in not producing a Flood Risk Management Strategy is that it would be in breach of the regulations. It would also be difficult for other Local Lead Flood Authorities, Risk Management Authorities and partner agencies to clearly identify what Wigan is doing in response to flooding.

Alternative: Develop more or different policies

Ten policies have been developed within the LFRMS. The policies cover an appropriate range of issues and cover the responsibilities of Wigan Council and its partners involved in flood risk management. Alternative policies could be developed but they would possibly create an administrative burden and begin to go beyond the remit of the LFRMS.






Alternative: Focus on specific locations not based on vulnerability

Within the LFRMS there are policies which set out the need to identify interventions based on vulnerability. If this was done in a different way – such as based on value of assets alone, resources may be wasted. It may also not address the most pressing issues associated with flooding in Wigan borough.

6. FINDINGS OF THE SEA (B3/B4)

The matrix on the following pages sets out the assessment of the LFRMS policies. Scores have been allocated

The assessment approach will be to identify positive, negative and neutral impacts.

	Significant Positive Impact
	Potential Positive Impact
	Neutral Impact
	Potential Negative Impact
	Significant Negative Impact

The policies appraised were:

Policy 1	Information and evidence will be collected, collated and fed into both flood management and emergency planning to ensure a well-informed risk based approach to flooding issues in Wigan Borough
Policy 2	Wigan Council will work with other Risk Management Authorities and stakeholders to ensure effective communication between all relevant bodies
Policy 3	Infrastructure assets will be monitored, managed and maintained with an up to date asset regime in place
Policy 4	Interventions prioritisation will be based on targeting the most vulnerable people, communities and locations ensuring economic, environmental and social sustainability
Policy 5	The environmental impacts of interventions specifically on biodiversity, water quality, and soil and mineral resources will be mitigated where possible with the aim of enhancing the environment where feasible
Policy 6	An effective approach to Sustainable Drainage Systems will be implemented and monitored
Policy 7	Spatial planning and development management will ensure that flooding issues are considered when development comes forward
Policy 8	Wigan Council and other stakeholder agencies and organisations will ensure timely, relevant and targeted information is disseminated to residents and businesses in the borough vulnerable to flooding
Policy 9	Wigan Council will investigate and report on flooding incidents and work with communities and partner agencies to ensure effective implementation
Policy 10	Wigan Council, Risk Management Authorities and partner agencies and organisations will work to secure funding for flood management actions where appropriate including private investment by businesses and individuals

On the following pages, details of the appraisal itself with commentary for each element are laid out. Many impacts are indirect yet positive. There are no negative impacts identified once mitigation has been taken into account. There are some neutral impacts meaning that either the positive impacts are countered by some negative ones, or there is no implication for that sustainability objective.

Difficulties encountered and data limitations

Overall there is a lot of information available to consider flooding in Wigan. Without details of specific locations for interventions it can be difficult to determine the impact of the LFRMS in practice. However, its approach and likely overall impact can be considered. This necessarily affects the judgement of how policies will impact, so it may be that more detrimental impacts may occur in practice.

SUSTAINABILITY OBJECTIVE		POLICY									
		1	2	3	4	5	6	7	8	9	10
A	To protect and enhance the borough's biodiversity	Diagonal	Diagonal	Diagonal	Diagonal	Solid	Solid				
B	To minimise impacts on socially and economically deprived areas	Diagonal	Diagonal	Diagonal	Solid			Diagonal	Diagonal	Diagonal	
C	To protect and improve, where possible, neighbourhood quality	Diagonal	Diagonal	Diagonal	Solid	Diagonal		Diagonal		Diagonal	
D	To reduce the impact of flooding on properties at risk	Solid	Solid	Solid	Diagonal		Diagonal	Solid	Solid	Diagonal	Diagonal
E	To protect and support economic activity and employment provision	Diagonal	Diagonal	Solid	Solid			Solid	Diagonal		
F	To protect and enhance the health and wellbeing of the population	Diagonal	Diagonal	Diagonal	Solid	Diagonal	Diagonal	Diagonal	Diagonal	Diagonal	
G	To minimise impact on opportunities for leisure and recreational activities	Diagonal	Diagonal	Diagonal	Solid	Diagonal					
H	To preserve and enhance the borough's soil and mineral resources	Diagonal	Diagonal	Diagonal	Diagonal	Solid					
I	To protect and enhance, where possible, the quality of water resources	Diagonal	Diagonal	Solid	Diagonal	Solid	Solid				
J	To promote climate change adaptation and community resilience	Diagonal	Diagonal	Solid	Solid	Solid	Diagonal	Diagonal	Solid	Diagonal	Diagonal
K	To protect current and future infrastructure and assets	Diagonal	Diagonal	Solid	Diagonal	Diagonal	Diagonal	Diagonal			
L	To protect and enhance the cultural, architectural and archaeological heritage of the borough	Diagonal	Diagonal	Solid	Diagonal	Diagonal					
M	To protect and enhance the landscapes and green infrastructure of the borough	Diagonal	Diagonal	Diagonal	Diagonal	Solid	Diagonal	Diagonal			

7. DETAILS OF APPRAISAL (B5)

Policy 1	
Information and evidence will be collected, collated and fed into both flood management and emergency planning to ensure a well-informed risk based approach to flooding issues in Wigan Borough	
To protect and enhance the borough's biodiversity	Biodiversity will be protected and enhanced if evidence of the effects flooding and flood interventions on it is included into flood management.
To minimise impacts on socially and economically deprived areas	The most deprived areas are not always the most vulnerable although there is some correlation. However, the use of vulnerability information as well as deprivation mapping should ensure that socially and economically deprived communities are considered when dealing with flooding.
To protect and improve, where possible, neighbourhood quality	Ensuring there is sound evidence supporting approaches to flood management should assist with protecting (and enhancing where possible) neighbourhood amenity.
To reduce the impact of flooding on properties at risk	Quality evidence and information will underpin protection of properties within Wigan from flooding.
To protect and support economic activity and employment provision	A well informed approach will support protection of areas of employment, and help with economic activity when flooding events do occur.
To protect and enhance the health and wellbeing of the population	Evidence on human health within the borough and the impacts of flooding upon it will be improved with better information gathering. Consideration should be given to mental as well as physical health.
To minimise impact on opportunities for leisure and recreational activities	Although limited, the impact here would still be a positive one as information and evidence feeding into the management process should consider the impact on recreation.
To preserve and enhance the borough's soil and mineral resources	This would be a positive impact but more information would need to be gathered to ensure high quality soils and mineral resources are protected.
To protect and enhance, where possible, the quality of water resources	Information and evidence on the quality of water courses will be invaluable in planning management of and response to flooding.
To promote climate change adaptation and community resilience	Sound evidence, especially vulnerability mapping outlined in the strategy, will assist the borough in adapting to climate change impacts.
To protect current and future infrastructure and assets	A detailed asset register and information on key infrastructure will provide for better planning and management. There needs to be consideration of access to assets as well.
To protect and enhance the cultural, architectural and archaeological heritage of the borough	Information and evidence on the condition of key cultural, architectural and archaeological assets will be useful for flood management, ensuring they are protected when possible.
To protect and enhance the landscapes and green infrastructure of the borough	Protecting the landscape environment and making use of it for flood management purposes will be improved with strong evidence and information.

Policy 2	
Wigan Council will work with other Risk Management Authorities and stakeholders to ensure effective communication between all relevant bodies	
To protect and enhance the borough's biodiversity	Communication with other bodies, especially statutory environmental bodies and local environmental groups will be beneficial in
To minimise impacts on socially and economically deprived areas	Improved communication should ensure that socially and economically deprived locations and other vulnerable areas are assisted in flood management.
To protect and improve, where possible, neighbourhood quality	There is likely to be a high impact from flooding on neighbourhood amenity so effective communication before and after flood events is critical to ensuring it is protected as much as possible.
To reduce the impact of flooding on properties at risk	Effective communication between stakeholders should assist with improving flood risk management for properties at risk by ensuring awareness and sharing expertise and information. For the strategy to work effectively this is paramount.
To protect and support economic activity and employment provision	The local economy should be assisted in preparing and managing flood risk if relevant partners and stakeholders are all engaged in flood risk management.
To protect and enhance the health and wellbeing of the population	Health impacts can be prepared for and possible mitigated if agencies and stakeholders are working and communicating together well. This needs to link into the quality of information.
To minimise impact on opportunities for leisure and recreational activities	There is some slight benefit here from communication between stakeholders in ensuring all understand the impact on leisure and recreation opportunities.
To preserve and enhance the borough's soil and mineral resources	If flood management is improved through better communication and engagement between stakeholders then the borough's soil and mineral assets can benefit through better understanding and information sharing.
To protect and enhance, where possible, the quality of water resources	Water resources are the responsibility of some of the stakeholders including RMAs, therefore they will benefit from better communication between them.
To promote climate change adaptation and community resilience	Community resilience and adapting to climate change relies on good communication between stakeholders underpinning it. Therefore there will be a positive impact if this is carried out effectively.
To protect current and future infrastructure and assets	Working together and communicating well between stakeholders will help identify and manage flood risk in relation to infrastructure assets in the borough especially given the varied ownership and responsibility issues involved.
To protect and enhance the cultural, architectural and archaeological heritage of the borough	The heritage of the borough will be better protected from flood risk if relevant stakeholders are engaged. Consideration needs to be given to what extent this engagement is due to the varied ownership issues associated with heritage and cultural assets.
To protect and enhance the landscapes and green infrastructure of the borough	Management of landscape and green infrastructure relies on good communication between stakeholders and owners. Consideration, therefore, needs to be given to who is involved in order for this policy to be fully effective.

Policy 3	
Infrastructure assets will be monitored, managed and maintained with an up to date asset regime in place	
To protect and enhance the borough's biodiversity	Ensuring that assets are correctly recorded and monitored should help ensure biodiversity is not adversely protected from flooding.
To minimise impacts on socially and economically deprived areas	An approach to flood risk management that monitors and maintains assets should help protect all areas including deprived areas.
To protect and improve, where possible, neighbourhood quality	Neighbourhood amenity can be protected or enhanced if assets are maintained accordingly. However, this will obviously vary from area to area.
To reduce the impact of flooding on properties at risk	Maintaining infrastructure assets should be a very effective tool in reducing flood incidents and responding to flood events. Past problems have been caused by poor infrastructure management.
To protect and support economic activity and employment provision	Infrastructure maintenance is key to protecting the local economy and ensuring economic activity continues.
To protect and enhance the health and wellbeing of the population	There is an indirect, knock-on positive benefit from maintaining and managing infrastructure assets if it reduces flood risk.
To minimise impact on opportunities for leisure and recreational activities	Many leisure and recreation opportunities also make use of or are reliant on infrastructure assets, so a proper maintenance regime will bring positive impacts.
To preserve and enhance the borough's soil and mineral resources	An indirect benefit will be derived from maintaining and managing assets for soil and minerals in that they may be protected from flood inundation although this will vary depending on location.
To protect and enhance, where possible, the quality of water resources	Water resources are reliant on effective management of assets and a clear and effective maintenance regime. Therefore there is likely to be a significant positive impact.
To promote climate change adaptation and community resilience	Climate change adaptation and community reliance will require a good understanding of infrastructure assets alongside a good maintenance and management regime to ensure protection is provided effectively.
To protect current and future infrastructure and assets	There is a clear significant positive impact for infrastructure assets if a monitoring and management regime is in place.
To protect and enhance the cultural, architectural and archaeological heritage of the borough	Cultural and heritage assets will benefit from sound management of key infrastructure to improve protection. Possible linkages should be made between any heritage asset registers and other infrastructure regimes.
To protect and enhance the landscapes and green infrastructure of the borough	Green infrastructure needs to work well with the wider built infrastructure. Therefore links should be made between the infrastructure regime and any green infrastructure strategies and approaches. This should yield some positive impacts.

Policy 4	
Interventions prioritisation will be based on targeting the most vulnerable people, communities and locations ensuring economic, environmental and social sustainability	
To protect and enhance the borough's biodiversity	Ensuring that the most vulnerable locations – including the most environmentally vulnerable locations – are prioritised for protection will be a positive impact.
To minimise impacts on socially and economically deprived areas	Significantly positive impact as the most vulnerable people will be directly targeted.
To protect and improve, where possible, neighbourhood quality	Neighbourhood quality will be significantly protected and improved if the most vulnerable locations are prioritised for flood risk management.
To reduce the impact of flooding on properties at risk	Prioritising the most vulnerable people may not specifically target the most at risk properties but in general they should be positively impacted.
To protect and support economic activity and employment provision	Prioritisation on vulnerability will assist with economic activity and help manage flood risk in areas critical for employment.
To protect and enhance the health and wellbeing of the population	Health and wellbeing is directly linked to vulnerability so there should be a significantly positive impact from such prioritisation.
To minimise impact on opportunities for leisure and recreational activities	Leisure and recreation opportunities will be strengthened and enhanced if the most vulnerable locations are included in prioritisation
To preserve and enhance the borough's soil and mineral resources	There will be some positive impact from prioritisation but this may not cover all locations if some are ranked less vulnerable than others due to other factors.
To protect and enhance, where possible, the quality of water resources	Water resources will be positively impacted as they are important for vulnerability of local populations/communities.
To promote climate change adaptation and community resilience	Climate change adaptation will be significantly positively affected if flood responses are based on vulnerability mapping and consideration of most vulnerable areas.
To protect current and future infrastructure and assets	Infrastructure assets will benefit positively from vulnerability mapping but there may be some issues if prioritisation is based solely on vulnerability.
To protect and enhance the cultural, architectural and archaeological heritage of the borough	Cultural heritage will benefit positively overall but where assets are not in the highest vulnerability areas (based on human vulnerability) there may be issues.
To protect and enhance the landscapes and green infrastructure of the borough	Landscapes and green infrastructure play an important role in reducing vulnerability so there should be a positive relationship here.

Policy 5	
The environmental impacts of interventions specifically on biodiversity, water quality, and soil and mineral resources will be mitigated where possible with the aim of enhancing the environment where feasible	
To protect and enhance the borough's biodiversity	As biodiversity is specifically identified as a key issue, there should be significant positive impact here.
To minimise impacts on socially and economically deprived areas	There may be some limited positive impact but there may be negative impact if resources are not in deprived areas, leading to a neutral impact.
To protect and improve, where possible, neighbourhood quality	Some positive neighbourhood quality benefits as the local natural environment is positively promoted.
To reduce the impact of flooding on properties at risk	There may be both positive (where flood risk is also reduced) and negative (where there is conflict between protecting property and protecting the natural environment) impacts here, leaving it neutral.
To protect and support economic activity and employment provision	Both positive and negative impacts as preservation of the natural environment can conflict with economic priorities. Overall neutral.
To protect and enhance the health and wellbeing of the population	Ensuring the natural environment is protected and enhanced will have a positive impact on the health of the borough's population. Perhaps not fully positive, however, as protection of some mineral assets can, in the long-run conflict with human health issues.
To minimise impact on opportunities for leisure and recreational activities	Positive impact as many leisure and recreational opportunities are enhanced by a protected natural environment.
To preserve and enhance the borough's soil and mineral resources	Soil and minerals are directly identified as a key issue for protection and enhancement. Therefore there is a strongly positive impact.
To protect and enhance, where possible, the quality of water resources	Water quality is identified as a key issue for protection and enhancement. Therefore there is a significant positive impact.
To promote climate change adaptation and community resilience	Adaptation will rely on protecting biodiversity and water quality as both can be affected by climate change so there should be a strongly positive impact.
To protect current and future infrastructure and assets	Some protection of biodiversity, water and soils will rely on supporting key infrastructure so there should be a positive impact.
To protect and enhance the cultural, architectural and archaeological heritage of the borough	The borough's heritage should benefit from ensuring interventions enhance the local natural environment.
To protect and enhance the landscapes and green infrastructure of the borough	Landscapes and green infrastructure are inextricably linked to or are often one and the same as the natural environment identified in the policy so there should be a significantly positive impact.

Policy 6	
An effective approach to Sustainable Drainage Systems will be implemented and monitored	
To protect and enhance the borough's biodiversity	Ensuring effective SuDS are implemented should help protect biodiversity by working in harmony with it. A strongly positive relationship.
To minimise impacts on socially and economically deprived areas	There is little to no impact here so it is neutral.
To protect and improve, where possible, neighbourhood quality	There may be some mildly positive impacts here but not of any real significance.
To reduce the impact of flooding on properties at risk	Effective SuDS schemes should positively improve flood risk management of properties affected.
To protect and support economic activity and employment provision	There is likely to be little relationship here so it is neutral
To protect and enhance the health and wellbeing of the population	Health and wellbeing should be improved somewhat if SuDS schemes work well with the local environment – a consequence of improved neighbourhood amenity.
To minimise impact on opportunities for leisure and recreational activities	There may be some slight positives here through helping the local environment but nothing of any significance. Neutral.
To preserve and enhance the borough's soil and mineral resources	Depending on how SuDS are implemented this could be both good and bad as land is used for drainage purposes. Therefore it is neutral.
To protect and enhance, where possible, the quality of water resources	Water resources could greatly benefit from an effective SuDS regime so the impact is significantly positive.
To promote climate change adaptation and community resilience	Climate change adaptation is closely linked to using approaches such as SuDS. Likely to be a positive impact.
To protect current and future infrastructure and assets	Current and future assets will benefit positively from effective SuDS being in place to protect them.
To protect and enhance the cultural, architectural and archaeological heritage of the borough	There is likely to be no impact of note here. Neutral.
To protect and enhance the landscapes and green infrastructure of the borough	There is likely to be a positive impact here as SuDS and green infrastructure are closely related.

Policy 7	
Spatial planning and development management will ensure that flooding issues are considered when development comes forward	
To protect and enhance the borough's biodiversity	Depending on spatial policies this could be positive but without future detail in relation to flooding, and the imperative of economic development and other issues it seems to be neutral.
To minimise impacts on socially and economically deprived areas	Spatial planning is seeking to improve economically deprived areas so the impact is likely to be positive.
To protect and improve, where possible, neighbourhood quality	Neighbourhood quality is greatly enhanced where flooding is considered in spatial planning, so this is likely to be positive.
To reduce the impact of flooding on properties at risk	A significantly positive impact as vulnerable properties and locations are identified in spatial planning.
To protect and support economic activity and employment provision	A significant positive impact as economic development is at the forefront of spatial planning in the borough.
To protect and enhance the health and wellbeing of the population	Likely to be positive as spatial planning considers the overall health of the borough. Perhaps neutral depending on the impact of others policies also implemented.
To minimise impact on opportunities for leisure and recreational activities	Spatial planning considerations on flooding are likely to have limited impact on leisure and recreational activity. Neutral.
To preserve and enhance the borough's soil and mineral resources	There may be some impact – both positive and negative depending on location. Neutral.
To protect and enhance, where possible, the quality of water resources	Spatial planning and development can detrimentally impact on water quality and provision and also impact on groundwater, but there is also potential for benefits in improving water quality issues in some locations. Overall, neutral.
To promote climate change adaptation and community resilience	Effective spatial planning allied with flood considerations should positively impact on the ability to adapt to climate change.
To protect current and future infrastructure and assets	There is likely to be a positive impact as spatial planning and development management helps protect current assets.
To protect and enhance the cultural, architectural and archaeological heritage of the borough	Both good and bad issues here depending on whether spatial planning considers the impact on heritage assets effectively. Likely to be neutral.
To protect and enhance the landscapes and green infrastructure of the borough	An effective approach should, overall, benefit the wider landscape and green infrastructure, especially if investment is identified.

Policy 8 Wigan Council and other stakeholder agencies and organisations will ensure timely, relevant and targeted information is disseminated to residents and businesses in the borough vulnerable to flooding	
To protect and enhance the borough's biodiversity	Unlikely to be notable impacts
To minimise impacts on socially and economically deprived areas	May depend on ability of residents to respond and disadvantaged areas may find that more difficult. However, likely to have some positive impact overall as helps people prepare.
To protect and improve, where possible, neighbourhood quality	Potential to improve neighbourhood quality but there is also potential to negatively affect it depending on neighbourhood response. Neutral.
To reduce the impact of flooding on properties at risk	An effective tool in helping at risk properties be prepared and readied for flood risk management. Significantly positive.
To protect and support economic activity and employment provision	Business can respond accordingly, so likely to be a positive impact. Also may provide investors with clarity which would be beneficial.
To protect and enhance the health and wellbeing of the population	Health and wellbeing would be positively impacted as people can prepare and respond appropriately.
To minimise impact on opportunities for leisure and recreational activities	Unlikely to be notable impacts. Arguable could be positive if community responds well.
To preserve and enhance the borough's soil and mineral resources	Unlikely to be notable impacts and where it could be argued, it may be either positive or neutral depending on location.
To protect and enhance, where possible, the quality of water resources	Arguable it could be positive if flooding is managed better but also may be negative depending on location. Neutral.
To promote climate change adaptation and community resilience	Climate change adaptation relies heavily on people being able to prepare and respond. This would be a significant positive impact.
To protect current and future infrastructure and assets	Unlikely to be notable impacts.
To protect and enhance the cultural, architectural and archaeological heritage of the borough	Unlikely to be notable impacts.
To protect and enhance the landscapes and green infrastructure of the borough	Unlikely to be notable impacts.

Policy 9 Wigan Council will investigate and report on flooding incidents and work with communities and partner agencies to ensure effective implementation	
To protect and enhance the borough's biodiversity	Unlikely to be notable impacts.
To minimise impacts on socially and economically deprived areas	Working with communities on flood management would be positive to all including deprived areas.
To protect and improve, where possible, neighbourhood quality	Neighbourhood quality should be improved if communities are engaged in preparing for, responding to and learning from flooding incidents.
To reduce the impact of flooding on properties at risk	Vulnerable properties would be helped if effective procedures like this are put in place and communities engaged.
To protect and support economic activity and employment provision	Unlikely to be notable impacts although arguable it would be helpful in the long term for businesses and key employment locations.
To protect and enhance the health and wellbeing of the population	Engaged communities are better able to prepare and respond, and therefore health impacts should be reduced and health and wellbeing improved.
To minimise impact on opportunities for leisure and recreational activities	Unlikely to be notable impacts.
To preserve and enhance the borough's soil and mineral resources	Unlikely to be notable impacts.
To protect and enhance, where possible, the quality of water resources	Unlikely to be notable impacts.
To promote climate change adaptation and community resilience	Climate change adaptation is closely linked to effective community working and learning from previous responses so it is likely to be positive.
To protect current and future infrastructure and assets	Unlikely to be notable impacts although long term it may be beneficial.
To protect and enhance the cultural, architectural and archaeological heritage of the borough	Unlikely to be notable impacts.
To protect and enhance the landscapes and green infrastructure of the borough	Unlikely to be notable impacts.

Policy 10 Wigan Council, Risk Management Authorities and partner agencies and organisations will work to secure funding for flood management actions where appropriate including private investment by businesses and individuals	
To protect and enhance the borough's biodiversity	Dependent on use of funding. Unlikely to be notable impact from policy alone.
To minimise impacts on socially and economically deprived areas	Dependent on use of funding. Unlikely to be notable impact from policy alone.
To protect and improve, where possible, neighbourhood quality	Dependent on use of funding. Unlikely to be notable impact from policy alone.
To reduce the impact of flooding on properties at risk	Funding will always be used to help protect at risk properties in some way so this will be positive.
To protect and support economic activity and employment provision	Dependent on use of funding. Unlikely to be notable impact from policy alone.
To protect and enhance the health and wellbeing of the population	Dependent on use of funding. Unlikely to be notable impact from policy alone.
To minimise impact on opportunities for leisure and recreational activities	Dependent on use of funding. Unlikely to be notable impact from policy alone.
To preserve and enhance the borough's soil and mineral resources	Dependent on use of funding. Unlikely to be notable impact from policy alone.
To protect and enhance, where possible, the quality of water resources	Dependent on use of funding. Unlikely to be notable impact from policy alone.
To promote climate change adaptation and community resilience	The partnership working is where the benefit will come from. Arguable it is unlikely to be notable.
To protect current and future infrastructure and assets	Dependent on use of funding. Unlikely to be notable impact from policy alone.
To protect and enhance the cultural, architectural and archaeological heritage of the borough	Dependent on use of funding. Unlikely to be notable impact from policy alone.
To protect and enhance the landscapes and green infrastructure of the borough	Dependent on use of funding. Unlikely to be notable impact from policy alone.

8. MONITORING (B6)

The strategic environmental assessment process is ideally an iterative one, so its success and effectiveness will be monitored by the continued collection of data according to identified indicators in the sustainability framework.

A monitoring regime for the LFRMS is identified and so, to avoid duplication, that should incorporate the SEA monitoring as well. However, it will necessarily need to consider specific issues and they are set out below.

- Is overall flood risk reduced for the borough?
- Are designated sites or species affected by flooding and flooding interventions?
- Do flooding interventions support plans to protect/enhance biodiversity?
- Are areas of high deprivation affected by flooding?
- Are vulnerable areas protected from flooding?
- Is neighbourhood amenity quality affected by flooding?
- Is there any environmental gain to the neighbourhood from flooding interventions?
- Are properties protected from flooding?
- Are there positive impacts on provision of employment such as through protecting employment areas from flooding interventions?
- Is human health protected?
- Are leisure and recreation activities protected?
- Are leisure and recreation activities created from flooding interventions?
- Is soil contamination risk from flooding and flooding interventions reduced?
- Are mineral resources protected?
- Is the condition of local waterbodies enhanced?
- Is adaptation to climate change improved?
- Are communities more resilient?
- Are key assets protected?
- Is access to key assets enhanced?
- Are cultural assets protected?
- Are conservation areas affected?
- Will key archaeological sites be impacted?
- Is Green Infrastructure identified and protected?
- Are landscapes improved?

These questions should be asked during the partnership process, the review process and the scrutiny process as identified in the LFRMS.

APPENDIX A: PLANS AND PROGRAMMES REVIEWED

Where possible we have ensured consistency with other SEA's.

Section A: International

Table A1	
Title	The Ramsar Convention on Wetlands of International Importance
Proponent body	Ramsar Convention
Date produced	1971
Key Messages, Requirements & Objectives	
<p>The Convention is an intergovernmental treaty that provides the framework for international cooperation and national action for the conservation and wise use of wetlands and their resources. The Ramsar Contracting Parties (Member States) have committed themselves to: designating suitable wetlands for the List of Wetlands of International Importance ("Ramsar List") and ensuring their effective management; working towards the wise use of all their wetlands through national land-use planning, appropriate policies and legislation, management actions, and public education; and cooperating internationally regarding trans-boundary wetlands, shared wetland systems, shared species, and development projects that may affect wetlands.</p>	
Why is it Relevant to the Local Flood Risk Management Strategy?	
<p>Although there are no RAMSAR sites within Wigan, there remains a slight possibility that local flooding issues can impact albeit in a very limited way on nearby RAMSAR sites (Martin Mere, Mersey Estuary and Ribble and Alt Estuary) and their natural resources. All authorities have a responsibility to consider such impacts.</p>	
Wigan LFRMS Response	
<p>The LFRMS will seek to avoid adverse impacts on Ramsar sites and enhance them wherever possible.</p>	

Table A2	
Title	EC Council Directive 79/409/EEC, on the Conservation of Wild Birds (Directive 2009/147/EC)
Proponent body	European Commission
Date produced	1979 (Amended in 1997) Codified in 2009
Key Messages, Requirements & Objectives	
<p>The Directive relates to the conservation of all species of naturally occurring wild birds. It covers the protection, management and control of these species and lays down rules for their exploitation applying to birds, their eggs, nests and habitats. Member states are required to take measures to preserve, maintain or re-establish a sufficient diversity and area of habitats for all species of birds. The following are subject to special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution: species in danger of extinction; species vulnerable to specific changes in their habitat; species considered rare because of small populations or restricted local distribution; and other species requiring particular attention for reasons of the specific nature of their habitat.</p>	
Why is it Relevant to the Local Flood Risk Management Strategy?	
<p>There could be impacts on wild birds within the borough from both flooding and any LFRMS interventions, especially in relation to nesting and feeding following a flooding incident or works associated with addressing flooding issues.</p>	
Wigan LFRMS Response	
<p>The LFRMS will seek to avoid adverse impacts on wild bird species and enhance their habitats wherever possible.</p>	

Table A3	
Title	EC Council Directive 85/337/EEC & 97/11/EC, on the Assessment of the Effects of certain Public and Private Projects on the Environment
Proponent body	European Commission
Date produced	1985 (Amended in 1997)
Key Messages, Requirements & Objectives	
The Directive aims to ensure that the authority giving the consent for a particular development project makes its decision in the knowledge of any likely significant effects on the environment. The Directive therefore sets out a process, known as Environmental Impact Assessment (EIA) that must be followed for certain types of project before approval can be given.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
The decisions made from the LFRMS need to take into account any significant effects on the environment and a preceding EIA carried out can use the information provided by the LFRMS as evidence for any concluding decisions.	
Wigan LFRMS Response	
The LFRMS will have regard to the requirements of the Directive as the Strategy sets out the broad framework for investment in new local flood risk management infrastructure.	

Table A4	
Title	The Kyoto Protocol and UN Framework Convention on Climate Change
Proponent body	United Nations
Date produced	1992
Key Messages, Requirements & Objectives	
The objective of the Convention, and related instruments, is to achieve stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous interference with the climatic system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
Development and/or construction undertaken as a result of the LFRMS will ensure that communities are adapted to the impacts of flooding and processes during construction can use approaches to reduce negative and increase positive potential facts of climate change.	
Wigan LFRMS Response	
The LFRMS will have regard to the Protocol and Convention in seeking to manage and mitigate increased flood risk due to climate change.	

Table A5	
Title	EC Council Directive 92/43/EEC, on the Conservation of Natural Habitats and of Wild Fauna and Flora
Proponent body	European Commission
Date produced	1992
Key Messages, Requirements & Objectives	
<p>The aim of the Directive is to contribute towards ensuring bio-diversity through the conservation of natural habitats and of wild fauna and flora. The Directive lists a number of species and habitats which are to be protected by means of a network of sites across Europe. These sites are known as Special Areas of Conservation (SACs). The HD introduces the precautionary principle; projects can only be permitted having ascertained no adverse effect on the integrity of the site. Projects may still be permitted if there are no alternatives, and there are imperative reasons of overriding public interest. In such cases compensation measures will be necessary to ensure the overall integrity of the network of sites.</p>	
Why is it Relevant to the Local Flood Risk Management Strategy?	
<p>Conservation of natural habitats is important for the Wigan borough which supports a wide range of UK biodiversity priority species within such areas as Astley Moss SSSI which is part of the Manchester Mosses SAC and must therefore be part of the LFRMS.</p>	
Wigan LFRMS Response	
<p>The LFRMS will seek to avoid adverse impacts on habitats and enhance them wherever possible.</p>	

Table A6	
Title	EU Biodiversity Strategy
Proponent body	European Commission
Date produced	1998
Key Messages, Requirements & Objectives	
The Strategy aims to anticipate, prevent and address the causes of significant reduction or loss of biodiversity at source. It states that the scale of human impact on biodiversity has accelerated dramatically in recent decades and that, in spite of efforts by the Community and Member States to address the problem of biodiversity reduction or loss, existing measures are insufficient to reverse present trends.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
Human impact which is the cause of dramatically accelerated biodiversity loss must be addressed within the LFRMS providing mitigation against the negative results.	
Wigan LFRMS Response	
The LFRMS will seek to avoid adverse effects on biodiversity, particularly land use changes and construction activities that would result in detrimental changes in water levels.	

Table A7	
Title	EC Council Directive 98/83/EC on the quality of water intended for human consumption
Proponent body	European Commission
Date produced	1998
Key Messages, Requirements & Objectives	
The objective of the Directive is to protect the health of consumers and to make sure that water is wholesome and clean. The Directive sets quality standards for drinking water quality at the tap and obliges Member States to monitor regularly drinking water quality, including provision of adequate and up-to-date information to consumers.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
Providing high quality drinking water is important to the population of the borough and becomes interlinked with the LFRMS as pollution becomes a possibility during flooding events.	
Wigan LFRMS Response	
The LFRMS will have regard to the requirements of the Directive, particularly in view of the link between flooding and the potential pollution of water supplies.	

Table A8	
Title	EC Council Directive 1999/31/EC, on the landfill of waste
Proponent body	European Commission
Date produced	1999
Key Messages, Requirements & Objectives	
The objective of the Directive is to prevent or reduce as far as possible negative effects on the environment from the land filling of waste by introducing stringent technical requirements, particularly relating to surface water, groundwater, soil, air and human health.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
Varieties of flooding such as surface water and groundwater must be regarded as negatives when in contact with landfill sites to ensure environmental protection.	
Wigan LFRMS Response	
The LFRMS will have regard to the aims of the Directive, particularly the need for landfill sites to avoid causing problems with surface water and groundwater.	

Table A9	
Title	EC Council Directive 2000/60/EC, establishing a framework for Community action in the field of water policy
Proponent body	European Commission
Date produced	2000
Key Messages, Requirements & Objectives	
The Water Framework Directive (WFD) aims to improve and integrate the way water bodies are managed. Member States must aim to reach good status in inland and coastal waters by 2015. The WFD seeks to: <ul style="list-style-type: none"> • Enhance the status and prevent further deterioration of aquatic ecosystems and associated wetlands • Promote the sustainable use of water • Reduce pollution of water, especially by 'priority' and 'priority hazardous' substances • Ensure progressive reduction of groundwater pollution. For heavily modified waterbodies as in Wigan, the objective is for Good Ecological Potential by 2027. Good ecological potential is not only influenced by water quality, physically limiting factors must also be addressed.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
The WFD's aims and beliefs should be taken in account by the LFRMS as they can help to mitigate the negative impacts of flooding as pollutants are decreased and aquatic ecosystems are enhanced.	
Wigan LFRMS Response	

The LFRMS will have regard to the aims of the Directive, in particular by seeking to encourage more sustainable water use and identifying opportunities for improving drainage systems to protect the aquatic environment from water pollution via surface run-off.

Table A10

Title	EC Council Directive 2006/118/EC on the protection of groundwater against pollution and deterioration
Proponent body	European Commission
Date produced	2006
Key Messages, Requirements & Objectives	
The Directive establishes a regime which sets underground water quality standards and introduces measures to prevent or limit inputs of pollutants into groundwater.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
Standards and measures introduced by the Directive regarding water quality and pollution should be supported by the LFRMS to ensure groundwater is negatively impacted as little as possible.	
Wigan LFRMS Response	
The LFRMS will have regard to the Directive, particularly in view of the link between flooding and potential water pollution.	

Table A11	
Title	EC Council Directive 2007/60/EC on the assessment and management of flood risks
Proponent body	European Commission
Date produced	2007
Key Messages, Requirements & Objectives	
<p>The Directive requires Member States to assess if all water courses and coastlines are at risk from flooding; to map the flood extent and assets and humans at risk in these areas; and to take adequate and coordinated measures to reduce this flood risk. Its aim is to reduce and manage the risks that floods pose to human health, the environment, cultural heritage and economic activity.</p>	
Why is it Relevant to the Local Flood Risk Management Strategy?	
<p>The preventative measures of the Directive which mitigate the effects of flooding through reduction and management of risks from flooding to social, environmental and economic factors should be accounted for within the LFRMS to ensure that sustainable development can be carried out within the future.</p>	
Wigan LFRMS Response	
<p>The LFRMS will take direct account of the Directive, dealing as it does with the assessment and management of flood risk at the local level.</p>	

Section B: National

Table B1	
Title	Accessible Natural Greenspace Standards in Towns and Cities: a Review and Toolkit for their Implementation
Proponent body	English Nature
Date produced	2003
Key Messages, Requirements & Objectives	
This report sets out the results of a research project into the contemporary natural greenspace standards model in order to determine whether its validity could still be supported, how local authorities were managing greenspace policy and how the standards might be promoted effectively in the new and changing policy environment.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
The standards set by the contemporary natural greenspace model examine how local authorities were managing their greenspace policy which is useful for the LFRMS to use and provide policy recommendations to improve the protection of the boroughs greenspace.	
Wigan LFRMS Response	
The LFRMS will have regard to the linkages between areas of natural greenspace and areas for local flood management.	

Table B2	
Title	The Environmental Assessment of Plans and Programmes Regulations (S.I. 2004 No. 1633)
Proponent body	DCLG
Date produced	2004
Key Messages, Requirements & Objectives	
These Regulations implement Directive 2001/42/EC of the European Parliament and Council on the assessment of the effects of certain plans and programmes on the environment	
Why is it Relevant to the Local Flood Risk Management Strategy?	
Wigan LFRMS Response	
The LFRMS is one such plan and hence will be accompanied by an Environmental Report prepared in line with these SEA Regulations.	

Table B3	
Title	Securing the Future - UK Government Sustainable Development Strategy
Proponent body	DEFRA
Date produced	2005
Key Messages, Requirements & Objectives	
<p>The Strategy establishes a set of actions and priorities to support the achievement of Sustainable Development. The 4 priorities are:-</p> <ul style="list-style-type: none"> • Sustainable consumption and production • Climate change • Natural resources and protection • Sustainable communities <p>The 5 statements of principle are:-</p> <ul style="list-style-type: none"> • Developing within environmental limits • Promoting a strong, healthy and just society • Achieving sustainable economic growth • Promoting good governance • Using sound science responsibly 	
Why is it Relevant to the Local Flood Risk Management Strategy?	
<p>The priorities chosen by the strategy should shared values with the LFRMS due to the knock-on effects of climate change to flooding events and sustainable development must be used as a necessary mitigation to protect future generations.</p>	
Wigan LFRMS Response	
<p>The LFRMS will consider the effects of climate change on flood risk and will have regard to protecting water resources. The LFRMS is also required to contribute towards wider environmental objectives, and supporting sustainable development will be a key theme.</p>	

Table B4	
Title	A Practical Guide to the Strategic Environmental Assessment Directive
Proponent body	ODPM/Scottish Executive/Welsh Assembly Government/DoENI
Date produced	2005
Key Messages, Requirements & Objectives	
This Practical Guide provides information and guidance on how to comply with the European Directive 2001/42/EC "on the assessment of the effects of certain plans and programmes on the environment" (the Strategic Environmental Assessment Directive).	
Why is it Relevant to the Local Flood Risk Management Strategy?	
Compliance with the European Directive 2001/42/EC is essential for the SEA to meet high international standards which is therefore important to the LFRMS as the SEA provides the environmental recommendations and approval.	
Wigan LFRMS Response	
In undertaking SEA of the LFRMS, regard will be given to the advice contained in the Practical Guide.	

Table B5	
Title	Contaminated Land (England) Regulations
Proponent body	UK Parliament
Date produced	2006
Key Messages, Requirements & Objectives	
The Regulations aim to provide an improved system for the identification and remediation of contaminated land where contamination is causing unacceptable risk to human health or the wider environment.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
Pollution caused by the resulting effects of flooding upon contamination is a costly environmental negative and therefore the Regulations improved ability to identification and remediation of this land is of use to the LFRMS.	
Wigan LFRMS Response	
The LFRMS will have regard to the need to avoid pollution caused by run-off from contaminated land.	

Table B6	
Title	A Strategy for England's Trees, Woods and Forests
Proponent body	DEFRA
Date produced	2007
Key Messages, Requirements & Objectives	
<p>The Strategy aims to :-</p> <ul style="list-style-type: none"> • Provide a resource of trees, woods and forests in places where they can contribute most in terms of environmental, economic and social benefits now and for future generations • Ensure that trees, woods and forests are resilient to the impacts of climate change and contribute to the way in which biodiversity and natural resources adjust to a changing climate • Protect and enhance water, soil, air, biodiversity, landscapes, and the cultural and amenity values of trees and woodland • Increase the contribution that trees, woods and forests make to the quality of life for those living or working in or visiting England • Improve the competitiveness of woodland businesses and promote the development of markets for sustainable woodland products and ecosystem services where this will deliver identifiable public benefits, nationally or locally, including reducing carbon emissions. 	
Why is it Relevant to the Local Flood Risk Management Strategy?	
DEFRA's strategy aims regarding forest resilience to climate change and protection/enhancement of ecology can be used by the LFRMS as mitigation against the negative impacts of flooding.	
Wigan LFRMS Response	
Tree, woodland and forest cover have an important influence on run-off. The LFRMS will have regard to these as it deals with surface water, ordinary watercourses and groundwater.	

Table B7	
Title	Heritage protection for the 21st Century – White Paper
Proponent body	Department for Culture, Media and Sport/Welsh Assembly Government
Date produced	2007
Key Messages, Requirements & Objectives	
The White Paper proposes an overhaul of heritage policy to provide a simplified system of protecting historic or other important assets and allowing developers and owner's greater certainty over designations and development affecting such assets.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
An overhaul in the complex system of heritage policy and the resulting greater certainty over designations and development effects should be of use, with the policy used by the LFRMS to enhance protection of places of heritage against flood risks.	
Wigan LFRMS Response	
The LFRMS will have regard to flood risk as it relates to listed buildings, including buildings at risk, and other heritage assets.	

Table B8	
Title	Guidance for Local Authorities on Implementing the Biodiversity Duty
Proponent body	DEFRA
Date produced	2007
Key Messages, Requirements & Objectives	
Local authorities have a duty to have regard to the conservation of biodiversity in exercising their functions. This duty was introduced by the Natural Environment and Rural Communities Act 2006. This document provides guidance for local authorities on implementing that duty.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
Guidance of duties which have been introduced as a result of the Natural Environment and Rural Communities Act (2006) can help to effectively support and protect biodiversity.	
Wigan LFRMS Response	
The LFRMS is required to contribute towards wider environmental objectives, and supporting biodiversity will be a key theme.	

Table B9	
Title	Meeting the Energy Challenge: A White Paper on Energy
Proponent body	DTI
Date produced	2007
Key Messages, Requirements & Objectives	
<p>The White Paper aims to deliver four goals:</p> <ul style="list-style-type: none"> • to cut CO2 emissions by 60% by 2050, with real progress by 2020; • to maintain the reliability of energy supplies; • to promote competitive markets in the UK and beyond; and, • to ensure that every home is adequately and affordably heated. 	
Why is it Relevant to the Local Flood Risk Management Strategy?	
<p>The effects of climate change should be taken into account both in their causal but also resulting linkages to flood risk around the borough.</p>	
Wigan LFRMS Response	
<p>The LFRMS will need to acknowledge the potential consequences of human-induced climate change. This will include making climate change assumptions for flood risk assessment and management purposes. The LFRMS will also need to consider flood risk to existing and proposed power-generation infrastructure, and how this can best be managed.</p>	

Table B10	
Title	Learning lessons from the 2007 floods
Proponent body	Pitt Review
Date produced	2008
Key Messages, Requirements & Objectives	
The Pitt Review makes recommendations for urgent and fundamental changes in the way the country is adapting to the increased risk of flooding and calls on the Government to set out publicly how it will make rapid progress, and be held to account, on improving the country's flood resilience.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
The Pitt Review expects government to apply more transparency towards the general public on the way that it deals with flood management which provides support for the creation of the LFRMS.	
Wigan LFRMS Response	
The LFRMS will set out a co-ordinated approach to managing flood risk at the local level, which is one of the key themes of the Pitt Review.	

Table B11	
Title	Climate Change Act 2008
Proponent body	UK Parliament
Date produced	2008
Key Messages, Requirements & Objectives	
<p>The Act establishes a target to reduce UK carbon emissions by 80% by 2050, relative to 1990 levels. The Act also requires the Government to publish 5-yearly carbon budgets starting with the period 2008-2012. Emissions are to be reported on annually. Targeted greenhouse gases are carbon dioxide and methane. Other greenhouse gases are nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride, and others designated by the Secretary of State. The Act provides for the inclusion of international aviation and shipping emissions, with the Government to determine how and when.</p>	
Why is it Relevant to the Local Flood Risk Management Strategy?	
<p>Although air quality itself is not relevant to the aims of the LFRMS the resulting climate change factors are; the concluding aims of the Act are therefore important to the LFRMS.</p>	
Wigan LFRMS Response	
<p>The LFRMS will need to acknowledge the potential consequences of human-induced climate change. This will include making climate change assumptions for flood risk assessment and management purposes.</p>	

Table B12	
Title	The Flood Risk Regulations 2009
Proponent body	UK Parliament
Date produced	2009
Key Messages, Requirements & Objectives	
<p>The Regulations place a duty on the Environment Agency and lead local flood authorities to prepare maps and reports in relation to river basin districts and flooding within any given local authority area. They also place a duty on the Environment Agency and lead local flood authorities to identify flood risk areas and prepare flood risk management plans.</p>	
Why is it Relevant to the Local Flood Risk Management Strategy?	
<p>The duties placed upon the council by the regulations have meant that much of the baseline information and data necessary for the creation of the LFRMS is collected and readily available.</p>	
Wigan LFRMS Response	
<p>Mapping produced in order to meet the requirements of the Regulations will be a key data source for the LFRMS. Linkages will also need to be made between the LFRMS and flood risk management plans.</p>	

Table B13	
Title	Safeguarding our Soils – A Strategy for England
Proponent body	DEFRA
Date produced	2009
Key Messages, Requirements & Objectives	
The Strategy sets out the Government’s approach for improving soil quality in England and safeguarding the ability of soils to provide essential services.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
Soils and vegetation have an important influence on run-off, and surface water runoff can make a key contribution to soil erosion therefore making the two intrinsically linked.	
Wigan LFRMS Response	
The LFRMS will have regard to the soil quality as it deals with surface water, ordinary watercourses and groundwater.	

Table B14	
Title	Water for People and the Environment; Water Resources Strategy for England and Wales
Proponent body	Environment Agency
Date produced	2009
Key Messages, Requirements & Objectives	
<p>The Strategy sets out actions for:-</p> <p>Climate change:</p> <ul style="list-style-type: none"> • enabling habitats and species to adapt better • allowing the way we protect the water environment to adjust flexibly • considering environmental pressure from human water use and its whole life-cycle. <p>The water environment:</p> <ul style="list-style-type: none"> • protecting conservation sites that depend on water • improving environmental resilience • safeguarding water resources via effective catchment management • improving understanding of how water and ecology interact. <p>Managing water resources:</p> <ul style="list-style-type: none"> • supporting housing/related development where the environment can cope with additional demands • allowing a targeted approach where resource stress is greatest • ensuring efficient water use in homes/buildings/industry/agriculture • providing greater incentives to manage demand <p>Valuing water:</p> <ul style="list-style-type: none"> • allowing water companies to address affordability issues • allowing more efficient water use • providing better information on a product's water efficiency 	
Why is it Relevant to the Local Flood Risk Management Strategy?	
The strategy is important in recognising the effects of climate change upon water environments and how to protect/improve/safeguard these environments as well as providing actions which the LFRMS can use to manage and value water resources.	
Wigan LFRMS Response	
The LFRMS will deal with local flood risk management, which is a key element of managing the wider water environment.	

Table B15	
Title	The Flood and Water Management Act 2010
Proponent body	UK Parliament
Date produced	2010
Key Messages, Requirements & Objectives	
<p>The Flood and Water Management Act places a range of new duties on lead local flood authorities, including production of asset registers and local strategies, investigation of flooding incidents and a new regime for sustainable drainage. Risk management authorities are to co-operate with each other, and the Act provides lead local flood authorities and the Environment Agency with a power to request information required in connection with their flood risk management functions. The Act also requires flood and coastal erosion risk management authorities to aim to contribute towards the achievement of sustainable development when exercising their functions.</p>	
Why is it Relevant to the Local Flood Risk Management Strategy?	
<p>The Flood and Water Management Act is the reason why Wigan must facilitate the creation of its own LFRMS.</p>	
Wigan LFRMS Response	
<p>The need for, and overall purposes of, the LFRMS are set out in the Act. The LFRMS is required to have specific regard to these key legislative provisions.</p>	

Table B16	
Title	Healthy Lives, Healthy People: Our strategy for public health in England
Proponent body	HM Government
Date produced	2010
Key Messages, Requirements & Objectives	
<p>The White Paper outlines the Government's commitment to protecting the population from serious health threats; helping people live longer, healthier and more fulfilling lives; and improving the health of the poorest, fastest.</p>	
Why is it Relevant to the Local Flood Risk Management Strategy?	
<p>The beliefs and aims of The White paper (particularly the detrimental effects to public health that a flooding event can have) must be shared within the LFRMS.</p>	
Wigan LFRMS Response	

Flooding, particularly by polluted waters, can have a major, detrimental impact on health and wellbeing. The LFRMS will play its part in managing these risks in local communities.

Table B17

Title	The Conservation of Habitats and Species Regulations 2010
Proponent body	DEFRA
Date produced	2010
Key Messages, Requirements & Objectives	
The Conservation of Habitats and Species Regulations 2010 consolidate all the various amendments made to the Conservation (Natural Habitats, &c.) Regulations 1994 in respect of England and Wales. The 1994 Regulations transposed Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive) into national law.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
The consolidation of all the previous regulations within the Conservation of Habitats and Species Regulations is useful for the LFRMS and decreases the likely for the exclusion of more up to date amendments.	
Wigan LFRMS Response	
The LFRMS is required to contribute towards wider environmental objectives, and protecting habitats and species will be a key theme.	

Table B18	
Title	PPS10: Planning for Sustainable Waste Management
Proponent body	DCLG
Date produced	2011
Key Messages, Requirements & Objectives	
The PPS sets out the Government's planning policy framework for achieving sustainable waste management, and provides specific guidance to a range of authorities on preparing plans and deciding planning applications.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
The guidance provided by the PPS regarding the effects of sustainable waste management on planning assists in the creation of the LFRMS in regards to any development which it advises.	
Wigan LFRMS Response	
The LFRMS will have regard to the need to avoid pollution by run-off from land which is, or has been, in waste management use and for such uses (particularly landfill/landraising) to avoid compromising the function of floodplains and other local flood management areas.	

Table B19	
Title	The National Flood and Coastal Erosion Risk Management Strategy for England
Proponent body	Environment Agency
Date produced	2011
Key Messages, Requirements & Objectives	
The Strategy's overall aim is to ensure that flooding and coastal erosion risks are well-managed and co-ordinated, so that their impacts are minimised. The Strategy helps bring together Government and the authorities who are responsible for managing these risks with the organisations, communities, and people who are at risk. The Strategy covers flooding from the sea, rivers, surface water, sewers, groundwater and reservoirs.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
The culmination of varied parties involved with coordinating flood risk and different types of flooding places flood risk management under a united strategy which the LFRMS should collectively accommodate for.	
Wigan LFRMS Response	
The LFRMS is required to be consistent with the National Strategy.	
Table B20	
Title	Biodiversity 2020 - A strategy for England's wildlife and ecosystem services
Proponent body	DEFRA
Date produced	2011
Key Messages, Requirements & Objectives	
The overall aim of the Strategy 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. There are four priorities for action up to 2020:-	
<ul style="list-style-type: none"> • a more integrated large-scale approach to conservation on land and at sea • putting people at the heart of biodiversity policy • reducing environmental pressures • improving our knowledge. 	
Why is it Relevant to the Local Flood Risk Management Strategy?	
The priorities of the strategy improve the monitoring of the multifaceted biodiversity risks of flooding that impact upon biodiversity.	
Wigan LFRMS Response	

The LFRMS is required to contribute towards wider environmental objectives, and supporting biodiversity will be a key theme.

Table B21	
Title	The Natural Choice (Natural Environment White Paper)
Proponent body	HM Government
Date produced	2011
Key Messages, Requirements & Objectives	
<p>The White Paper proposes key reforms for protecting and improving our natural environment, and reconnecting people and nature. These are:-</p> <ul style="list-style-type: none"> • Supporting Local Nature Partnerships • Identifying Nature Improvement Areas • Ecologically coherent planning, retaining the protection and improvement of the natural environment as core objectives of the planning system • Piloting biodiversity offsets, to make requirements to reduce the impacts of development on biodiversity simpler and more consistent. • Improving public health locally, by making high-quality green space available to everyone; • Action to get more children learning outdoors; • New Green Areas Designation, empowering communities to protect local environments that are important to them. 	
Why is it Relevant to the Local Flood Risk Management Strategy?	
The reforms proposed impact upon the natural environment which the LFRMS shares ideal aims with the White Paper on supporting and protecting.	
Wigan LFRMS Response	
The LFRMS is required to contribute towards wider environmental objectives and protecting and improving the natural environment will be a key theme.	

Table B22	
Title	National Infrastructure Plan 2011
Proponent body	HM Treasury
Date produced	2011
Key Messages, Requirements & Objectives	
<p>The Government's ambitions are to:</p> <ul style="list-style-type: none"> • Improve the performance, capacity, connectivity and environmental impacts of the UK's transport networks; • Achieving a secure, diverse and reliable energy supply for the UK while reducing the carbon intensity of electricity generation at least cost to consumers; • Increasing superfast broadband and mobile coverage, and ensuring adequate spectrum availability to support a thriving communications industry; • Maintaining the security and performance of the water and sewerage system while reducing its environmental impacts; • Mitigating the impacts of flooding as part of a well-managed, co-ordinated and affordable risk management system; and • Reducing waste sent to landfill, increasing recycling rates and moving towards a zero waste economy. 	
Why is it Relevant to the Local Flood Risk Management Strategy?	
<p>Infrastructure is impacted upon by flood risks and must therefore be taken into account when creating the LFRMS in order to decrease negative impacts through the use of mitigation schemes which lead to sustainable development.</p>	
Wigan LFRMS Response	
<p>The LFRMS will set out a co-ordinated approach to managing flood risk at the local level, which should benefit existing and proposed infrastructure. The LFRMS will also identify specific investment schemes for local flood management</p>	

Table B23	
Title	Guidance for risk management authorities on sustainable development in relation to their flood and coastal erosion risk management functions
Proponent body	DEFRA
Date produced	2011
Key Messages, Requirements & Objectives	
<p>The Flood and Water Management Act 2010 requires certain flood and coastal erosion risk management authorities to aim to make a contribution towards the achievement of sustainable development when exercising their functions. It also requires the Secretary of State to issue guidance on how those authorities are to discharge this duty and explain the meaning of sustainable development in this context – this document does that.</p>	
Why is it Relevant to the Local Flood Risk Management Strategy?	
<p>Sustainable development should be explored within the LFRMS with areas of medium to high flood risk where development is proposed given close scrutiny by borough's planning department.</p>	
Wigan LFRMS Response	
<p>Supporting sustainable development will be a key theme of the LFRMS.</p>	

Table B24	
Title	Government Review of Waste Policy in England 2011
Proponent body	DEFRA
Date produced	2011
Key Messages, Requirements & Objectives	
<p>The review sets out a commitment to work towards a zero waste economy and reaffirms the importance of managing waste in line with the waste hierarchy. It sets out a number of detailed measures which will contribute to achieving these aims.</p>	
Why is it Relevant to the Local Flood Risk Management Strategy?	
<p>A movement towards less and better managed waste can assist in the amount of planning that is required by the LFRMS.</p>	
Wigan LFRMS Response	

The LFRMS will have regard to the need to avoid pollution by run-off from land which is, or has been, in waste management use and for such uses (particularly landfill / landraising) to avoid compromising the function of floodplains and other local flood management areas.

Table B25	
Title	SEA and Climate Change: Guide for Practitioners.
Proponent body	Environment Agency
Date produced	2011
Key Messages, Requirements & Objectives	
The Guide provides practical advice for plan-makers, responsible authorities and consultants preparing SEA's or SA's.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
The advice provided by the guide specifically relating to SEA's is important as one must be conducted to assess Wigan's LFRMS.	
Wigan LFRMS Response	
In undertaking SEA of the LFRMS regard will be given to the advice contained within this document.	

Table B26	
Title	National Planning Policy Framework
Proponent body	DCLG
Date produced	2012
Key Messages, Requirements & Objectives	
The National Planning Policy Framework (NPPF) sets out the Government's economic, environmental and social planning policies for England. A key thrust of the NPPF is a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan making and decision taking. The NPPF reinforces the requirement for sustainability appraisal and states that it should be an integrated part of the plan preparation process.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
The reinforcement of requirement for the carrying out of a sustainability appraisal proposed by the framework means that one would need to be done around the LFRMS.	
Wigan LFRMS Response	
The LFRMS will need to be in line with the aims of the NPPF, particularly the focus on achieving sustainable development; specific guidance on flood risk will be considered as part of this.	

Table B27	
Title	Technical Guidance to the National Planning Policy Framework
Proponent body	DCLG
Date produced	2012
Key Messages, Requirements & Objectives	
The Technical guidance provides additional advice to local planning authorities to ensure the effective implementation of the NPPF as it relates to development in areas at risk of flooding and mineral extraction.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
Areas at risk of flooding and mineral extraction will be better protected through the production of the LFRMS by the advice and strategies which it provides.	
Wigan LFRMS Response	
The LFRMS will have regard to the technical advice on flood risk contained in this document.	

Table B28	
Title	Online Flood Map
Proponent body	Environment Agency
Date produced	Updated Quarterly
Key Messages, Requirements & Objectives	
The EA have produced a number of predictive flood maps addressing flooding from different sources which are updated quarterly.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
The quarterly updated flood maps produced by the EA will be of good use to the LFRMS with giving up to date, detailed data on at risk flood areas.	
Wigan LFRMS Response	
The LFRMS will have regard to the EA's flood map where it is the best available information.	

Table B29	
Title	Planning for Health Emergencies
Proponent body	Department of Health and Cabinet Office
Date produced	25th March 2013
Key Messages, Requirements & Objectives	
Building on the 2013 reform of England's healthcare system, the Department of Health has worked with a wide range of partner organisations to update and strengthen the way they plan for and respond to emergencies through making sure the whole healthcare system can respond to emergencies.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
Better developed provision of a healthcare system that can respond to emergencies is important to the LFRMS as it works to ensure a high level of public health.	
Wigan LFRMS Response	
The LFRMS will need to be in line with the aims of the Department of Health's preparation policy regarding response to emergency events.	

Section C: Regional and Sub-regional

Table C1	
Title	Red Rose Forest
Proponent body	Red Rose Forest
Date produced	1994
Key Messages, Requirements & Objectives	
<p>The Red Rose Forest Plan sets out a 40 year programme to achieve the aim of establishing a community forest in Greater Manchester. The Plan sets out the Forest wide vision under headings including community contact, sport, recreation and access, and tourism as well as strategies for the development of core Forest areas. In addition the Plan sets out short, medium and long term targets for delivery by the Red Rose Forest Partnership.</p>	
Why is it Relevant to the Local Flood Risk Management Strategy?	
<p>Communities can be negatively impacted by the effects of a flood and the delivery of a long-term forest plan can mitigate these negative social effects and the extent to which various types of flooding impact environmentally, simultaneously within the LFRMS.</p>	
Wigan LFRMS Response	
<p>Tree, woodland and forest cover has an important influence on run-off. The LFRMS will have regard to these as it deals with surface water, ordinary watercourses and groundwater.</p>	

Table C2	
Title	Greater Manchester Derelict Land Strategy
Proponent body	Association of Greater Manchester Authorities
Date produced	2002
Key Messages, Requirements & Objectives	
<p>This Strategy sets out the framework for the reclamation of derelict, underused and neglected sites across the conurbation for soft end after uses such as landscaping and habitat creation.</p>	
Why is it Relevant to the Local Flood Risk Management Strategy?	
<p>Reclamation of brownfield sites can help to decrease the amount of development being carried out on land which can provide alternative benefits such as natural drainage which should be considered within the LFRMS.</p>	
Wigan LFRMS Response	
<p>The LFRMS will have regard to the linkages between land reclamation for soft end after uses and areas for local flood management.</p>	

Table C3	
Title	North West of England Plan – Regional Spatial Strategy to 2021
Proponent body	GONW
Date produced	2008
Key Messages, Requirements & Objectives	
The Regional Spatial Strategy (RSS) provides a framework for development and investment up to 2021. It establishes a broad vision for the region and its sub-regions, priorities for growth and regeneration, and policies to achieve sustainable development across a wide range of topics – from jobs, housing and transport to climate change, waste and energy.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
Sustainable development can be negatively impacted as a result of the effects of flooding, particularly upon the topics that the RSS specifies and should be taken into consideration within the LFRMS.	
Wigan LFRMS Response	
The LFRMS will need to be developed within the context of the spatial strategy for the region.	

Table C4	
Title	Strategic Flood Risk Assessment (SFRA) for Greater Manchester
Proponent body	AGMA
Date produced	2008
Key Messages, Requirements & Objectives	
This study provides a sub-regional overview of flood risk across the conurbation, making use of existing information to establish the broad baseline position and identifying where further, more detailed assessments are required. Limited information on District-level issues is provided and recommendations made for further work.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
Further, detailed assessments on at risk flood areas across the county must be undertaken to ensure that the current broad baseline position is improved upon so that the LFRMS can create much more concrete evaluations.	
Wigan LFRMS Response	
Areas identified within the SFRA as being at risk of flooding should be taken into account in drafting the LFRMS, where the SFRA continues to be the best available information.	

Table C5	
Title	Business Plan 2010-2015: Planning for the Future
Proponent body	United Utilities
Date produced	2009
Key Messages, Requirements & Objectives	
This 5-year Plan sets out how UU will maintain its current standards of service, where it will invest to meet expectations and how it will reduce its greenhouse gas emissions. It sets out the implications of that investment for investors and consumers, and contains detailed tables providing information on its plans.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
The services provided by UU can be impacted upon by flooding such as the provision of high quality drinking water to the public and should therefore be a key business partner taken into account by the LFRMS.	
Wigan LFRMS Response	
The LFRMS will set out a co-ordinated approach to managing flood risk at the local level and identify specific investment schemes for local flood management. These should be formulated having regard to other actions proposed within UU's current Business Plan.	

Table C6	
Title	Water for life and livelihoods: River Basin Management Plan - North West River Basin District
Proponent body	Environment Agency
Date produced	2009
Key Messages, Requirements & Objectives	
This plan is about the pressures facing the water environment in the North West River Basin District, and the actions that will be taken to address them. It has been prepared under the Water Framework Directive, and is the first of a series of six-year cycles of planning and action.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
Negative impacts are recognised and actions summarised in the addressing of the water environment within regional strategies such as the River Basin Management Plan for the North-West and should be taken into account within the LFRMS.	
Wigan LFRMS Response	
The LFRMS will set out a co-ordinated approach to managing flood risk at the local level and identify specific investment schemes for local flood management. These should be formulated having regard to other actions proposed within the River Basin Management Plan.	

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Table C7	
Title	Greater Manchester Biodiversity Action Plan
Proponent body	Great Manchester Biodiversity Project
Date produced	2009
Key Messages, Requirements & Objectives	
The overall aim of this Plan is to promote the conservation, protection and enhancement of biological diversity in Greater Manchester for current and future generations.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
Sustainable development should be a key factor in the creation of the LFRMS with recognition given to long-term plans in supporting biological diversity which is potentially negatively impacted during a flooding process.	
Wigan LFRMS Response	
The LFRMS is required to contribute towards wider environmental objectives, and supporting biodiversity will be a key theme.	

Table C8	
Title	Greater Manchester's third Local Transport Plan 2011/12 – 2015/16
Proponent body	Transport for Greater Manchester and Greater Manchester Combined Authority
Date produced	2011
Key Messages, Requirements & Objectives	
This document seeks to support the development of an integrated transport network to meet the demands that will be placed upon it by a growing economy, whilst addressing the need to tackle social exclusion, create sustainable communities and enhance the environment.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
Transport networks can be temporarily affected in the short-term and financially expensive in the long-term as a result of flooding events and the economic, social and environmental factors taken into account within Greater Manchester's third Local Transport Plan should be addressed within Wigan's LFRMS.	
Wigan LFRMS Response	
The LFRMS will need to have regard to the impact of local flood risk management measures on existing and proposed transport infrastructure programmed in the current Local Transport Plan.	

Table C9	
Title	Greater Manchester Joint Waste DPD
Proponent body	AGMA
Date produced	2012
Key Messages, Requirements & Objectives	
The Joint Waste DPD sets out a waste planning strategy to 2027 that enables the adequate provision of waste management facilities in appropriate locations for municipal, commercial and industrial, construction and demolition and hazardous wastes. The Plan identifies specific sites and areas for waste management and provides a suite of policies for development management.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
The Joint Waste DPD gives a long-term, planned strategy to the management of waste on a number of varied levels whilst recognising development management's role. This inescapable link between development and waste management should be included within the LFRMS if it to propose developments to strengthen flood defence.	
Wigan LFRMS Response	
The LFRMS will have regard to the need to avoid pollution by run-off from land which is, or has been, in waste management use and for such uses (particularly landfill/landraising) to avoid compromising the function of floodplains and other local flood management areas.	

Table C10	
Title	Greater Manchester Joint Minerals DPD
Proponent body	AGMA
Date produced	2013
Key Messages, Requirements & Objectives	
The Joint Minerals DPD is scheduled to be adopted by each Council on 26th April 2013, however, the content of the document is now set following the publication of the Planning Inspectorate report. The DPD sets out a Minerals planning strategy to 2027 including the identification of suitable locations for minerals protection and extraction and a suite of policies to be applied in this regard.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
The LFRMS should use the identified suitable locations for minerals protection and extraction provided by the Joint Minerals DPD as baseline information from which to draw conclusions on the implications of flooding upon natural mineral resources.	
Wigan LFRMS Response	
The LFRMS will have to have regard to the implications of the Joint Minerals DPD, including in terms of groundwater flooding from redundant mines.	

Section D: Local

Table D1	
Title	Wigan Borough Health Priorities
Proponent body	Ashton, Leigh & Wigan NHS
Date produced	2011
Key Messages, Requirements & Objectives	
<p>The information provides an assessment of the state of health, highlighted needs, and suggested areas by township where action needed to be taken. Residents living in more deprived areas are more likely to report poorer health, including dental health. Ince, Norley, Newtown and Whelley consistently reported higher than average poor health across a spectrum of areas (e.g. mental, physical pain, general wellbeing).</p>	
Why is it Relevant to the Local Flood Risk Management Strategy?	
<p>There are negatives effects as a result of any flooding event upon the level of public health which must be mitigated and the LFRMS must therefore use the Borough Health Priorities as a guide for whom to prioritise in terms of treatment following these negative impacts.</p>	
Wigan LFRMS Response	
<p>The range of health issues across Wigan borough must be taken into account during the creation of the LFRMS in order to identify and decrease health issues which arise as a result of flooding.</p>	

Table D2	
Title	Wigan Greenheart Regional Park Project Proposal
Proponent body	Wigan Council
Date produced	2006
Key Messages, Requirements & Objectives	
<p>The concept for the regional park is to regenerate approximately 15 square kilometres at the heart of Wigan’s former coalfield into a linked up network of open space. The strategic approach being put forward outlines the creation of a regional park which combines canals, woodlands, wetlands, industrial heritage and commercial attractions in a countryside setting.</p>	
Why is it Relevant to the Local Flood Risk Management Strategy?	
<p>The Proposal’s suggested creation of a regional park encompassing canals and wetlands means that the LFRMS must take these developments into account and plan for flooding events accordingly.</p>	
Wigan LFRMS Response	
<p>The LFRMS will need to ensure it takes into account plans and programmes included in the Greenheart Strategy to enhance or mitigate any impact.</p>	

Table D3	
Title	Wigan's Biodiversity strategy
Proponent body	Wigan Council
Date produced	2005
Key Messages, Requirements & Objectives	
The strategy was developed in response to the National Biodiversity Action Plans, North West Biodiversity Audit 1999. This Biodiversity Strategy for Wigan aims to focus attention on the most important priorities in the borough with extinction currently running at 1000 times its natural rate with development pressure continuing to have an impact upon natural habitats.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
The Biodiversity Strategy's aim to protection species which are at risk of extinction due to development must be employed within the LFRMS to ensure that the negative flooding effects are accounted for and mitigated against.	
Wigan LFRMS Response	
The priorities and goals of the Biodiversity Strategy for Wigan should be taken into account when drafting the LFRMS to mitigate the direct and indirect impacts of development on habitats.	

Table D4	
Title	Woodland Strategy
Proponent body	Wigan Council
Date produced	1995
Key Messages, Requirements & Objectives	
The strategy is based on a survey of the borough which has shown that Wigan falls below the national average in terms of tree cover. The importance of trees and woodlands for wildlife and recreation, along with their landscape value and potential economic value make them an essential natural resource.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
An important resource economically and environmentally such as tree cover must be a large part of the LFRMS to ensure that negative flooding impacts are limited to a minimum.	
Wigan LFRMS Response	
The LFRMS may positively affect the future of woodland areas around Wigan as flood defences are sought out to be enhanced.	

Table D5	
Title	Greenheart Regional Park Vision Document
Proponent body	Wigan Council
Date produced	2006
Key Messages, Requirements & Objectives	
Recognised as a regional park, Greenheart makes a major contribution to Greater Manchester's green infrastructure and is the focus for Wigan's policy on Green Infrastructure. The project aims to support habitats and biodiversity, provide recreational space for local residents and create localised economic benefits whilst developing a sustainable community.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
The Greenheart Regional park Vision's aims to provide recreational space with localised economic benefits and developing a sustainable community should be protected by the LFRMS against the prospect of negative flood event impacts.	
Wigan LFRMS Response	
The LFRMS will need to be developed within the context of The Greenheart project's sustainable community whilst sharing its vision and properties.	

Table D6	
Title	Wigan Borough Hybrid Strategy Flood Risk Assessment
Proponent body	Wigan Council
Date produced	2011
Key Messages, Requirements & Objectives	
The SFRA comprises relevant data, guidance and recommendations for flood risk issues across the borough. It enables the Council to carry out Sequential and Exceptions Testing and to select and develop sustainable site allocations at lower risk of flooding.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
Baseline data, guidance and recommendations provided by the SFRA should be taken into account and used in the creation of the LFRMS, however more than just site allocations at low risk of flooding must be given as a result.	
Wigan LFRMS Response	
The LFRMS may affect the flood risk of areas within the borough through the development of sustainable site allocations with low risk of flooding.	

Table D7	
Title	Wigan Preliminary Flood Risk Assessment
Proponent body	Wigan Council
Date produced	May 2011
Key Messages, Requirements & Objectives	
This preliminary assessment determines whether there is a local flood risk within the borough based on historic and potential flood risk data. The Environment Agency's national Flood Map for Surface Water was used to determine surface water information locally. However, it is only a stop gap until the Greater Manchester Surface Water Management Plan is complete.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
The preliminary assessment's results should be used by the LFRMS to gauge local flood risk until the Greater Manchester Surface Water Management Plan is published with this particular type of flooding causing the largest effect upon Wigan borough.	
Wigan LFRMS Response	
The use of a 'stop gap' data source, in this case The Environmental Agency's national Flood Map for Surface Water should be taken into account as weakness in the strength of Wigan's Preliminary Flood Risk Assessment when drafting the LFRMS.	

Table D8	
Title	Wigan Contaminated Land Study
Proponent body	Wigan Council
Date produced	March 2008
Key Messages, Requirements & Objectives	
The aim of the study was to identify potential contaminative uses across the borough based upon use types described in the Department of Environment Industry Profiles.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
The negative effects that flooding events can have when incorporated with contaminated land such as pollution to ecosystems should be accounted for within the LFRMS through using the resulting conclusions and recommendations made by the Contaminated Land Study.	
Wigan LFRMS Response	
The identification of contaminated land within the borough and its effects during a flooding event should be taken into account when creating the LFRMS to help mitigate negative impacts.	

Table D9	
Title	Wigan Municipal Solid Waste Strategy
Proponent body	Wigan Council
Date produced	2006
Key Messages, Requirements & Objectives	
Provides a framework for managing municipal solid waste between now and 2020. The strategy aims to promote home composting of green and kitchen waste and the authorised recycling and disposal of commercial waste while undertaking a comprehensive waste education and awareness programme.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
The mixture between individual and commercial aims to promote sustainable waste disposal can be adopted by the LFRMS but must also have the inclusion of flood risk.	
Wigan LFRMS Response	
The improper disposal of waste can become a causal issue and should therefore be taken into account during the drafting of the LFRMS.	

Table D10	
Title	Wigan Strategic Housing Land Availability Assessment
Proponent body	Wigan Council
Date produced	2012
Key Messages, Requirements & Objectives	
It is a key component of the evidence base to support the delivery of sufficient land for housing; to meet the community's need for more homes; and to inform housing policy within the Wigan Local Development Framework / Local Plan. As part of the council's policy it has removed any areas in flood risk zones 3a and 3b as well as any in intermediate and high surface runoff zones.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
The conclusions and recommendations made as a result of the SHLAA prevent any development taking place in areas at risk of flooding and are therefore taken into account during the creation process of the LFRMS.	
Wigan LFRMS Response	
The LFRMS should take into account housing developments and the effect that these land use changes have on flooding.	

Table D11	
Title	Wigan Core Strategy: Flooding Policy
Proponent body	Wigan Council
Date produced	2013
Key Messages, Requirements & Objectives	
Aiming to reduce the risk of flooding from all sources in a number of at risk areas by ensuring that development; follows a sequential approach, is supported by a detailed Flood Risk Assessment and incorporates mitigation and/or measures to achieve a reduction in overall flood risk.	
Why is it Relevant to the Local Flood Risk Management Strategy?	
The flooding policy within the Wigan Core Strategy is important to the LFRMS as it supports risk assessments regarding development which ensures a more sustainable plan for future generations of infrastructure.	
Wigan LFRMS Response	
The LFRMS will need to be developed within the context of Wigan Core Strategies flooding policy and have regard to its vision and priorities.	

Table D12	
Title	Wigan's Biodiversity Strategy
Proponent body	Wigan Council
Date produced	2005
Key Messages, Requirements & Objectives	
<p>The strategy aims to develop a framework for the protection and enhancement of Wigan's biodiversity. The strategy seeks to ensure the most effective use of all resources to; create interdepartmental support for Wigan's biodiversity and establish clear responsibility, protect and promote effective management and provide opportunities for the enhancement and creation of habitats.</p>	
Why is it Relevant to the Local Flood Risk Management Strategy?	
<p>The framework created by the Strategy and its work to effectively use resources and create interdepartmental resources are important aims which the LFRMS should share in common to be its most successful.</p>	
Wigan LFRMS Response	
<p>The LFRMS may affect future land uses and flood risk, which may impact on biodiversity.</p>	

Table D13	
Title	A Climate Change Strategy and Action Plan for Wigan Borough
Proponent body	Wigan Council
Date produced	August 2011
Key Messages, Requirements & Objectives	
<p>The strategy contains a vision for Wigan's response to climate change where Wigan plays its role in a fair and responsible way is adequately prepared and able to seize any opportunities. Specifically in section 4.5 the strategy recognises the need for more robust protection of buildings against floods and storms.</p>	
Why is it Relevant to the Local Flood Risk Management Strategy?	
<p>The vision of the Strategy aiming to seize opportunities and recognising a need for flood protection of infrastructure is important ideology that can be used within the LFRMS.</p>	
Wigan LFRMS Response	
<p>The actions and goals identified in Wigan's Climate Change Strategy and Action plan should be taken into account when drafting the LFRMS particularly regarding policies on flooding and storms.</p>	

Table D14	
Title	Corporate Strategy
Proponent body	Wigan Council
Date produced	July 2013
Key Messages, Requirements & Objectives	
<p>The Corporate Strategy pulls together the opportunities and challenges facing the council along with the approaches taken to support them in a single document while covering the three main priorities of creating confident places, people and council. Working with several delivery programmes and projects that help to develop the priorities created within the Strategy.</p>	
Why is it Relevant to the Local Flood Risk Management Strategy?	
<p>The Corporate Strategy includes many of the ideologies of other local programmes in that it incorporates aspects of creating robust transport infrastructure, ensuring that Wigan has an environmentally sustainable future and modernising the waste disposal system. These aspects can be used by the LFRMS to heighten flood prevention facilities.</p>	
Wigan LFRMS Response	
<p>The LFRMS must work around the values of the Corporate Strategy that aid in flood risk prevention through creating more sustainable economic and environmental long term outcomes which benefit the council socially.</p>	

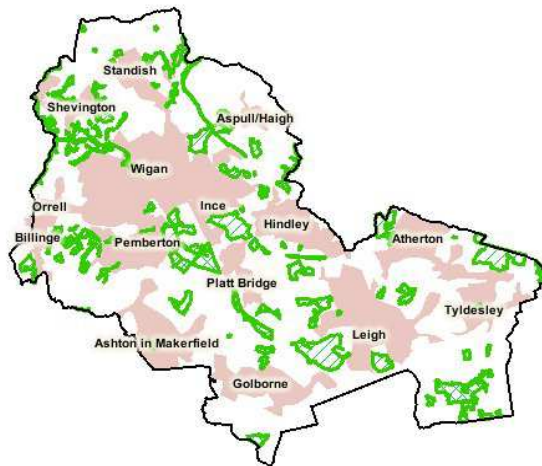
APPENDIX B: BASELINE INFORMATION

BIODIVERSITY, FLORA AND FAUNA

Biodiversity

Over 70% of the borough is green space and, as such, it is an important habitat for a variety of animal and plant species. The borough has several areas that are protected against development for their ecological value. There is one Special Area of Conservation (SAC), 4 Sites of Special Scientific Importance (SSSIs), 91 Sites of Biological Importance (SBIs) and 5 Local Nature Reserves (LNRs).

Astley and Bedford Mosses are within the borough and are part of the Manchester Mosses SAC giving them European level protection. A separate Habitats Regulation Assessment is being carried out by Greater Manchester Ecology Unit. The green areas on the map below show the extent of SACs, SSSIs, SBIs and LNRs within Wigan borough.



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Wigan currently has five Local Biodiversity Action Plans aimed specifically at protecting species and / or habitats that are strategically important within the borough and neighbouring areas. These are:

- Reedbed
- Mossland
- Bittern
- Great Crested Newt
- Red Squirrel

There are also a wide variety of other species of importance recorded in Wigan including a range of bird species, dragonflies and damselflies and mammals such as water vole and bats.

Biodiversity Issues Arising

Flooding and flood management can affect the biodiversity of the borough as habitats and species may be impacted. This may be negative but there could also be some opportunities arising as well. Specific Biodiversity Action Plans will need to be taken into account.

POPULATION

The population of Wigan borough grew 16,378 between the years 2001 and 2011 (5.4%) and is forecast to increase by a further 5.69% between 2011 and 2021. This change is largely forecast to come within the elderly population with decreases in teenagers and those in their forties and mid-sixties. Overall, there are expected to be some 18,000 more people.

Life Expectancy

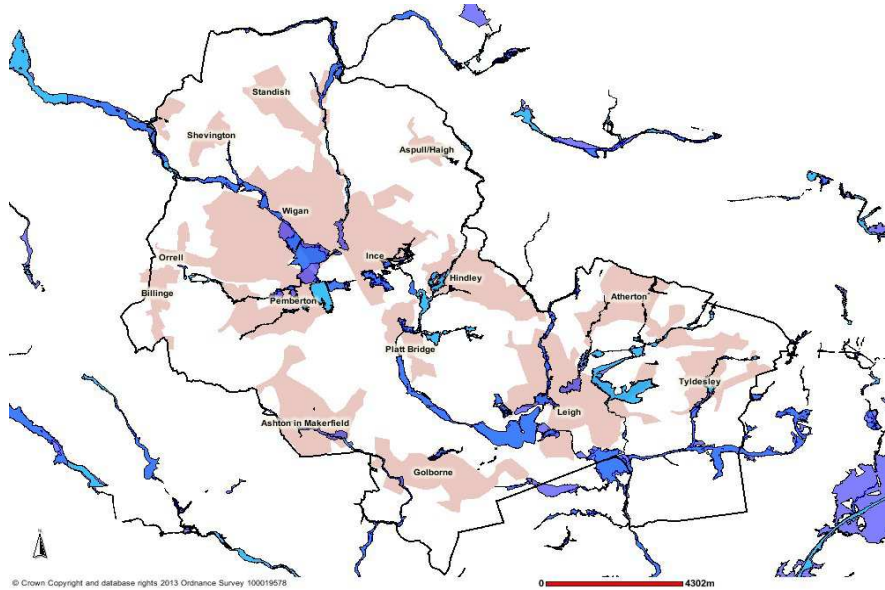
Wigan has a slightly higher life expectancy than Greater Manchester as a whole and is slightly lower than the North West. However, it lags behind the whole of England by around 2 years.

AREA	MEN	WOMEN
Wigan	77.1	80.8
GM	76.8	81.1
North West	77.4	81.5
England	78.91	82.89

Source: ONS Life Expectancy Figures, July 2013

Properties at risk of flooding

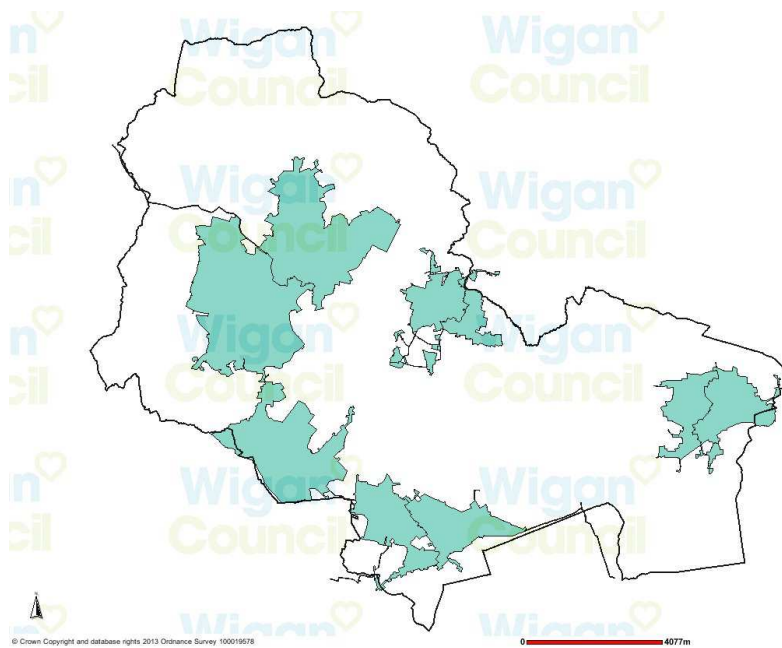
Approximately 31,100 properties are estimated to be at risk from potential flooding to a depth of 0.3m and a further 6,100 at a depth above 0.3m during a rainfall event with a 1 in 200 annual chance of occurring in Wigan. (Wigan Preliminary flood Risk Assessment 2011). The map below is the flood map of Wigan Borough (using Environment Agency data).



Housing and neighbourhoods

Given that the borough is some 70% greenspace, neighbourhoods are concentrated in certain locations but these are dotted across the borough. The urban area is highlighted in pink on the previous map above showing.

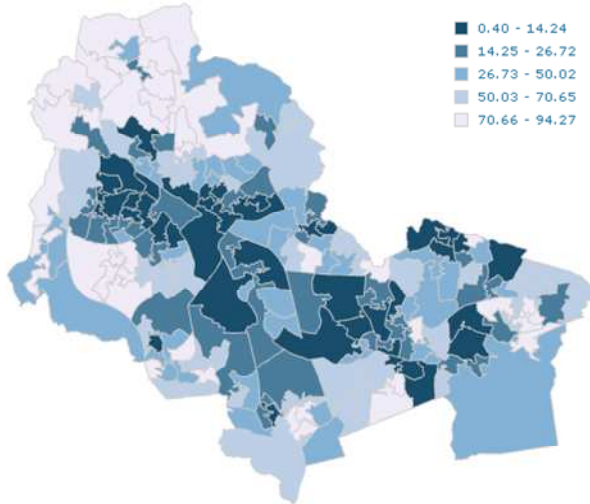
Wigan also has a number of critical drainage areas (i.e. is within Flood Zone 1 and has drainage issues):



Indices of Multiple Deprivation (IMD) and Employment

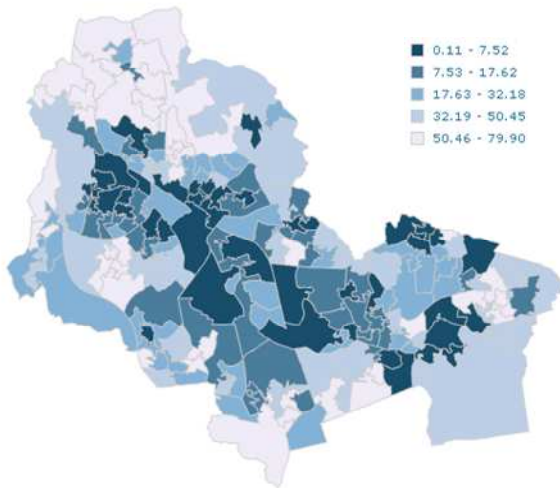
Wigan is ranked 85th in the national deprivation index (2010) out of 326 English local authorities, which places it 7th in Greater Manchester. The overall rankings for IMD reveal that the central core of the borough is the worst area probably largely due to their industrial past.

Overall IMD Scores (2010)



In the Employment Domain for IMD, Wigan ranks 12th worst in the country for people who are employment deprived (2010). Wigan has higher than average unemployment and worklessness.

Employment Domain Scores (2010)



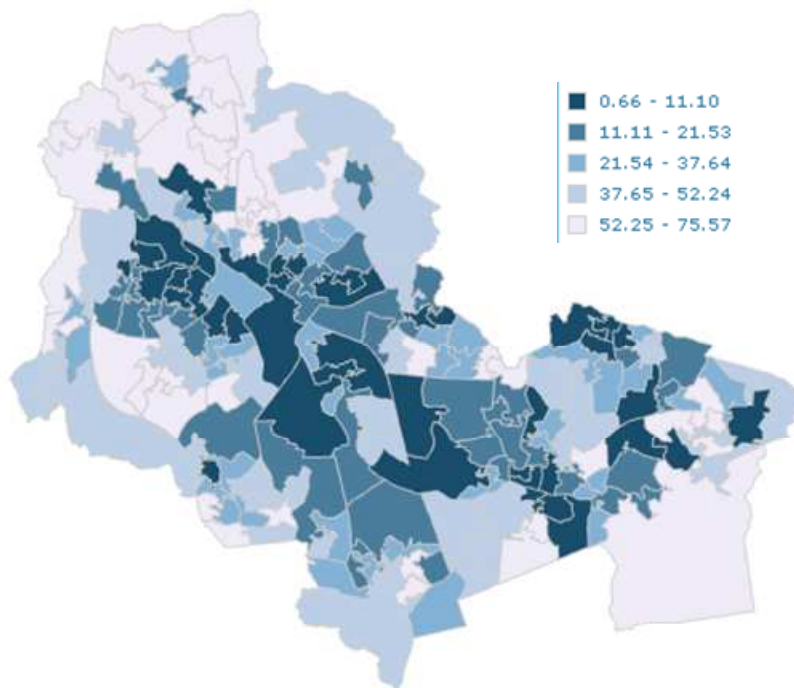
Population Issues arising

Increasing the flood resilience of current housing as well as ensuring flood risk is considered for the future housing of the borough will be important. Ensuring that flooding and flood water management actions do not adversely impact on the most vulnerable people of the borough should also be considered. Flood water management actions should take into account the amenity of the individual neighbourhoods – this may possibly be a way of helping neighbourhoods improve. Ensuring that employment opportunities are promoted as well as assisting to safeguard current employment is also important.

HUMAN HEALTH

Wigan has comparatively poor health statistics. The Health Domain of IMD shows some areas of Wigan are particularly badly hit. This may largely be due to poverty and historic industrial issues.

Health & Disability Domain Scores (2010)



The Joint Strategic Needs Assessment identifies the following as key health issues:

- Cardiovascular disease (CVD)
- Chronic obstructive pulmonary disease (COPD)
- Cancer – particularly lung, bowel, prostate, oesophageal and stomach
- Alcohol misuse
- Sexual health, including teenage pregnancy and sexually transmitted infections (STIs)

- Obesity

These health issues affect residents in all parts of the borough but are more prevalent in the most deprived areas. The main causes of death for both men and women are circulatory diseases, respiratory diseases, cancer and digestive conditions.

Recreation

A Health and Lifestyles survey conducted in 2005/6 identified the following issues:

- Less than a third of adults are active enough for it to benefit their health.
- Nearly two-thirds of the population report low levels of physical activity.
- One-in-six 18–34 year olds undertake no physical activity.
- Residents think that leisure facilities are amongst the hardest services to access.
- This is complemented by the 'Perceptions of Crime Survey' that shows that only two-fifths of people in deprived areas are very or fairly satisfied with the level of recreation and leisure services available.
- A lack of activities and facilities for young people has also been identified generally across the borough, and this may contribute to the problem of 'teenagers hanging around the streets', which is a common concern.

Since then there has been some changes made including investment in new and upgraded leisure facilities, improved town centre recreation offer, new youth facilities and schemes to engage people in physical activity.

Greenheart Regional Park was an initiative started in 2006 which brings together a lot of the green infrastructure of the borough under the umbrella of a countryside park of sub-regional/regional importance. It covers some 57 square kilometres of the borough. This includes areas such as the Flashes, the canal network and various woods and park areas providing excellent recreational space in the borough.

Health Issues arising

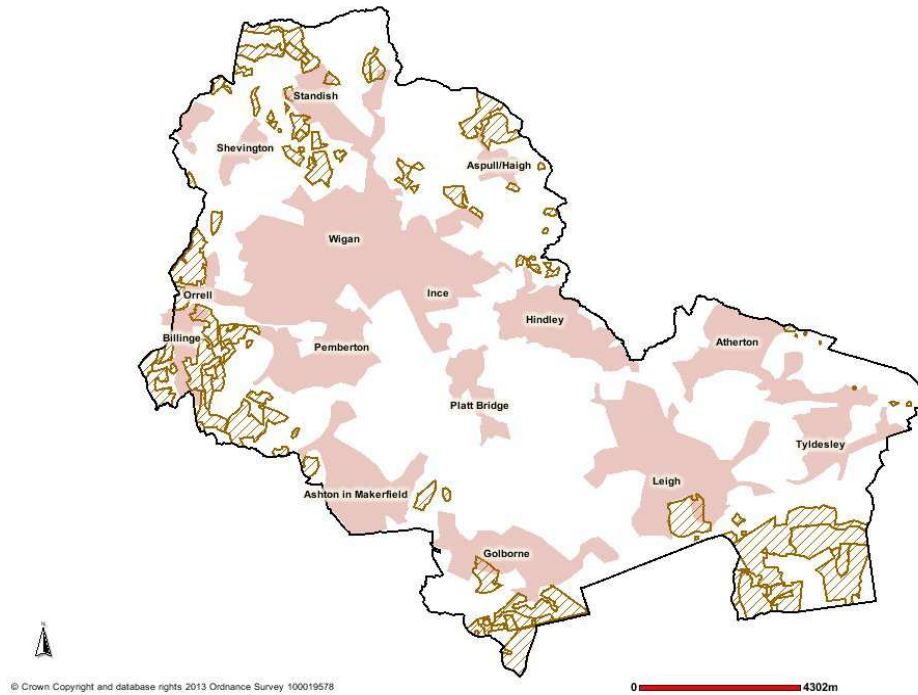
Health is directly impacted by flooding with potential for spreading of diseases, as well as physical and emotional trauma from flooding events and the aftermath. Flood management actions should also be aware of this impact. Flood risk and responses to it could impact on recreational opportunities but there may also be an opportunity to improve such opportunities. Problems may be more acute in the more deprived areas.

SOIL AND MINERALS

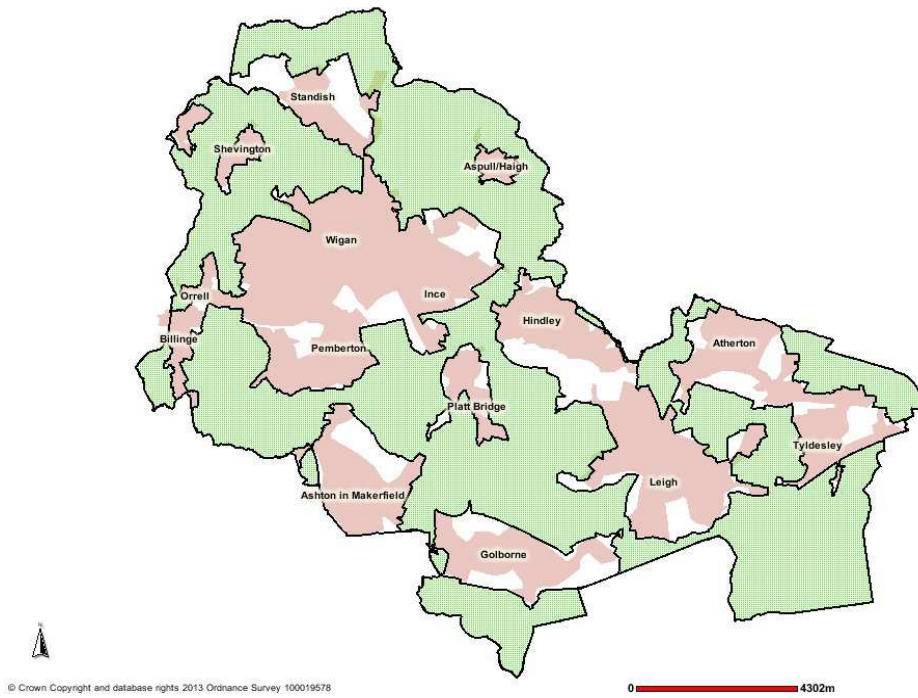
Agricultural Land and Greenbelt

Over 50% of the borough is Green Belt and over one third of the borough is agricultural land. Of this agricultural land, around one tenth is grades 1-3a 'best and most versatile' land.

The map below shows where the Grade 1-3a agricultural land is. It is evident that it is primarily around the edge of the borough.

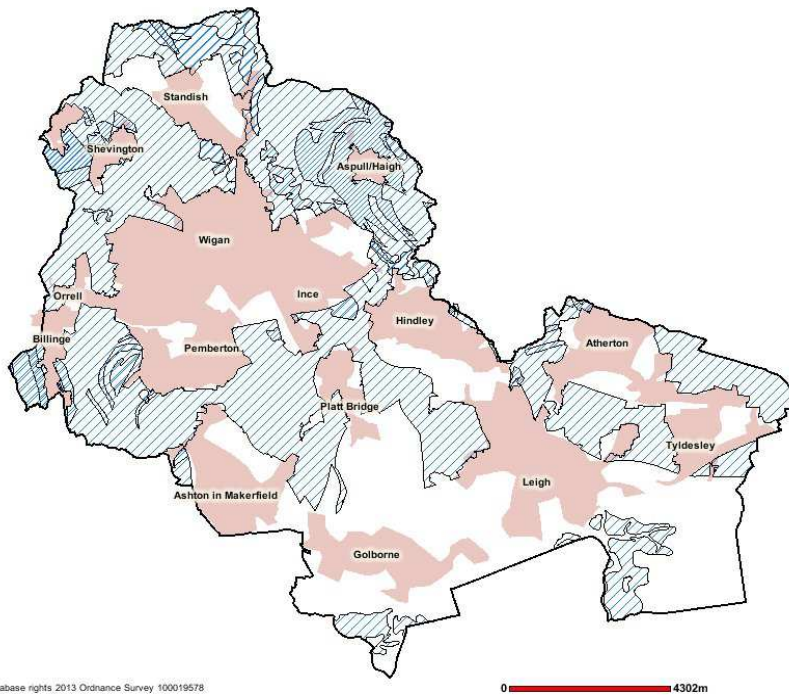


Greenbelt covers large parts of the borough:



Minerals

Wigan has a long industrial history which includes extensive coal mining but it retains a significant amount of mineral resources. The map below reveals the mineral safeguarding areas in the borough:



Soil and Minerals Issues arising

Flooding and flood risk management may affect land use and therefore access to and the quality of the borough’s soils. Flooding may release or transfer pollutants thereby contaminating land. Pollutants within land may also be dispersed into watercourses or groundwater. Access to mineral deposits in the borough may also be affected.

WATER

Of the 13 identified watercourses in the borough (discounting canals), 8 are identified as being of “moderate” standard, 4 are “poor” and is classed as “bad”. They are all identified as requiring until 2027 when they will be classed as “good” as per the Water Framework Directive (WFD).

Waterbody	Overall Status	Ecological Status
Moss Brook	Bad	Bad
Pennington Brook (Glaze)	Moderate	Moderate
Bedford Brook	Moderate	Moderate
Westleigh Brook	Poor	Poor
Astley Brook	Moderate	Moderate

Millingford (Newton) Brook	Moderate	Moderate
River Glaze	Poor	Poor
Hey/Borsdane Brook	Moderate	Moderate
Smithy Brook	Moderate	Moderate
Poolstock Brook	Moderate	Moderate
River Douglas	Moderate	Moderate
Worthington Reservoir	Poor	Poor
Pennington Flash	Poor	Poor

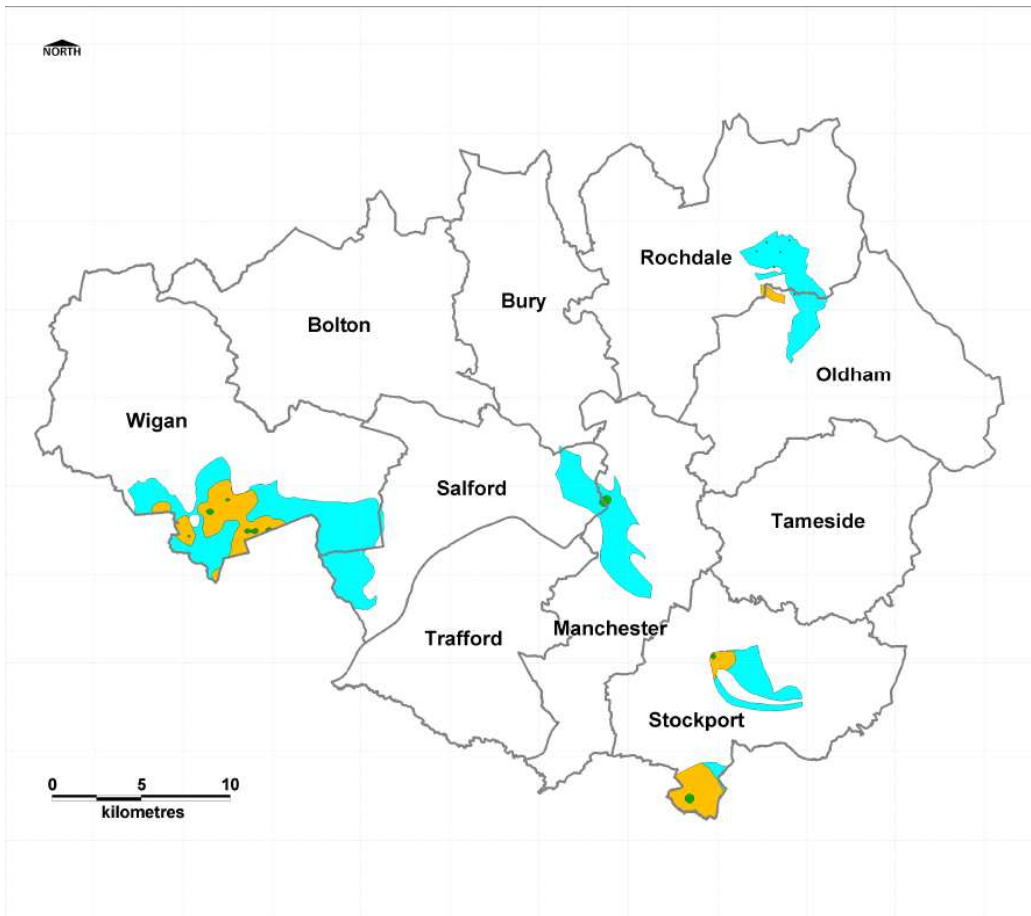
There is low water stress in the region although infrastructure is both needed and planned to meet future water demands.

In terms of flood risk, it can be seen (above in "Population") that there are a number of properties at risk of flooding. Historically, there have been over 40,000 flood incidents in the borough and these have had a varied impact on physical and emotional health, economic activities and communities. Action has been taken in many areas to address flooding problems – most notably around the Douglas/New Town area.

It should be noted, however, that main rivers and reservoirs will remain the responsibility of the Environment Agency – not the LFRMS – but the LFRMS needs to be aware of any impacts. Surface water run-off and flooding from canals and other watercourses are therefore of most concern.

Groundwater Protection Zones

Wigan has the largest area of Groundwater Source Protection Zone in Greater Manchester, covering a large part of the south of the borough. Activity close to these can adversely affect their ability to contribute to the public drinking water supply.



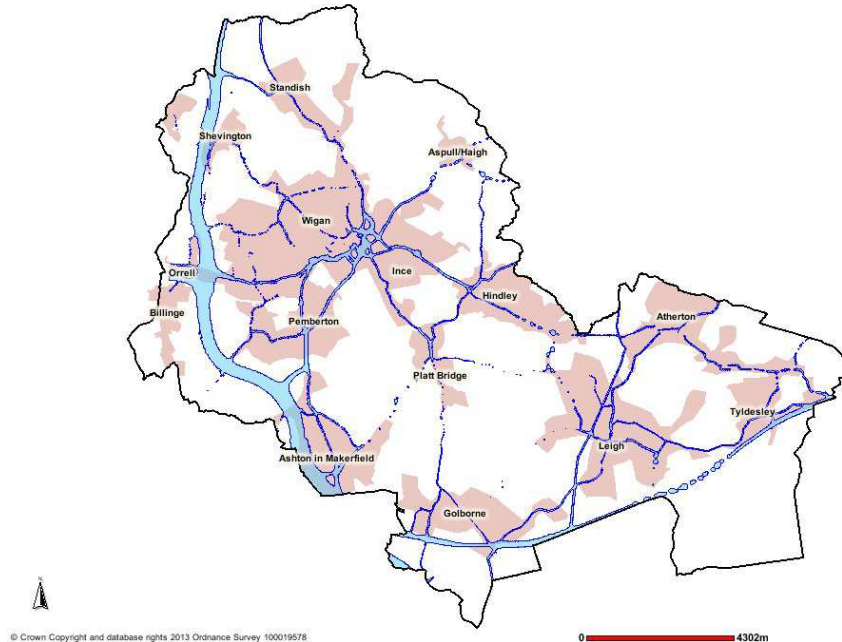
Water Issues arising

Water quality can be impacted by the LFRMS, so ensuring that actions taken do not prevent waterbodies meeting the 2027 deadline to be at a “good” standard is an important consideration. Managing pollutants entering waterbodies and watercourses will therefore be important both in terms of flooding and flood risk management actions. Any actions which adversely impact on the Groundwater Protection Zones need to be addressed as well.

AIR

Wigan has a number of air quality issues across the borough and this predominantly related to road transport. There is a particular issue due to the motorway network passing through the borough.

The Revised Air Quality Management Areas are shown below:



Air issues arising

As has been demonstrated at the national level (SEA of the National Flood and Coastal Risk Management Strategy) there is unlikely to be significant impacts on air quality as a result of the strategy. Similarly, it is unlikely to be an issue at the local level.

CLIMATIC FACTORS

Wigan has per capita emissions of 5.1tonnes which is below the North West average of 7.0tonnes and the national average of 6.9tonnes (2011 DECC figures). Emissions have reduced by around 20% from 2005. This is in part due to the economic slowdown but with a fairly consistent year on year reduction it also demonstrates action is being taken.

Research undertaken with the University of Manchester and the Joseph Rowntree Foundation reveals that there is great variation in vulnerability to climate change issues across the borough in terms of adaptation. Flood risk, heatwaves and water are all issues that are predicted to affect the borough and some areas are better suited to adapt than others. This can be due to the ability to prepare, to react and to recover from climatic events.

Climatic issues arising

It is predicted that due to climate change, we will experience hotter/drier summers, warmer/wetter winters and more extreme weather events. Wigan may also be affected (albeit indirectly) by rising sea levels. Some communities across the borough will be more vulnerable to climate change than others. It is important therefore that Wigan is taking action to reduce its emissions, but more importantly for the LFRMS is well adapted to the changing climate.

MATERIAL ASSETS

Wigan has an extensive infrastructure network including road, rail and other transport provision. A number of key road routes pass through or next to the borough such as the M6, M61 and A580. There are also various elements of rail in infrastructure such as the West Coast Mainline; Southport – Manchester line; Kirkby – Wigan line; Liverpool – Wigan line and the Liverpool – Manchester (Chat Moss) line.

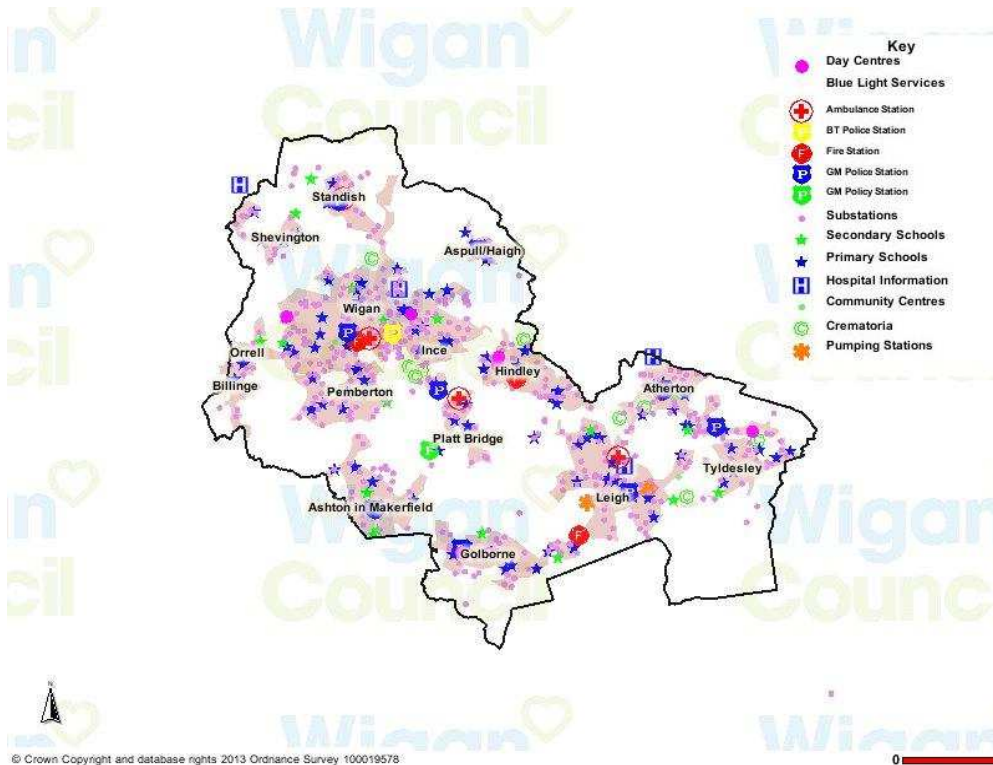
The map below shows the key road, rail and canal infrastructure in the borough:



As well as the transport infrastructure there is also extensive critical infrastructure in the borough including:

- Albert Edward Infirmary
- Leigh Hospital
- LIFT Health Centres
- Ambulance Stations
- Fire Stations
- Police Stations

- Schools
- Waste management infrastructure
- Energy infrastructure
- Medical Centres
- Mental Health Centres
- Day Care Centres



Infrastructure and Material Assets issues arising

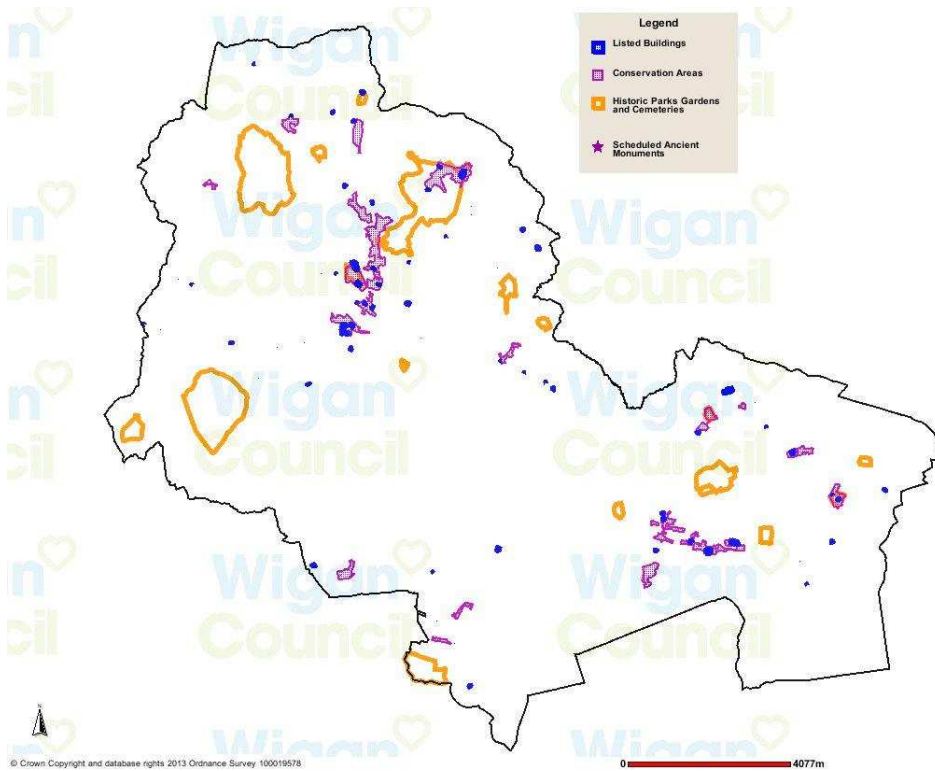
The LFRMS can impact on the operation of key infrastructure assets as well as access to them. In the event of flooding incidents, many of the key assets are important for the response effort. Therefore, the LFRMS needs to ensure it is both protecting these key material assets as well as ensuring actions do not impact on their operation.

As well as key assets, areas such as those identified for employment and development (and the key green infrastructure of the borough need to be considered.

CULTURAL HERITAGE

Wigan has a diverse mix of cultural, architectural and archaeological assets. These include listed buildings to scheduled monuments, key cultural centres, conservation areas and other associated infrastructure.

The map below shows some examples of the extent of Wigan's historic environment:

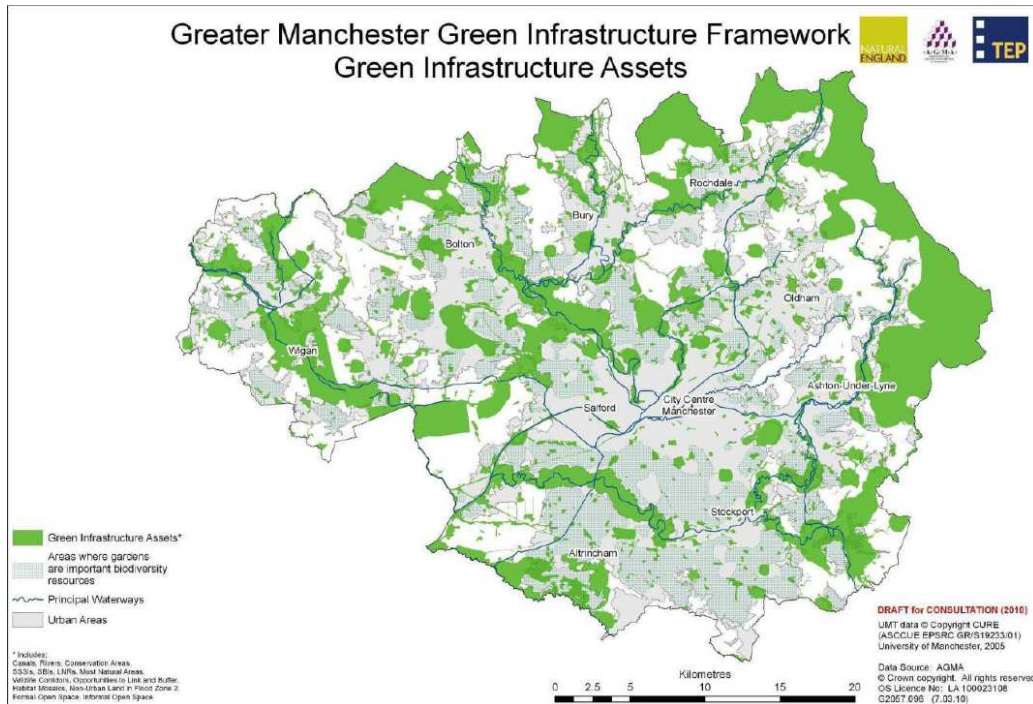


Cultural issues arising

Actions which affect the built environment may impact on cultural heritage, or alter the context in which it exists. Flooding can have a big impact on certain elements of Wigan's cultural heritage so actions within the LFRMS will need to take this in to account. Some actions may reveal and therefore need to consider the archaeological heritage of the borough.

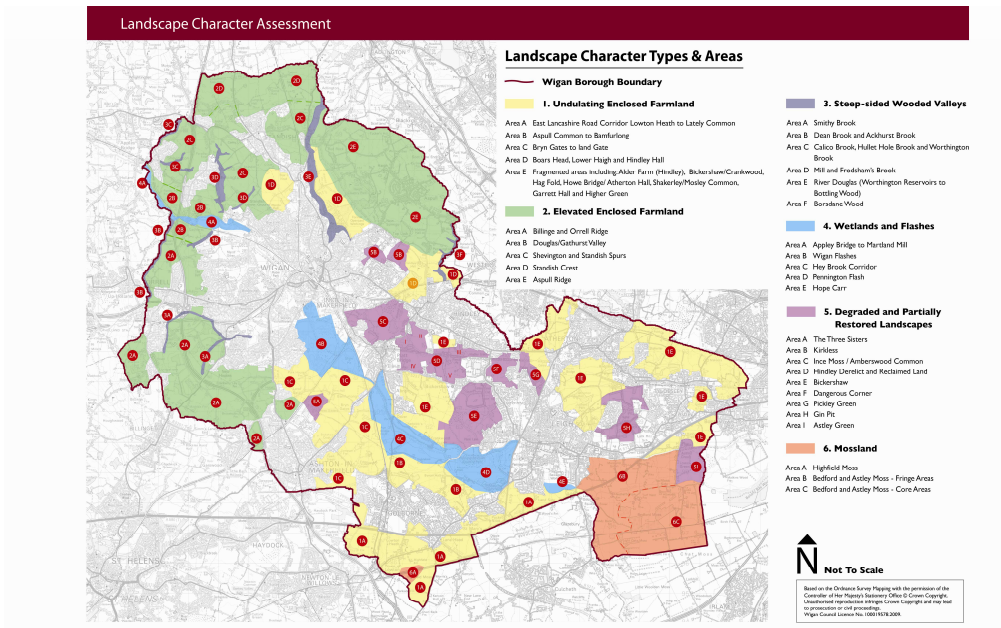
LANDSCAPE

The key areas of green infrastructure have been mapped in the Greater Manchester Green Infrastructure Framework. In the main they cover the Greenheart area and the mosslands. This is shown on the map below.



Landscape character is what makes one area different from its neighbouring areas. Wigan's landscape character is influenced by factors such as its underlying geology, topography, architectural heritage, land use, land management, biodiversity, and industrial past, all of which combine to help create the environment that we are familiar with today.

Our Landscape Character Assessment provides an objective view of Wigan's landscape as it is today, to help define its landscape character and to recognise the pressures of change upon it. The assessment identifies six broad landscape character types that generally cross the borough, in bands, from east to west from the elevated enclosed farmland in the north to the mosslands in the south. Each character type is made up of a number of discrete character areas, all of which are indicated below



Landscape issues arising

Flooding and actions contained within the LFRMS can affect landscapes both directly and also in terms of changes in land use. This could be beneficial or detrimental depending on local issues. The LFRMS will need to be aware of such issues and potential impact of actions.

APPENDIX C: CONSULTATION RESPONSES

Environment Agency

S8. Objectives and framework: Water, housing, economy and recreation

- These relationships should be considered in the SEA.

WFD

Requirements are much wider than those specified in Table A9 as they are also require us to address physical limitations/failing hydrological elements in order to improve ecologically functional aquatic habitats.

LLFAs should ensure FRM strategies take a catchment based approach, as advocated in the new Environment White Paper. Please see link: (<http://www.official-documents.gov.uk/document/cm80/8082/8082.pdf>).

Waterbodies within Wigan LPA boundaries are predominantly heavily modified or artificial. The WFD objective for these is to reach good ecological potential. All waterbodies are required to reach 'good ecological status', or in the case of heavily modified waterbodies; 'potential', by 2027. We have identified a number of relevant mitigation measures which are required in order to reach this objective.

HMWBs present challenges which can be seen as issues or opportunities. Single solutions should be avoided. As an alternative, an ecosystem services assessment of the existing is recommended in order to identify strategic multiple benefits in response to these challenges.

Poor or intensive land management can lead to exacerbated levels of siltation that will have deleterious effects in regards to flood risk, as well as other water quality and ecological impacts.

Opportunities should be sought to address hydromorphology in the vicinity of properties vulnerable to fluvial flooding as old infrastructure degrades and begins to fail, i.e. via the collapse or blockage of culverts, and failure of walled channelled watercourses. Opportunities to renaturalise riparian corridors should be sought using sustainable, locally sourced natural materials. This approach would improve the ecological potential of many currently failing and heavily modified WFD waterbodies.

Failure to address existing growing maintenance issues could cause future temporary localised deteriorations.

There are opportunities within many development proposals to reduce flood risk in combination with creating or even enhancing existing water resources and habitats. Any planning applications that capitalise on these opportunities should be encouraged. The creation and enhancement of riparian buffers or wetland habitats should be promoted. A strategic flood risk management strategy where this is a significant issue are advised to seek opportunities to create new priority

habitat. Please see (<http://jncc.defra.gov.uk/page-5706>). Multifunctional solutions can contribute to the achievement of national targets or improvements of currently failing waterbodies as highlighted in NW River Basin Management Plan.

WFD contributions through future planning

An opportunistic approach to delivery against these targets should be encouraged through the planning process. There should be no deterioration in existing environmental quality or flood risk from future developments. Future developments should look to provide positive joint flood risk and environmental improvements via: -

- The creation of continuous and much enlarged green space buffers
- The introduction of public open space areas adjacent to the rivers. Relaxed bank profiles would reduce health and safety issues and also allow greater flexibility in how riparian corridors are managed.
- The Agency would seek a future development strategic approach whereby the removal of existing poor buildings that currently encroach right up to bank top of watercourses, particularly those identified as having had: -
 - increased flood risk,
 - detracted from the river corridor,
 - prevented access, and
 - reduced the habitat value of key ecological networks
- Integration of flood storage and attenuation requirements of PPS25 with biodiversity and landscape enhancement measures integral to the design, in order to maximise the wider environmental as well as flood risk benefits. This should be achieved via the incorporation of naturalised above ground Sustainable Urban Drainage systems such as retention ponds, swales, etc., where feasible. Underground detention tanks and oversized drainage pipes do not provide any Green Infrastructure benefits and should only be used where other e.g. H&S considerations. The capture of all surface water into SUDS systems that drain to a sewer system can cause a local deterioration if previously the receiving waterbody benefited from dilution via greenfield runoff from the site.
- In combination with morphological enhancements, the opening up or 'skylighting' of culverted watercourses can provide benefits in relation to increasing ecological functionality, reduction of flood risk, and improved maintenance access.

Date: 29 November 2013
Our ref: 101620
Your ref: SEA of LFRMS



Mr. James Noakes AIEMA
Wigan Council
sustainability@wigan.gov.uk

BY EMAIL ONLY

Customer Services
Hornbeam House
Crewe Business Park
Electra Way
Crewe
Cheshire
CW1 8GJ

T 0300 060 3900

Dear Mr. Noakes

Consultation: Draft Scoping Report - Strategic Environmental Assessment (SEA) of Wigan Council's Local Flood Risk Management Strategy (LFRMS) and Habitat Regulations Assessment (HRA)

Location: Wigan Metropolitan Area

Thank you for your consultation on the above which was received by Natural England on 24 October 2013.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

WILDLIFE AND COUNTRYSIDE ACT 1981 (AS AMENDED)
CONSERVATION OF HABITATS AND SPECIES REGULATIONS 2010 (AS AMENDED)

Comments on Draft Habitat Regulations Assessment (HRA)
Natural England Concurrs with HRA Conclusion

Appropriate Assessment required - Manchester Mosses Special Area of Conservation (SAC)
Natural England notes that your authority, as competent authority under the provisions of the Habitats Regulations, has screened the Local Flood Risk Management Strategy (LFRMS) to check for the likelihood of significant effects. Your assessment concludes that your authority cannot rule out the likelihood of significant effects arising from the proposal alone. We note that the likelihood of significant effects arising from the proposal in-combination with other proposals was considered minimal and would continue to be subject to review. **On the basis of information provided, Natural England concurs with this view.**

An Appropriate Assessment should now be undertaken, in order to assess the implications of the proposal for the European site(s), in view of the site conservation objectives. Natural England is a statutory consultee at the Appropriate Assessment stage of the Habitats Regulations Assessment process and will provide further advice as your assessment is undertaken. [Conservation objectives for Manchester Mosses SAC](#) can be found on Natural England's website.

We would be happy to comment further should the need arise but if in the meantime you have any queries please do not hesitate to contact us.

**Comments on Strategic Environmental Assessment (SEA) Scoping Report
Sites of Special Scientific Interest (SSSIs) to include in the SEA**

Natural England support the approach taken both within the HRA and the Scoping Report where designated sites not only within the Wigan boundary, but also within proximity of Wigan have been included. The following SSSIs fall within this remit. The SSSI notified features and more detailed information regarding each SSSI can be found on the [Natural England SSSI pages](#).

SSSIs within the Wigan Metropolitan Area and the vicinity (within 17km of the Centre of Wigan) are:

- Abram Flashes
- Astley & Bedford Mosses
- Bryn Marsh & Ince Moss
- Charnock Richard Pasture
- Gale Clough & Shooterslee Wood
- Highfield Moss
- Mere Sands Wood
- Longworth Clough
- Martin Mere, Burscough
- Oak Field
- Red Moss
- Ravenhead Brickworks
- Stanley Bank Meadow
- Tonge River Section
- White Coppice Flush
- Wrightington Bar Pasture

Note this is not an exhaustive list of the sites that may need to be considered. There may be other designated sites that could be included due to hydrological linkages.

Protected Species

Flood risk management work associated with the Wigan LFRMS could affect habitats that support either Domestic or European Protected Species. Areas that are known to be wildlife habitats or corridors should be highlighted and scoped into the SEA to be considered. If strategic, large-scale measures to protect known wildlife or their habitats are considered to be required, these should be included in the LFRMS to ensure a unified approach.

We do note that Protected Species avoidance, mitigation and compensation measures would be included on an individual proposal basis through the Planning process (both alone and in combination with other proposals). This may mitigate the likelihood of effects from the LFRMS itself if the Planning process considers the LFRMS in combination with the Planning proposal.

Natural England has published [Standing Advice](#) on protected species. The Standing Advice includes a habitat decision tree which provides advice to planners on deciding if there is a 'reasonable likelihood' of protected species being present. It also provides detailed advice on the protected species most often affected by development, including flow charts for individual species to enable an assessment to be made of a protected species survey and mitigation strategy.

If you have any specific questions on aspects that are not covered by our Standing Advice for European Protected Species or have difficulty in applying it to this application please contact us at with details at consultations@naturalengland.org.uk.

For any queries relating to the specific advice in this letter only please contact Susan Zappala on 0300 060 2498. For any new consultations, or to provide further information on this consultation please send your correspondences to consultations@naturalengland.org.uk.



ENGLISH HERITAGE
NORTH WEST

FAO James Noakes
Places: Economy, Waste and Infrastructure
Planning and Transport
Planning Policies and Projects
Wigan Council
PO BOX 100
Wigan WN1 3DS

Our Ref: 1207
Your Ref:
Date: 29th October
2013

Dear Sirs,

Draft Scoping Report for the Strategic Environmental Assessment of Wigan LFRMS

Thank you for consulting English Heritage about the above document.

English Heritage has produced a document, which you might find helpful in providing guidance on the effective assessment of the historic environment in Strategic Environmental Assessments. This can be found at <http://www.english-heritage.org.uk/publications/strategic-environment-assessment-sustainability-appraisal-historic-environment/>.

English Heritage recommends that a scoping report should:

- Review the objectives of relevant policies, plans and programmes;
- Establishing the baseline for the historic environment, including any trends and targets and gaps in the existing information;
- Identifying sustainability issues and opportunities for the historic environment and heritage assets;
- Developing sustainability appraisal objectives;
- Identifying indicators and targets;
- Considering how alternatives will be assessed;
- Providing sufficient information on the proposed methodology for the appraisal to assess whether effects upon the historic environment will be properly addressed.

English Heritage suggests that scoping reports are tailored to the type, purpose and level of plan under consideration. This accords with the NPPF which requires that local plans are based on adequate, up-to-date and relevant evidence about the economic, social and environmental characteristics and prospects of the area.

Relevant Plans, Programmes and Policies

SUITES 3.3 AND 3.4 CANADA HOUSE 3 CHEPSTOW STREET MANCHESTER M1
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In terms of the relevant information to be referenced, it is recommended that those listed should cover international, national and local level programmes, plans and policies, which would have a direct bearing for the historic environment (see Page 5 of our guidance).

Baseline information

Baseline information should describe the current and future state of the historic environment, providing the basis for identifying sustainability issues, predicting and monitoring effects and alternative ways of dealing with them. It can use both quantitative and qualitative information and should be kept up to date. It is important that meaningful conclusions can be drawn from the baseline information; what it means for the management strategy and how the historic environment is to be dealt with.

SEA Objectives

It is important that the role the historic environment plays in sustainable development and the contribution it makes to delivering social, cultural, economic and environmental benefits is recognised. The historic environment underpins sustainable development and therefore, it may warrant including in other objectives. Our guidance provides further assistance in the various ways the historic environment can be incorporated into the objectives in the scoping report.

English Heritage strongly advises that the conservation staff of the various local authorities are closely involved throughout the preparation of the SEA of the management strategy. They are best placed to advise on local historic environment issues and priorities, including access to data held in the HER (formerly SMR); how the policy or proposal can be tailored to minimise potential adverse impacts on the historic environment; the nature and design of any required mitigation measures; and opportunities for securing wider benefits for the future conservation and management of historic assets.

Finally, we should like to stress that this opinion is based on the information provided by you with your email dated 24th October 2013. To avoid any doubt, this does not affect our obligation to provide further advice and, potentially, object to specific proposals which may subsequently arise (either as a result of this consultation or in later versions of the management strategy) where we consider that, despite the SA/SEA, these would have an adverse effect upon the historic environment.



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