Torfaen County Borough Council
Local Flood Risk Management Strategy

STRATEGIC ENVIRONMENTAL ASSESSMENT

ENVIRONMENTAL REPORT

November 2012

Torfaen County Borough Council

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NON TECHNICAL SUMMARY

INTRODUCTION

0.1 This is the summary of the Environmental Report for Torfaen's Local Flood Risk Management Strategy (Local Strategy). It describes, as required by legislation and guidance, how the Strategic Environmental Assessment (SEA) process was used to assist in planning for local flood risk management in Torfaen County Borough. It considers the likely social, economic and environmental effects of the Local Strategy and makes recommendations for how any significant negative effects of the plan may be reduced and any positive effects may be enhanced.

THE LOCAL STRATEGY

0.2 As the responsible Lead Local Flood Authority (LLFA), Torfaen County Borough Council is required by the Flood and Water Management Act 2010 to develop, maintain, apply and monitor a strategy for local flood risk management in their area. The Local Strategy is required to set out an assessment of the flood risk and plans and actions for managing the risk. It must also be consistent with the National Strategy for Flood and Coastal Erosion Risk Management in Wales (Nov 2011), which sets the overarching objectives for managing flood and coastal erosion risk in Wales.

0.3 The Local Strategy proposes 4 overarching objectives and 17 detailed objectives to manage flood risk. A number of measures are proposed to achieve these objectives; these are structural and non-structural and cover different timescales for the short (0 - 20 years), medium (20 - 50 years) and long (50 - 100 years) term. The Local Strategy proposes 37 measures, which are structured under 7 high level themes.

STRATEGIC ENVIRONMENTAL ASSESSMENT

0.4 European and UK legislation require that the Local Strategy is subject to a Strategic Environmental Assessment (SEA), a process that considers the effects of plans on the environment. Government guidance[1] outlines a number of stages of SEA work that need to be carried out as the Local Strategy is being prepared:

Stage A: Setting Context & Scope
Stage B: Developing Options & Assessing Effects
Stage C: Preparing the Environmental Report
Stage D: Consulting on the Plan & the Environmental Report
Stage E: Monitoring Implementation of the Plan

0.5 The SEA of Torfaen's Local Strategy has been prepared in accordance with this requirement for SEA.

SEA METHOD

0.6 In July 2012 a scoping process was carried out to help ensure that the SEA covered key environmental issues relevant to the Local Strategy area. This built on earlier Sustainability Appraisal (SA)/ SEA Scoping work that had been

[1] ODPM (2005) A Practical Guide to the Strategic Environmental Assessment Directive.

completed for Torfaen's Local Development Plan (LDP) in March 2012. Baseline and plan information collated for the SA/SEA of the LDP was reviewed and updated where necessary. A SEA scoping report for the Local Strategy was prepared that summarised the information and considered key environmental issues for the Borough. The Environmental Report provides a key list of plans and programmes and updated baseline information based on responses from consultation bodies on the SEA Scoping Report. From the baseline and plans and programmes review a list of key environmental issues were identified, which are outlined below.

Table 0.1: Key Issues for the Local Strategy
Environmental
▪ Reducing the risk of flooding in the County Borough, in particular the areas with relatively extensive C2 floodplain Zones, which include: o to the north of the County Borough, the south west of Gilchrist Thomas Industrial estate (near Blaenavon), Emlyn Road, Garndiffaith, parts of the British site in Talywain; o to the centre of Torfaen near Pontypool, the Usk road site at Mamhilad and the New Inn/Pontymoile roundabout area; and o to the south of the Borough, parts of Pontnewydd, Northville, Croesyceiliog, Llanyrafon, Llantarnam Industrial Park and Ponthir.
▪ Reducing the risk of flooding to people (7,542), critical services (40) and non-residential (852) properties from increased surface, sewer and river flooding.
▪ Protecting and enhancing biodiversity in the County Borough, which includes the four SSSIs within the County Borough and any other internationally and nationally designated sites
▪ Protecting and enhancing the historic environment in the County Borough, in particular the Blaenavon World Heritage Site.
▪ Climate change is a significant issue facing all communities and the Local Strategy will need to consider how it is helping to reduce the vulnerability of the County Borough to the impacts of climate change.
▪ Protecting and enhancing the landscape character of the County Borough.
▪ Protecting and enhancing soils in the County Borough and minimising contamination risk.
▪ Protecting and enhancing the water environment, which includes water quality and resources.
▪ Management to prevent the spread of invasive non-native species such as the Japanese Knotweed, Giant Hogweed and Himalayan Balsam should be included.
Economic
▪ Ensuring economic development and business across the County Borough is not adversely affected by flooding.
Social
▪ Maintaining access to local services and facilities and minimising flood risk.
▪ Improving the health and well being of the population, including mental health, that can be affected by flooding.

SEA Framework

0.7 An SEA Framework was developed and included SEA Objectives that aim to resolve the key environmental issues identified above. The SEA Framework provides a way in which the environmental effects of a plan or programme can be described, analysed and compared. The objectives and measures proposed in the Local Strategy were assessed using the SEA Framework. The framework originally presented in the SEA Scoping Report has been amended to reflect advice and comments received from the statutory consultation bodies (CCW, CadW, Environment Agency).

Table 0.2 SEA Framework

Objective	Criteria for Assessment
1. To minimise the risk of flooding and increase resilience against flooding	▪ Will it reduce the risk of surface water, sewer and river flooding? ▪ Will it have a reducing effect on the impact of flooding?
2. To adapt development to the impacts of climate change	▪ What impact will it have upon the County Borough's vulnerability to the impacts of climate change?
3. To protect and enhance water quality and resources	▪ Will it have an adverse impact upon surface or groundwater resources or quality? ▪ Will it enhance surface and groundwater resources or quality?
4. To protect and enhance biodiversity and geodiversity	▪ Will it have adverse impacts on Blorenge SSSI; Llandegfedd Reservoir SSSI; Henllys Bog SSSI or Ty'r hen Forwyn SSSI? ▪ Will it have adverse impacts on any other international or national designated sites? ▪ Will it have adverse effects on local biodiversity and geodiversity designations? ▪ Will it maintain or enhance Biodiversity Action Plan (BAP) habitats and species? ▪ Will it maintain and enhance the important ecological corridors of the Afon Lwyd and the Monmouthshire and Brecon canal? ▪ Will it manage flood risk by promoting natural processes and appropriate land management?
5. To protect and enhance soils	▪ Will it maintain/protect or enhance fluvial landforms and process in the catchment? ▪ Will it help to restore riparian corridors, floodplain including connectivity of natural processes? ▪ Will it reduce the transfer of contaminants and pollution incidents? ▪ Will it manage flood risk by promoting natural processes and appropriate land management?
6. To protect and enhance the valued landscape character of Torfaen as well as historic resources and their settings	▪ Will it have an adverse impact upon the landscape character of Torfaen? ▪ Will it have an adverse impact upon local historic assets? ▪ Will it help to protect heritage resources?
7. To protect and enhance the economy	▪ Will it protect existing areas of employment? ▪ Will it help to reduce the economic cost of flooding to the community, businesses and government?

8. To protect and enhance human health and well being	▪ Will it maintain or improve standards of flood protection for local residents in Torfaen? ▪ Will it have an adverse impact upon human health? ▪ Will it avoid/minimise environmental impacts which may have long term health impacts? ▪ Will it protect and enhance recreation and amenity facilities; particularly public open space?
9. To protect existing infrastructure	▪ Will it protect transport links and existing infrastructure? ▪ Will it maintain or improve access to local service and facilities, including during flood events? ▪ Will it help to protect homes and businesses from flood damage?

SEA OF THE LOCAL STRATEGY

0.8 The Local Strategy options, objectives and measures were assessed using the SEA Objectives set out above. Where possible, the SEA sought to identify opportunities for improvement and cumulative effects were also considered. For consistency, the SEA method used the same assessment key for categorising and judging significance of effects as used in the Sustainability Appraisal of the Torfaen Local Development Plan. This assessment recognised 8 categories of predicted effects, as illustrated in the following key.

Table 0.3: SEA Assessment Key

Assessment Scale	Assessment Category
+++	Strongly positive
++	Moderately positive
+	Slightly positive
0	Neutral or no obvious effect
-	Slightly negative
--	Moderately negative
---	Strongly negative
?	Effect uncertain

SEA of Alternatives

0.9 The SEA Directive requires consideration and assessment of the reasonable alternatives relevant to the plan and available to the plan maker for achieving the aims of the plan. The following alternatives were considered:

1. The 'Do Nothing' Scenario
2. The 'Maintain Flood Risk' Scenario
3. The 'Reduce Flood Risk' Scenario

0.10 Overall the SEA concluded that the Do Nothing scenario would have significant negative effects on SEA objectives as it would result in increased levels of flood risk in the Borough. The Maintain Flood Risk scenario sought to maintain flood risk to ensure that there is no net increase in flood risk by keeping pace with climate change, which has the potential for minor positive effects against SEA objectives. The Reduce Flood Risk scenario was assessed as having the potential for significant positive effects as it seeks to reduce both current and

future levels of flood risk. The Reduce Flood Risk scenario was selected by the Council as it seeks to reduce current and future levels of flood risk and meets with the objectives and requirements of the National Strategy by seeking to reduce the current and future risks of flooding in the Borough.

SEA of Objectives

0.11 The majority of Local Strategy Objectives were found to be compatible with SEA Objectives. Reducing the risk of flooding, providing warning systems and reducing the vulnerability of the County Borough to the impacts of climate change are compatible against SEA objectives relating to minimising flood risk, adapting to climate change, protecting the economy, infrastructure and human health. Uncertainties were identified for Local Strategy objectives that seek to reduce flood risk against SEA objectives relating to biodiversity, soils, landscape character and historic assets as measures to reduce flood risk have the potential for both positive and negative effects, depending on the implementation of an individual measure or scheme.

SEA of Measures

0.12 Overall, the majority of measures were assessed as having the potential for a positive effect on SEA objectives as the Local Strategy seeks to manage and reduce the risk of flooding in the Borough. Significant positive effects were identified for measures that will directly help to reduce the risk of flooding through changes in land management and the maintenance/ improvement of channels and culverts. Reduced levels of flood risk in the Borough will have indirect positive effects on the economy, human health and environmental factors, such as water and soil quality.

0.13 A number of measures were assessed as having no effect on SEA objectives as they relate to improving the evidence or monitoring the impacts of flooding rather than physical flood management measures that could result in impacts on the ground. No negative effects were identified through the assessment although there was some uncertainty around the implementation of physical measures and/ or land management changes/ habitat creation and the effect this could have on biodiversity/ geodiversity, landscape and soils. The nature of the effect will be dependent on the location and implementation of individual measures; however, appropriate mitigation at the project level will help to resolve e any negative effects.

0.14 The SEA found that the cumulative and synergistic effect of the Local Strategy as a whole when implemented will be positive for social, economic and environmental effects. The Local Strategy will help to reduce flood risk in the Borough, which will have direct and indirect positive effects on human health, the built environment, the economy and the environment.

RECOMMENDATIONS AND THE DIFFERENCE THE SEA PROCESS HAS MADE

0.15 To address some uncertainties, the assessment recommends that measures relating to changes in land management, habitat creation and physical flood defences include wording to ensure that any proposals consider the effects on the environment, landscape and historic buildings of the Borough and provide suitable mitigation for any significant negative effects.

IMPLEMENTATION AND MONITORING

0.16 As the Lead Local Flood Authority the Council has a responsibility to monitor the Local Strategy. The Council is preparing a monitoring framework that will incorporate the recommendations from this SEA.

1.0 INTRODUCTION

PURPOSE OF THE ENVIRONMENTAL REPORT

1.1 This document has been prepared for Torfaen County Borough Council (TCBC) as part of the Strategic Environmental Assessment (SEA) of the TCBC Local Flood Risk Management Strategy (Local Strategy). It has been produced in compliance with the SEA Regulations[2] and as required by the SEA Directive[3]. The purpose of the Environmental Report is to identify, evaluate and present information on the likely significant effects of the Local Strategy. It also allows the consultation bodies, the public and any other interested parties the opportunity to offer views on the SEA.

STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA)

1.2 European Directive 2001/42/EC on 'the assessment of the effects of certain plans and programmes on the environment' (the SEA Directive) requires a formal environmental assessment of certain plans and programmes, which are likely to have significant effects on the environment. The SEA Directive was transposed in England through the Environmental Assessment of Plans and Programmes (Wales) Regulations 2004. SEA considers the effects of proposed development on the environment at the strategic level and sets the context for subsequent project level Environment Impact Assessment (EIA). It aims to predict and evaluate any significant effects of the plan, including the effects of potential alternatives, and to propose appropriate mitigation measures where necessary. SEA also includes the identification of measures to monitor the progress of the plan following adoption and implementation.

STAGES OF SEA

1.3 The SEA process is being undertaken alongside the preparation of the Local Strategy in order to comply with the SEA Directive and Regulations. Government guidance[4] sets out the key stages of the SEA process (Table 1.1) and details the requirements for each section.

Table 1.1: SEA - Key Stages	
Stage A	Setting the Context and Objectives, establishing the Baseline and deciding on the scope
Stage B	Developing and refining alternatives and assessing effects
Stage C	Preparing the Environmental Report
Stage D	Consulting on the draft plan or programme and the Environmental Report
Stage E	Monitoring the significant effects of implementing the plan or programme on the environment

THE LOCAL STRATEGY

1.4 As the responsible Lead Local Flood Authority, TCBC is required by the Flood and Water Management Act 2010 to develop, maintain, apply and monitor a strategy for local flood risk management in their area. The Local Strategy has

[2] The Environmental Assessment of Plans and Programmes Regulations 2004 SI No. 1633
[3] Directive 2001/42EC of the European Parliament and of the Council on the Assessment of the Effects of Certain Plans and Programmes on the Environment.
[4] ODPM (2005) A Practical Guide to the Strategic Environmental Assessment Directive.

to set out the local organisations with responsibility for flood risk in the area, partnership arrangements to ensure co-ordination between these, an assessment of the flood risk and plans and actions for managing the risk. It must also be consistent with the National Strategy for Flood and Coastal Erosion Risk Management in Wales (Nov 2011), which sets the overarching objectives for managing flood and coastal erosion risk in Wales.

1.5 The Local Strategy proposes 4 overarching objectives and 17 detailed objectives, which are presented below.

Overarching Objective 1 reducing the impacts on individuals, communities businesses and the environment:

1. Reduce distress by reducing the number of people exposed to the risk of flooding.
2. Reduce community disruption by reducing the number of residential and commercial properties affected by the risk of flooding.
3. Reduce risk to life by reducing the number of people exposed to risk of flooding of significant depth and velocity.
4. Reduce disruption to critical infrastructure or prepare plans to allow the operations to be maintained.

Overarching Objective 2 raising awareness of and engaging people in the response to flood:

5. Provide systems to give early warning of potential flooding to individuals and communities.
6. Provide efficient systems for the management and maintenance of surface assets.
7. Reduce economic damage.
8. Reduce cost of management.

Overarching Objective 3 providing an effective and sustained response to flood events:

9. Contribute to the climate change adaptation response for Torfaen.
10. Protect and improve Sites of Special Scientific Interest (SSSIs) Sites of Importance for Nature Conservation (SINCs), Special Areas of Conservation (SAC) Local Nature Reserves (LNRs) and Regionally Important Geological Sites (RIGs).
11. Contribute to the delivery of Torfaen County Borough Council Biodiversity Action Plan.
12. Create natural channels and water bodies with minimal modifications.
13. Protect and Improve water quality.
14. Provide Flood Risk management Plans for each area subject to flood risk.
15. Ensure that measures are designed and constructed in a sustainable way.
16. Ensure that TCBC works in partnership with all other Risk Partners and works collaboratively with adjacent Authorities.

Overarching Objective 4 Prioritising investment in communities most at risk:

17. Ensure that investment decisions for the implementation of flood risk management schemes are made on a consistent, defendable basis and are subject to cost benefit analysis.

1.6 The Local Strategy then sets out a number of measures to manage flood risk and achieve the objectives outlined above. These measures are both structural and non-structural and cover different timescales for the short (0 - 20 years), medium (20 - 50 years) and long (50 - 100 years) term. The Local Strategy proposes 37 measures, which are structured under 7 high level themes:

1. Development planning and adaptation;
2. Flood forecasting, warning and response;
3. Land, cultural and environmental management;
4. Asset management and maintenance;
5. Studies assessments and plans;
6. High level awareness and engagement; and
7. Monitoring.

1.7 Flood Risk Management Plans (FRMP) will be prepared for each of the areas identified as being subject to flood risk. These will identify more detailed and location specific measures to reduce and mange flood risk. The Local Strategy will inform the preparation of the FRMPs, allowing them to be developed in a consistent way.

HABITATS REGULATIONS ASSESSMENT (HRA)

1.8 Land use plans are subject to the provisions of Article 6 (3) and (4) of the Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive) and may therefore require the undertaking of an Appropriate Assessment (AA) of their implications for European Sites. The purpose of AA is to assess the impacts of a land-use plan against the conservation objectives of a European site and to ascertain whether it would adversely affect the integrity of that site, whether alone or in combination with other plans and projects. Where significant negative effects are identified, alternative options should be examined to avoid any potential damaging effects.

1.9 Habitats Regulations Assessment is also commonly referred to as Appropriate Assessment (AA) although the requirement for AA is first determined by an initial 'screening' stage undertaken as part of the full HRA. This initial screening stage has been undertaken for Torfaen's Local Strategy and a summary of the findings are presented below.

The screening assessment should be revisited in the light of any significant changes to the plan and is subject to consultation and advice from the statutory body CCW and other key stakeholders.

COMPLIANCE WITH THE SEA DIRECTIVE

The SEA Regulations set out requirements for reporting and clear signposting of the SEA process. These requirements are set out in **Appendix 1**, and the section of this SEA Report that progresses each requirement indicated.

STRUCTURE OF THE ENVIRONMENTAL REPORT

This report is set out as follows:

- Section 2 provides an outline of the SEA method, limitations and uncertainties and the consultation requirements.

- Section 3 provides a key list of plans and programmes, a summary of baseline conditions, key environmental problems and the SEA Framework of objectives.
- Section 4 provides a summary of the compatibility analysis of the objectives and the SEA of the Alternative Options proposed for the Local Strategy.
- Section 5 provides a summary of the SEA findings for the measures.
- Section 6 contains the summary of the Local Strategy assessment, Cumulative Effects Assessment and general recommendations.
- Section 7contains proposals for monitoring the effects of the Local Strategy.
- Section 8 outlines the next steps that will be taken in the SEA process.

2.0 SEA METHOD

2.1 This Section sets out the method and overall approach for the SEA of Torfaen's Local Strategy. Limitations and uncertainties in the SEA process are noted and the approach to consultation is set out.

SCOPING

2.2 Enfusion Ltd was commissioned in July 2012 by Torfaen County Borough Council to undertake the SEA of Torfaen' s Local Flood Risk Management Strategy.

2.3 A scoping process was undertaken during July 2012 to help ensure that the SEA covered the key environmental issues that are relevant to Torfaen's Local Strategy. This built on SEA and Sustainability Appraisal (SA) work that had been completed for Torfaen's Local Development Plan (LDP) in March 2012[5]. The baseline and plans and programmes review information collated for the SA/SEA of the LDP was reviewed and helped to inform the identification of key environmental issues and the development of SEA objectives.

2.4 The scoping information is outlined in Section 3, for further detail please refer to the SEA Scoping Report (July 2012). The SEA Scoping Report was sent to the statutory consultation bodies (Countryside Council for Wales, Cadw, and Environment Agency) in July 2012 for comment and the responses (Appendix 5) received have helped to inform the SEA and this Report.

ASSESSMENT OF ALTERNATIVES

2.5 The SEA Directive requires consideration and assessment of the reasonable alternatives relevant to the plan and available to the plan maker for achieving the aims of the plan. The following alternatives were considered:

1. Do Nothing
2. Maintain Flood Risk
3. Reduce Flood Risk

2.6 The SEA of Local Strategy alternatives was assessed using the SEA objectives and key in Table 2.1 (below) to assess the environmental effects. For consistency, the SEA method used the same assessment key for categorising and judging significance of effects as used in the Sustainability Appraisal of the Torfaen Local Development Plan. The results are presented in Section 3.0 of this report.

Table 2.1: SEA Assessment Key

Assessment Scale	Assessment Category
+++	Strongly positive
++	Moderately positive
+	Slightly positive
0	Neutral or no obvious effect
-	Slightly negative
--	Moderately negative
---	Strongly negative
?	Effect uncertain

[5] TCBC & Atkins (March 2012) Sustainability Appraisal Report (incorporating focused changes)

ASSESSMENT OF OBJECTIVES AND MEASURES

2.7 A compatibility analysis was undertaken of the SEA objectives and the Local Strategy Objectives using baseline information and professional judgment. The Measures were assessed against the SEA Framework (Table 3.1) and using the SEA assessment key (Table 2.1) and recorded in detailed matrices in a systematic way using evidence/baseline information where available and professional judgment.

2.8 The effects of each measure against the SEA objectives were presented and where significant negative effects were predicted, the SEA sought where possible to identify means of mitigating these effects. Short (0 - 20 years), medium (20 - 50 years) and longer term effects (50 - 100 years) were considered. The overall effects of implementing the Local Strategy were also assessed using cumulative effects assessment – both for effects within the strategy itself (intra) and for the strategy with other key plans (inter). Cumulative and synergistic effects were considered for the Local Strategy when implemented with the other plans and programmes, such as the Local Development Plan.

THE ENVIRONMENTAL REPORT

2.9 The SEA directive[6] requires the preparation of an Environmental Report that details the process, findings and consultation. It is the key output of the SEA, providing a detailed assessment of the potential effects of the draft plan or programme. This information is collated in the third stage of the SEA process (Stage C). This report is the Environmental Report in accordance with the SEA Directive and Regulations.

LIMITATIONS AND UNCERTAINTIES

2.10 During the development of the Local Strategy and the SEA process, some data gaps and uncertainties were identified. It is not always possible to accurately predict environmental effects when considering plans at a strategic scale. Impacts on biodiversity and cultural heritage, for example, will depend on more detailed information and studies at a site-level and whilst climate change science is becoming more accurate, it is difficult to predict impacts likely to result from climate change, including synergistic effects. These uncertainties have been acknowledged in the assessments, where applicable. Data gaps are identified below and where applicable in the assessments:

- Essential infrastructure (transport and energy) at risk of flooding.

CONSULTATION

2.11 The SEA Regulations require that consultation on the scope of the assessment should be undertaken with the statutory SEA consultation bodies. This was undertaken in July 2012 and the responses from the statutory consultation are presented in **Appendix 5**. The SEA Regulations also require that the public and interested parties have an early opportunity to review and comment on the SEA. This Environmental Report accompanied the Local Strategy on

[6] European Parliament (2001) European Directive 2001/42/EC On the Assessment of the Effects of Certain Plans and Programmes on the Environment

consultation for 6 weeks from 26 October 2012 to 4 December 2012. No changes were identified.

3.0 ENVIRONMENTAL CONTEXT AND OBJECTIVES

REVIEW OF RELEVANT PLANS AND POROGRAMMES

3.1 The SEA Directive requires that the SEA provides information on the plan's relationship with other relevant plans and programmes and makes reference to their environmental objectives. This task was undertaken for the Draft SA Scoping report of the LDP and was updated in the SA Report (incorporating focused changes) for the LDP (March 2012)[7]. This information was reviewed during the scoping stage to identify plans and programmes and their objectives of relevance for the SEA of the Local Strategy. An updated list of key plans and programmes is provided below:

International Plans & Programmes

- EU Floods Directive - Directive 2007/60/EC
- EU Water Framework Directive - Directive 2000/60/EC
- EU Nitrates Directive - Directive 91/676/EEC
- European Sustainable Development Strategy (renewed June 2006)
- EU Groundwater Daughter Directive - Directive 2006/118/E
- EU Birds Directive - Directive 2009/147/EC
- EU Habitats Directive - Directive 92/43/EEC
- UN Framework Convention on Climate Change 1994

National Plans & Programmes

- Flood & Water Management Act 2010
- Flood Risk Regulations 2009
- Land Drainage Act 1994
- Environment Act 1995
- Climate Change Act 2008
- The Conservation of Habitats and Species (Amendment) Regulations 2012
- Climate Change: The UK Programme 2006
- Environment Strategy for Wales 2006
- Water for People and the Environment; Water Resources Strategy for England and Wales 2009
- National Strategy for Flood and Coastal Erosion Risk Management in Wales (November 2011)
- Welsh Government (2011) National Strategy for Flood and Coastal Erosion Risk Management in Wales
- Welsh Government (2011) Local Flood Risk Management Strategies; Local Strategy
- Welsh Government (2011) Adapting to Climate Change; Guidance for Flood & Coastal Management Authorities in Wales
- Welsh Government (2004) Technical Advice Note 15 (TAN 15); Development & Flood Risk
- Welsh Government (2011) Flood Risk Management; Community Engagement Toolkit

[7] http://www2.torfaen.gov.uk/EnvironmentAndPlanning/Planning/ForwardPlanning/LocalDevelopmentPlan/LocalDevelopmentPlan.aspx

- Welsh Government (2012) Guidance for the Transfer of Ordinary Watercourse Regulatory Powers for Lead Local Flood Authorities in Wales (including the Appendices)
- One Wales One Planet - Sustainable Development Strategy for Wales 2009
- Environment Agency's National Coastal Erosion Risk Mapping Project
- Dwr Cymru/Welsh Water (2011) Water Resources Management Plan
- Current Planning Appraisal Guidance (PAG) Guidance
- CIRIA C687 Planning for SuDS
- CIRIA C690 Guidance for Water Cycle Management for New Developments
- CIRIA C697 The SuDS Manual

Regional/ Sub-regional Plans & Programmes

- River Basin Management Plan 'Severn River Basin District' (Dec 2009)
- Wye and Usk Catchment Flood Management Plan (CFMP) 2010 - 'Managing Flood Risk'
- Ebbw and Lwyd Catchment Abstraction Management Strategy 2006 (update Dec 2010).
- Usk Catchment Abstraction Management Strategy 2007 (update Dec 2010)

Local Plans & Programmes

- TCBC (2009) Preliminary Flood Risk Assessment (PFRA) Report.
- TCBC (2008) Broad Level Assessment of Flood Risk.
- The Torfaen Local Plan (adopted) 2000
- The emerging Torfaen Local Development Plan (2012)
- Torfaen Local Biodiversity Action Plan (2003)

DESCRIPTION OF THE BASELINE CONDITIONS

3.2 The SEA Directive requires the collation of baseline information to provide an evidence base for environmental problems, the prediction of effects, and monitoring; and to help in the development of SEA objectives.

3.3 A baseline was produced for the Draft SA Scoping Report of the LDP and was updated in the SA Report (incorporating focused changes) for the LDP (March 2012)[8]. The information in the baseline for the LDP encompasses the environmental and socio-economic characteristics of the Borough. The baseline was reviewed and provided a good general context for the SEA of this Local Strategy. The key relevant features of the Local Strategy area were identified in the Scoping Report (July 2012) and are also provided below. The key baseline conditions have been updated based on responses received form consultation bodies on the Scoping Report (July 2012).

Table 3.1: Economic baseline information (SEA Topics Material Assets, Population and Human Health)
▪ Torfaen suffers from a north - south split in terms of investment and private sector interest. Whereby the south of the Borough attracts the greatest investment and economic activity, the north of the Borough does not attract such interest and the poor transport infrastructure to the north is a significant problem in generating economic development.

[8] http://www2.torfaen.gov.uk/EnvironmentAndPlanning/Planning/ForwardPlanning/LocalDevelopmentPlan/LocalDevelopmentPlan.aspx

However, this tends to be dictated to a certain extent by business demand as locations in the south of the Borough are generally more attractive- for example due to improved transport infrastructure in terms of proximity to the M4.

- People within the County Borough are largely employed in the public administration, education, health and manufacturing sectors. However the County Borough has a high unemployment rate when compared to Wales as a whole and some adjoining local authorities.

- The number of non-residential properties at risk from flooding in the Borough is 852.

Table 3.2: Environmental Baseline information (SEA topics: Biodiversity, Soil, Water, Air, Climatic Factors, Cultural Heritage, Landscape)

- The Afon Lwyd is the main river in Torfaen and descends from its source at Garn-yr-erw to join the River Usk at Caerleon. This river flows through the valley from Blaenavon in the north to Ponthir to the south. Above the Pontypool Gap the Afon Lwyd has only one tributary in the east which contrasts with the western slope where there are several.

- 2288 properties are at risk from the 0.1% (1 in 1000 year) extreme flood, and 1736 properties are at risk from the 1% (1 in 100 years) flood event.

- Torfaen Zone C2[9] floodplains generally follow the course of the Afon Lwyd and its tributaries from Blaenavon in the north through the centre of Pontypool and Cwmbran in the south, with the width of the zones gradually increasing as one travels south down the valley. Affected areas are more prominent in the southern part of the County Borough.

- Areas with relatively extensive C2 Zones include firstly to the north of the County Borough, the south west of Gilchrist Thomas Industrial estate (near Blaenavon), Emlyn Road, Garndiffaith, parts of the British site in Talywain, secondly to the centre of Torfaen near Pontypool, the Usk road site at Mamhilad and the New Inn/Pontymoile roundabout area, and finally to the south of the Borough, parts of Pontnewydd, Northville, Croesyceiliog, Llanyrafon, Llantarnam Industrial Park and Ponthir.

- Public water supply - The Talybont reservoir supplies all areas north of and including Pontypool, whilst south of Pontypool is fed by Sluvad (Llantrisant abstraction from the River Usk) and Court Farm, from the Prioress Mill abstractions fed from the River Usk and supported from a transfer from the River Wye.

- There is one major trunk sewer (the Eastern Valley Trunk Sewer (EVTS) that serves the County Borough from north to south, culminating in waste water being treated at Ponthir Waste Water Treatment Works. In relation to sewerage capacities in Torfaen the EVTS is considered to be performing satisfactorily. Prior to the end of the plan period in 2021 the local sewerage networks will need to be upgraded to support the main

[9] Areas of the floodplain without significant flood defence infrastructure.

trunk sewer.

- Waste Water for the whole of Torfaen is treated at the Ponthir Waste Water Treatment Works (WwTW). Dwr Cymru have outlined the WwTW will be unable to accommodate the total allocations proposed without further improvements, therefore the rate and phasing of growth will have to be monitored by Dwr Cymru in order they can submit the necessary plans to deliver the infrastructure necessary to meet the future growth.

- In 2010 the chemical status of surfacewater in the Borough was classed as 'Good' and the ecological status was classed as either 'Poor' or 'Moderate'. The chemical status of groundwater was classed as 'Good' in the south and east of the Borough and 'Poor' in the north and west. Compared to Wales, Torfaen County Borough has a lower percentage of water bodies classed as having 'good' ecological status and higher percentage classed as having 'moderate' and 'poor' ecological status. There is a similar trend for the chemical status of surfacewater with the Borough having a lower percentage of water bodies classed as 'good' and higher percentage classed as 'fail'. The Borough has a higher percentage than Wales of groundwater bodies classed as good.

- The Afon Lwyd to confluence with Dowlais Brook (GB109056032910), Dowlais Brook (GB109056026790) and Afon Lwyd from Dowlais confluence to Pont Sadwrn (GB109056026870) are all failing waterbodies with 'poor' ecological status (not meeting ecological status/potential targets for fish or water chemistry).

- A large area of North Torfaen has been designated a Source Protection Zone.

- The County Borough covers an area of approximately 31,000 acres (12546 ha) of which the land profile is as follows:
  - 20% built up areas
  - 50% mixed agriculture
  - 5% woodland
  - 10% open moorland
  - 15% post industrial land

- There are four SSSIs in the County Borough: Blorenge; Llandegfedd Reservoir; Henllys Bog and Ty'r hen Forwyn.

- The Afon Lwyd is an important ecological corridor in Torfaen alongside the Monmouthshire and Brecon canal.

- The Blaenavon Industrial Landscape was inscribed as a World Heritage Site in November 2000 and covers an area of 32.9 km. Torfaen also has two historic parks and gardens - Pontypool Park and Llantarnam Abbey - and five designated Conservation Areas - Blaenavon Town Centre, Cwmavon, Upper Cwmbran, Pontypool Town Centre and Llantarnam.

- No Air Quality Management Areas have been designated in Torfaen.

- Around 1,800 potentially contaminated sites have been identified in Torfaen to date.

- In 2009 it was estimated that Torfaen had at least 3,640 hectares of area farmed, based upon Welsh Assembly Government statistics. The Environment Agency's Soils Map of Wales indicates that the soils in Torfaen range form brown soils (Loamy impermeable soils with weathered subsoil) mainly in the southern and eastern flank of the borough with man made soils (restored soils of disturbed ground) and Groundwater clay soils (Loamy and clayey seasonally waterlogged soil with impermeable subsoil) in the upland area. There are no Peat Soils within Torfaen which are the most important soils for reserves of carbon.

- The valley landscape of Torfaen has a predominantly enclosed character, and is characterised by the urban and suburban landscape of Cwmbran, Pontypool and Abersychan to the south, and the predominantly rural and post industrial landscape around Blaenavon to the north.

Table 3.3: Social Baseline information (SEA topics: Population & Human Health).

- The County Borough has a population of around 90,949 making it the 6th (out of 22) smallest local authority in Wales. Torfaen County Borough comprises of three key settlements and a number of smaller villages, many of which are located on the valley floor of the Afon Lwyd Valley which runs north to south through the County Borough.

- Latest 2008-Based Population Projections predict a decrease in the overall population for the County Borough from 2008 to 2033, however there is predicted to be an increase in the number of people aged 65+ over the same period.

- The number of people at risk from flooding in the Borough is 7,542.

- Number of people in Cwmbran at risk in future from 1% annual chance of flood event is 1,250 (Sources of flooding - Increased surface water and sewer flooding. River flooding will increase with greater rainfall)

- Number of people in Ponthir at risk in future from 1% annual chance of flood event is 230 (Sources of flooding - Climate change is expected to increase the risk of flooding from the River Lwyd. Increased sewer flooding).

- Number of other areas in the Borough at risk in future from 1% annual chance of flood event is 408 (Sources of flooding -River flooding, tidally influenced flooding, surface water and sewer flooding).

- The number of critical services (hospitals, police, fire and ambulance stations, schools, nursing homes) at risk from flooding in the Borough is 40.

THE EVOLUTION OF THE BASELINE WITHOUT THE STRATEGY

3.4 The SEA Directive requires the SEA to provide information on the likely evolution of the baseline (Figures 3.1, 3.2 & 3.3) without the implementation of the plan, which is described below.

3.5 Without the implementation of the Local Flood Risk Management Strategy the levels of flood risk in the Borough are likely to increase as a result of predicted climate change. This will have direct and indirect negative effects on a number of economic, social and environmental receptors, which would benefit from reduced flood risk. A summary of the assessment for the 'Do Nothing' approach in Section 4 provides further information on the evolution of the baseline without the implementation of the Local Strategy.

KEY ISSUES, PROBLEMS AND OPPORTUNITIES

3.6 The baseline and plans and programmes review was reviewed and helped to inform the identification of key environmental issues in the Borough.

Table 3.4: Key Issues for the Local Strategy
Environmental
▪ Reducing the risk of flooding in the County Borough, in particular the areas with relatively extensive C2 Zones, which include: o to the north of the County Borough, the south west of Gilchrist Thomas Industrial estate (near Blaenavon), Emlyn Road, Garndiffaith, parts of the British site in Talywain; o to the centre of Torfaen near Pontypool, the Usk road site at Mamhilad and the New Inn/Pontymoile roundabout area; and o to the south of the Borough, parts of Pontnewydd, Northville, Croesyceiliog, Llanyrafon, Llantarnam Industrial Park and Ponthir.
▪ Reducing the risk of flooding to people (7,542), critical services (40) and non-residential (852) properties from increased surface, sewer and river flooding.
▪ Protecting and enhancing biodiversity in the County Borough, which includes the four SSSI's within the County Borough and any other internationally and nationally designated sites within the catchment.
▪ Protecting and enhancing the historic environment in the County Borough, in particular the Blaenavon Work Heritage Site.
▪ Climate change is a significant issue facing all communities and the Local Strategy will need to consider how it is helping to reduce the vulnerability of the County Borough to the impacts of climate change.
▪ Protecting and enhancing the landscape character of the County Borough.
▪ Protecting and enhancing soils in the County Borough and minimising contamination risk.
▪ Protecting and enhancing the water environment, which includes water quality and resources.
▪ The management to prevent the spread of invasive non-native species such as the Japanese Knotweed, Giant Hogweed and Himalayan Balsam should be included.
Economic
▪ Ensuring economic development and business across the County Borough is not adversely affected by flooding.

Social
▪ Maintaining access to local services and facilities and minimising flood risk.
▪ Improving the health and well being of the population, including mental health, which can be affected by flooding.

3.7 The SEA Framework presented later in this Section sets out objectives to address these issues.

THE SEA FRAMEWORK OF OBJECTIVES

3.8 The SEA Framework provides a way in which the environmental effects of a plan or programme can be described, analysed and compared. The objectives and measures proposed in the Local Strategy were assessed using the SEA Framework. The framework originally presented in the SEA Scoping Report has been amended to reflect advice and comments received from the statutory consultation bodies.

Table 3.5: SEA Framework

Objective	Criteria for Assessment
1. To minimise the risk of flooding and increase resilience against flooding	▪ Will it reduce the risk of surface water, sewer and river flooding? ▪ Will it have a reducing effect on the impact of flooding?
2. To adapt development to the impacts of climate change	▪ What impact will it have upon the County Borough's vulnerability to the impacts of climate change?
3. To protect and enhance water quality and resources	▪ Will it have an adverse impact upon surface or groundwater resources or quality? ▪ Will it enhance surface and groundwater resources or quality?
4. To protect and enhance biodiversity and geodiversity	▪ Will it have adverse impacts on Blorenge SSSI; Llandegfedd Reservoir SSSI; Henllys Bog SSSI or Ty'r hen Forwyn SSSI? ▪ Will it have adverse impacts on any other international or national designated sites? ▪ Will it have adverse effects on local biodiversity and geodiversity designations? ▪ Will it maintain or enhance BAP habitats and species? ▪ Will it maintain and enhance the important ecological corridors of the Afon Lwyd and the Monmouthshire and Brecon canal? ▪ Will it manage flood risk by promoting natural processes and appropriate land management?
5. To protect and enhance soils	▪ Will it maintain/protect or enhance fluvial landforms and process in the catchment? ▪ Will it help to restore riparian corridors, floodplain including connectivity of natural processes? ▪ Will it reduce the transfer of contaminants and pollution incidents? ▪ Will it manage flood risk by promoting natural processes and appropriate land management?
6. To protect and	▪ Will it have an adverse impact upon the landscape

enhance the valued landscape character of Torfaen as well as historic resources and their settings	character of Torfaen? ▪ Will it have an adverse impact upon local historic assets? ▪ Will it help to protect heritage resources?
7. To protect and enhance the economy	▪ Will it protect existing areas of employment? ▪ Will it help to reduce the economic cost of flooding to the community, businesses and government?
8. To protect and enhance human health and well being	▪ Will it maintain or improve standards of flood protection for local residents in Torfaen? ▪ Will it have an adverse impact upon human health? ▪ Will it avoid/minimise environmental impacts which may have long term health impacts? ▪ Will it protect and enhance recreation and amenity facilities; particularly public open space?
9. To protect existing infrastructure	▪ Will it protect transport links and existing infrastructure? ▪ Will it maintain or improve access to local service and facilities, including during flood events? ▪ Will it help to protect homes and businesses from flood damage?

4.0 SEA OF LOCAL STRATEGY OBJECTIVES AND ALTERNATIVE OPTIONS

COMPATIBILITY ANALYSIS OF OBJECTIVES

4.1 The key findings of the compatibility analysis undertaken on the Local Strategy Objectives are summarised below. The full details of the compatibility analysis are provided in **Appendix 2**.

4.2 The majority of Local Strategy Objectives were found to be compatible with SEA Objectives. Reducing the risk of flooding, providing warning systems and reducing the vulnerability of the County Borough to the impacts of climate change are compatible against SEA objectives relating to minimising flood risk, adapting to climate change, protecting the economy, infrastructure and human health. Uncertainties were identified for Local Strategy objectives that could result in physical flood management measures against SEA objectives relating to biodiversity, soils, landscape character and historic assets as they not only have the potential to reduce flood risk but also have the potential for negative effects, depending on the implementation and location of an individual measure or scheme.

SEA OF ALTERNATIVES

4.3 The SEA considered three alternatives for Torfaen's Local Strategy: do nothing; maintain flood risk; reduce flood risk. This Section presents the summary findings of the SEA of alternatives with the detailed findings provided in **Appendix 3**.

Option 1: Do Nothing

4.4 This option would not address the current or predicted levels of flood risk in the Borough, which would have significant short to long term negative effects on minimising flood risk and adapting to climate change. This would also result in indirect short to long term negative effects for SEA objectives relating to the economy, infrastructure, human health/ well being and landscape character/ historic assets as a result of increased flood risk. Flooding has the potential to negatively affect water quality through the transfer of contaminants to water and can also affect water supplies by restricting how and when water can be abstracted. Increased flood risk therefore has the potential for indirect medium to long term negative effects on water quality and resources.

4.5 Measures to manage flood risk have the potential for both positive and negative effects on biodiversity/ geodiversity. As mentioned previously, reducing flood risk could have a positive impact on the water environment, which could result in a positive effect for biodiversity/ geodiversity. Conversely, physical flood management measures can result in disturbance and habitat fragmentation/loss, which could have a negative effect. The potential effects on biodiversity/ geodiversity are predominantly dependent on the location and implementation of physical flood management measures. Increased flood risk also has the potential for negative effects on soils through increased potential for water-logged soils, erosion and mobilisation of contaminated sediments.

Option 2: Maintain Flood Risk

4.6 This option would ensure that there is no net increase in flood risk by keeping pace with climate change. This would not help to reduce or minimise the current number of people (7,542), critical services (40) and non-residential properties at risk from flooding (852), as identified in the Preliminary Flood Risk Assessment Report (PFRA) 2009. This option would therefore have a long term negative effect against the SEA objective that relates to minimising the risk of flooding but a long term positive effect against the objective relating climate change adaptation. Keeping pace with climate change so that there is no net increase in flood risk would also have an indirect long term positive effect on SEA objectives relating to the economy, infrastructure, human health/ well being and landscape character/ historic assets as it would protect them from potential future increases in flood risk.

4.7 As previously identified for Option 1, flooding has the potential to negatively affect water quality through the transfer of contaminants to water and can also affect water supplies by restricting how and when water can be abstracted. Ensuring that there is no net increase in flood risk therefore has the potential for a long term positive effect on water quality and resources. Similarly to the other Options, there is the potential for both positive and negative effects on biodiversity/ geodiversity, however; the potential effects are dependent on the location and implementation of physical flood management measures.

Option 3: Reduce Flood Risk

4.8 This option seeks to reduce the social, economic and environmental impact of flooding, which would have a significant short to long term positive effect on minimising flood risk in the areas identified in the PFRA (2009) and the Broad Level Assessment of Flood Risk (2008). This option would also help the Borough to adapt to the impacts of climate change by reducing flood risk, which will have significant long term positive effects on the corresponding SEA objective. Reducing flood risk would help to protect the economy, infrastructure, human health/ well being and landscape character/ historic assets of the Borough, which is likely to have indirect short to long term positive effects.

4.9 Minimising current and future flood risk in the County Borough will have a medium to long term positive effect on water quality and resources. Similar to the other options, there is also the potential for both positive and negative effects on biodiversity/ geodiversity, however; the potential effects are dependent on the location and implementation of physical flood management measures. This Option will have a greater positive effect on the SEA objective relating to soils than the other Options as it seeks to not only address the future increase in flood risk but seeks to minimise current levels of risk.

REASONS FOR SELECTING OR REJECTING ALTERNATIVES

4.10 Neither Option 1 or 2 would address both the current and future risk of flooding in the Borough. Option 1 would result in significant long term negative effects on the majority of SEA objectives through increased levels of flood risk with associated impacts on social receptors such as human health and increased economic and environmental damage. Option 2 would not result in an increase in flood risk but would not address current levels of risk.

4.11 Option 3 has been progressed as it seeks to reduce current and future levels of flood risk and meets with the objectives and requirements of the National

Strategy by seeking to reduce the current and future risks of flooding in the Borough.

5.0 SEA OF LOCAL STRATEGY MEASURES

5.1 This Section summarises the findings of the SEA of Torfaen's Local Strategy measures. The assessment summary is presented under the 7 high level themes. The detail of this assessment is presented in **Appendix 4**.

Development Planning and Adaption

1.1 Strategic Land Use Planning Prevention
1.2 Strategic Flood Risk Assessment (SFRA) /Strategic Flood Consequences Assessment (SFCA) Prevention
1.3 Water Cycle Strategies
1.4 Relocation
1.5 Mineral and waste plans
1.6 Sustainable Drainage (SuDS)

5.2 The majority of measures will have a minor positive effect against SEA objectives. Measures 1.1, 1.2, 1.3 and 1.5 will not have a direct influence on objectives as they either re-iterate existing planning policy or propose further studies or strategies. They will however help to provide a more informed and effective approach to the management of flooding in the Borough, which could have minor indirect short term positive effects on the majority of SEA objectives.

5.3 Measure 1.4 seeks to relocate any residents whose housing is subject to a level of flood risk that might endanger life. It sets out a procedure that firstly seeks to reduce the level of flood risk to the house before relocation occurs, this includes reducing the volume of water being generated by the upstream catchment and the building of new flood defences. If the steps identified within the procedure are impracticable for reasons of cost or engineering then the Council will relocate residents to vacant housing. The measure will help to reduce the risk of flooding at properties where there is potential for loss of life, which has the potential for a long term positive effect on human health and well being.

5.4 Measure 1.6 sets out the Council's responsibility under the Flood and Water Management Act 2010 to take the role of the SuDS Adopting and Approving Body. The Council has a commitment to promote the use of SuDS wherever new sites are developed or brown-field sites are redeveloped. This will help to minimise the impact of development on flood risk and have a minor positive effect on the majority of SEA objectives.

Flood forecasting, warning and response

2.1 Flood Awareness
2.2 Flood Warning
2.3 Flood forecasting
2.4 Emergency response plans
2.5 Community flood plans
2.6 Multi-Agency Flood Plans
2.7 Major Incident Plans

5.5 The measures were assessed as having no effect against the majority of SEA objectives as they focus on flood forecasting, warning and response. Improving the awareness of communities to the risk of flooding (measure 2.1) will allow them to take appropriate action prior or during a flood even, which has the potential for a minor short term positive effect on human health and well being.

This is also the case for measures 2.2 and 2.3 as flood warning and forecasting will allow local communities to be warned of potential flooding and allow them to take appropriate action.

5.6 The remaining measures (2.4, 2.5, 2.6 & 2.7) focus on the response of the Council and Risk Partners after a flooding event has occurred. This includes giving support to communities during and after emergencies, which will also have a minor short term positive effect on human health and wellbeing.

Land, cultural and environmental management

3.1 Land management
3.2 Resilience
3.3 Resistance
3.4 Restoration
3.5 Environmental Enhancement
3.6 Water Level Management Plans
3.7 Habitat creation

5.7 The majority of measures were assessed as having a positive effect against SEA objectives. Measure 3.1 encourages the Council to seek opportunities to influence land managers to continue or change land management practices in order to reduce runoff and/or control peak flows from catchments above areas identified as being subject to flood risk. This will have significant medium to long term positive effects for minimising the risk of flooding in the Borough, which will have an indirect medium to long term positive effect on the SEA objective relating to climate change and indirect minor medium to long term positive effect on objectives relating to the water environment, economy, human health/ well being and infrastructure. There is also the potential for minor medium to long term positive effects for biodiversity, soils and the landscape through reduced flooding, however; there is also uncertainty as no detail is provided on the type of land management measures that might be considered. Certain land management measures, such as planting or the creation of wetlands have the potential for negative effects on biodiversity, soils and the landscape character of the Borough.

5.8 Measure 3.2 and 3.3 seek to reduce the risk of flood water entering important areas of biodiversity and restore habitats as quickly as possible following a flooding event to their previous condition, which has the potential for a short to long term positive effect on biodiversity. Measure 3.4 seeks to address the management of water on restoration sites with a preference for using 'soft' engineering solutions. Drainage techniques (including swales, French drains and surface water sewers) will be used to restore the surface water run off to a level similar to green field values once the vegetation has been established and the site matured. This has the potential for medium to long term positive effects on minimising flood risk, which could result in minor medium to long term positive effects on the majority of other SEA objectives. There is an element of uncertainty against the SEA objective relating to biodiversity as certain engineering solutions could have negative effects on important biodiversity present on the site.

5.9 Measure 3.5 outlines the benefits of environmental enhancement schemes in helping to decrease surface water runoff on new developments. This has the potential for minor long term positive effects against the majority of SEA objectives through decreasing surface water runoff and therefore reducing the risk of flooding. Measure 3.6 is unlikely to have an effect against the majority of

SEA objectives but does have the potential for a minor short to long term positive effect on human health as the database will help to determine if the public are at risk from a flooding event.

5.10 Measure 3.6 proposes the preparation of a database of all water bodies - with a surface area greater than 2,000m^2 - that could have a significant impact on surface water flooding in case of an emergency resulting from a failure in any water retaining structure. This is unlikely to have an effect against the majority of SEA objectives but does have the potential for a minor short to long term positive effect on human health as the database will help to determine if the public are at risk from a flooding event.

5.11 Measure 3.7 supports habitat creation as a means to mitigate the negative effects from development. Habitat creation has the potential to improve water management through reducing surface water runoff and increasing water retentive capacity, which has the potential for long term positive effects on minimising flood risk. This also has the potential for minor long term positive effects on SEA objectives relating to climate change, the water environment, economy, human health and infrastructure. Habitat creation is closely linked with land management therefore, as identified for measure 3.1, there is also the potential for minor medium to long term positive effects for biodiversity, soils and the landscape through reduced flooding, however; there is also uncertainty as certain habitat creation can also have the potential for negative effects.

5.12 **SEA Recommendation:** To address the uncertainties identified through the assessment, it is recommended that measures 3.1, 3.4, 3.5 and 3.7 include wording to ensure that any proposals for physical flood measures or changes to land management/ habitat creation consider the effects on the environment and the landscape of the Borough and provide suitable mitigation for any significant negative effects.

Asset Management and Maintenance (SAMPs)

4.1 System Asset Management Plans
4.2 Defence/structure management
4.3 Channel maintenance
4.4 Culvert maintenance

5.13 The majority of measures were assessed as having a positive effect against SEA objectives. Measure 4.1 sets out the requirement for the Council under the Flood and Water Management Act (2010) to maintain a register of structures or features that are likely to have a significant effect on flood risk in the Borough. This will not have a direct influence on the SEA objectives, however; it will help improve the evidence base and therefore help the Council to manage flood risk more effectively. As a result, there is the potential for minor short to long term positive effects for the majority of SEA objectives through more effective flood risk management. Measure 4.2 outlines the formal and informal flood defences in the Borough to be included as part of the evidence base for managing flood risk. The effects will be similar to those identified for measure 4.1.

5.14 Measure 4.3 and 4.4 propose that a survey is carried out of all channels and culverts that are considered to be significant in terms of flood risk. The surveys will identify details of the construction materials, size and shape of the channel/ culverts and its condition. This will then be used to produce a detailed programme for work for the maintenance and/ or replacement of all existing

channels and culverts. Ensuring that all channels and culverts are well maintained and fit for purpose will have significant short to long term positive effects on reducing flood risk, which will have indirect positive short to long term effects on the majority of other SEA objectives. There is some uncertainty with regard to the effect of this measure on biodiversity as channel/ culvert maintenance could result in the disturbance or removal of biodiversity.

5.15 To address the uncertainties identified through the assessment, it is recommended that measures 4.3 and 4.4 include wording to ensure that any proposals for the maintenance/ improvement of channels/ culverts consider potential effects on biodiversity and provide suitable mitigation for any significant negative effects.

Studies, Assessments and Plans

5.1 Investigation
5.2 Risk assessment
5.3 Strategy Plan
5.4 Local property-level flood mitigation - resilience
5.5 Local property-level flood mitigation - resistance
5.6 Pre-feasibility studies, Feasibility studies
5.7 Project plans
5.8 Surface Water Management Plans

5.16 Measures 5.1, 5.2 and 5.3 were assessed having no effect against the majority of SEA objectives. Measure 5.3 outlines how the Local Strategy provides a framework for the preparation of Flood Risk Management Plans so that they are all prepared in a consistent way. This has the potential for a minor positive short term effect on the SEA objective relating to reducing flood risk.

5.17 Measure 5.4 proposes that all Council owned buildings at risk of flooding will be identified once detailed flood modeling has been completed. If any of these properties are due for refurbishment the Council will consider including flood resilience measures if a cost benefit analysis determines it to be beneficial in that case. The measure also proposes that where new buildings are planned within areas at risk of flooding the Council will adopt a policy of using building standards that are resilient to water inundation. This could include the use of flood resilient materials and building techniques. There is the potential for medium to long term positive effects against the SEA objective to minimise flooding through increasing the resilience against flooding. The significance of this impact is dependent on the number of Council owned properties that are refurbished to improve their flood resilience.

5.18 There is also the potential for medium to long term positive effects through reducing the vulnerability of existing and new development to the impacts of climate change. This will also have medium to long term positive effects on the SEA objectives relating to historic resources, the economy, human health and infrastructure as buildings that are subject to flooding will be less damaged and brought back into use more quickly. There is an element of uncertainty relating refurbishment of historic buildings as there could be adverse effects, however; the planning system already has measures in place to ensure that there are no adverse effects on important heritage assets.

5.19 Measure 5.5 proposes that the Council will consider measures, such as portable flood walls, to prevent the ingress of water into individual properties in areas of flood risk with flood water levels below 600mm. This will have a direct

temporary positive impact on reducing flood risk and a minor indirect positive effect on SEA objectives relating to climate change, the economy, historic assets, human health and infrastructure, which includes services and facilities.

5.20 Measures 5.6, 5.7 and 5.8 set out studies and tasks to be undertaken during the development of the Flood Risk Management Plans, which will help to identify flood risk more precisely and deliver the most appropriate measures to manage flood risk in the Borough. This has the potential for minor medium to long term positive effects on the reducing flood risk objective and the potential for minor indirect medium to long term positive effects on the majority of SEA objectives through a more effective approach to the management of flooding in the Borough.

5.21 **SEA Recommendation:** To address the uncertainty identified through the assessment, it is recommended that measure 5.4 includes wording to ensure that any proposals for refurbishment of buildings considers potential effects on historic assets and provides suitable mitigation for any adverse effects.

High level awareness and engagement

6.1 Partnership working

5.22 This measure proposes close working with a number of partnerships, including the Torfaen Biodiversity Partnership, Torfaen Environment Partnership and Torfaen Local Service Board Climate Change Adaptation Partnership. Collaborative working between partnerships will help to implement more effective measures to reduce flood risk with minor positive effects on SEA objectives. The significance of this effect will be dependent on the effectiveness of partnerships and sharing of information.

Monitoring

7.1 Erosion monitoring
7.2 Habitats monitoring
7.3 Topographical survey
7.4 Aerial photography

5.23 The measures were assessed as having no effect against the majority of SEA objectives as they focus on the monitoring of erosion, habitats and sites. There is the potential for a minor indirect long term positive effect for measure 7.4 against minimising flood risk as monitoring could help to develop more effective flood management measures in the future. There is also the potential for a minor indirect long term positive effect for measure 7.1 and 7.2 against soil and biodiversity respectively, as more effective flood management measures may help to reduce adverse effects on soils and biodiversity. Measure 7.3 was assessed as not having any effect on SEA objectives.

6.0 SUMMARY AND RECOMMENDATIONS

SUMMARY ASSESSMENT OF LOCAL STRATEGY

6.1 Overall, the majority of measures were assessed as having the potential for a positive effect on SEA objectives as the Local Strategy seeks to manage and reduce the risk of flooding in the Borough. Significant positive effects were identified for measures 3.1, 4.3 and 4.4 as they will directly help to reduce the risk of flooding through changes in land management and the maintenance/ improvement of channels and culverts. Reduced levels of flood risk in the Borough will have indirect positive effects on the economy, human health and environmental factors, such as water and soil quality.

6.2 A number of measures were assessed as having no effect on SEA objectives as they relate to improving the evidence or monitoring the impacts of flooding rather than physical flood management measures that could result in impacts on the ground. No significant negative effects were identified through the assessment although there was some uncertainty around the implementation of physical measures and/ or land management changes/ habitat creation and the effect this could have on biodiversity/ geodiversity, landscape and soils. The nature of the effect will be dependent on the location and implementation of individual measures; however, appropriate mitigation at the project level will help to mitigate any adverse effects.

CUMULATIVE EFFECTS ASSESSMENT (CEA)

6.3 The SEA Directive requires consideration of the overall effects of the implementation of the plan, including the secondary, synergistic and cumulative effects of the effects of implementing the plan. This may include incremental effects that can have a small effect individually, but can accrue to have significant environmental effects.

6.4 To assist in considering the overall cumulative effects of measures within the Strategy when assessed against the different SEA objectives, a summary has been prepared, illustrating how each measure has performed against each SEA objective. This is provided in the following table 6.1:

Table 6.1: Cumulative Effect of Local Strategy

Local Strategy Measures	SEA Objectives								
	1	2	3	4	5	6	7	8	9
1.1 Strategic Land Use Planning	+	+	+	0	+	+	+	+	+
1.2 SFRA/ SFCA	+	+	+	0	+	+	+	+	+
1.3 Water Cycle Strategies	+	+	+	0	+	+	+	+	+
1.4 Relocation	+	+	0	0	0	0	0	++	0
1.5 Mineral and waste plans	+	+	+	0	+	+	+	+	+
1.6 Sustainable Drainage (SuDS)	+	+	+	0	+	+	+	+	+
2.1 Flood Awareness	0	0	0	0	0	0	0	+	0
2.2 Flood Warning	0	0	0	0	0	0	0	+	0
2.3 Flood forecasting	0	0	0	0	0	0	0	+	0
2.4 Emergency response plans	0	0	0	0	0	0	0	+	0
2.5 Community flood plans	0	0	0	0	0	0	0	+	0
2.6 Multi-Agency Flood Plans	0	0	0	0	0	0	0	+	0
2.7 Major Incident Plans	0	0	0	0	0	0	0	+	0
3.1 Land management	+++	++	+	+ ?	+ ?	+ ?	+	+	+
3.2 Resilience	0	0	0	+++	0	0	0	0	0
3.3 Resistance	0	0	0	+++	0	0	0	0	0
3.4 Restoration	++	+	+	+ ?	+	+	+	+	+
3.5 Environmental Enhancement	+	+	+	+ ?	+	+	+	+	+
3.6 Water Level Management Plans	0	0	0	0	0	0	0	+	0
3.7 Habitat creation	++	+	+	+ ?	+ ?	+ ?	+	+	+
4.1 System Asset Management Plans	+	+	+	0	+	+	+	+	+
4.2 Defence/ structure management	+	+	+	0	+	+	+	+	+
4.3 Channel maintenance	+++	+	+	+ ?	+	+	+	+	+
4.4 Culvert maintenance	+++	+	+	+ ?	+	+	+	+	+
5.1 Investigation	0	0	0	0	0	0	0	0	0
5.2 Risk assessment	0	0	0	0	0	0	0	0	0
5.3 Strategy Plan	+	0	0	0	0	0	0	0	0
5.4 Local property-level flood mitigation - resilience	++	++	0	0	0	++ ?	++	++	++
5.5 Local property-level flood mitigation - resistance	++	+	0	0	0	+	+	+	0
5.6 Pre-feasibility studies, Feasibility studies	+	+	+	+	+	+	+	+	+
5.7 Project plans	+	+	+	+	+	+	+	+	+
5.8 Surface Water Management Plans	+	+	+	+	+	+	+	+	+
6.1 Partnership working	+	+	+	0	+	+	+	+	+
7.1 Erosion monitoring	0	0	0	0	+	0	0	0	0
7.2 Habitats monitoring	0	0	0	+	0	0	0	0	0
7.3 Topographical survey	0	0	0	0	0	0	0	0	0
7.4 Aerial photography	+	0	0	0	0	0	0	0	0

6.5 The assessment found that the cumulative and synergistic effect of the Local Strategy as a whole will be positive for the social, economic and environmental issues identified. The Local Strategy will help to reduce flood risk in the Borough, which will have indirect positive effects on human health, the built environment, the economy and the environment.

6.6 The SEA also considered the cumulative effects of the Local Strategy with the effects on the environment likely from other key plans, including the Local Development Plan (LDP), Transport Plan and the Biodiversity Action Plan. The LDP has been subject to SA/SEA and includes policies to promote objectives for reducing flood risk, protecting biodiversity, and protecting other sensitive environmental factors from proposed development, including transport projects. The SEA found that these cumulative inter-plan effects were likely to be positive and unlikely to have any significant negative effects.

RECOMMENDATIONS AND THE DIFFERENCE THE SEA PROCESS HAS MADE

6.7 None of the measures assessed were identified as having the potential for negative effects that will require mitigation. A number of uncertainties were identified in relation to the location and implementation of physical measures and/ or land management changes/ habitat creation and the effect this could have on biodiversity/ geodiversity, landscape and soils. The assessment considered that the nature of the effect will be dependent on the location and implementation of individual measures. To address these uncertainties the assessment recommends the following:

- Measures 3.1, 3.4, 3.5 and 3.7 include wording to ensure that any proposals for physical flood measures or changes to land management/ habitat creation consider the effects on the environment and the landscape of the Borough and provide suitable mitigation for any adverse effects.
- Measures 4.3 and 4.4 include wording to ensure that any proposals for the maintenance/ improvement of channels/ culverts consider potential effects on biodiversity and provide suitable mitigation for any adverse effects.
- Measure 5.4 includes wording to ensure that any proposals for refurbishment of buildings considers consider potential effects on historic assets and provides suitable mitigation for any adverse effects.

6.8 The recommendations outlined above will help to address the uncertainties identified through the assessment as they will inform the preparation of Flood Risk Management Plans and any detailed measures proposed in them.

7.0 IMPLEMENTATION AND MONITORING

INTRODUCTION

7.1 This section discusses indicators to help monitor the effects of the Local Strategy. Indicators for each SEA objective have been identified consider the significant (and any unpredicted) effects of the plan, as required by the SEA Directive.

SEA MONITORING PROPOSALS FOR THE LOCAL STRATEGY

7.2 SEA guidance suggests that wherever possible, existing monitoring arrangements should be used to obtain required information. The table below contains a preliminary list of proposed SEA indicators, which are primarily based on existing monitoring programmes, including the Torfaen County Borough Council Annual Monitoring Report for the LDP.

Table7.1: SEA Indicators

SEA objective	SEA Indicators
1. To minimise the risk of flooding and increase resilience against flooding.	▪ Number of people, critical services and non-residential properties at risk of flooding. ▪ Number of new properties at risk of flooding. ▪ Amount of development (by TAN15 Para 5.1 development category) permitted in C1 & C2 floodplain areas not meeting all TAN15 tests (Para 6.2 i-v). ▪ Number of relevant planning permissions incorporating Sustainable Drainage Schemes either directly on site or through S106 contributions. ▪ Number of planning applications approved contrary to EAW advice on flood risk grounds.
2. Adapt to climate change.	▪ Number of people, critical services and non-residential properties at risk of flooding. ▪ Number of new properties at risk of flooding. ▪ Amount of development (by TAN15 Para 5.1 development category) permitted in C1 & C2 floodplain areas not meeting all TAN15 tests (Para 6.2 i-v). ▪ Number of planning applications approved contrary to EAW advice on flood risk grounds.
3. To protect and enhance water quality and resources.	▪ % surface water of Good Ecological Status. ▪ % groundwater of Good Ecological Status. ▪ Chemical water quality of the Afon Lwyd. ▪ Biological water quality of the Afon Lwyd. ▪ Number of planning applications permitted with objections from Dwr Cymru Welsh Water concerning water supply, sewerage capacity or water quality.
4. To protect and enhance biodiversity and geodiversity.	▪ Condition status of SSSIs. ▪ % change of Torfaen LBAP species.
5. To protect and enhance soils.	▪ Area of Contaminated Land.
6. To protect and enhance the valued landscape	▪ Number of Listed Buildings and Historic Sites.

character of Torfaen as well as historic resources and their settings.	
7. To protect and enhance the economy.	▪ Number of people, critical services and non-residential properties at risk of flooding. ▪ Number of new properties at risk of flooding.
8. To protect and enhance human health and well being.	▪ Number of people, critical services and non-residential properties at risk of flooding.
9. To protect existing infrastructure.	▪ Number of road closures due to flood events in Borough.

7.3 **SEA Recommendation**: The Council should consider this suggested list of SEA indicators and incorporate them into the monitoring programme for the Local Strategy.

Appendix 1: Statement on Compliance with the SEA Directive & Regulations

I.1 *An outline of the contents, main objectives of the plan and relationship with other relevant plans:*

- Section 1 of this Environmental Report sets out the contents and objectives of the Local Strategy. Section 3 provides a key list of plans and programmes considered.

I.2 *The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan:*

- Section 3 of this Environmental Report summarises the relevant baseline conditions in the Borough and provides a summary of the likely evolution of the baseline without the Local Strategy.

I.3 *The environmental characteristics of areas likely to be significantly affected:*

- Section 3 of this Environmental Report provides the environmental characteristics of the area likely to be affected.

I.4 *Any existing environmental problems which are relevant to the plan including, in particular, those relating to any areas of a particular environmental importance:*

- Section 3 of this Environmental Report summarises the key environmental issues for the area.

I.5 *The environmental protection objectives relevant to the plan and the way those objectives and any environmental considerations have been taken into account during its preparation:*

- Section 3 of this Environmental Report outlines the key plans and programmes and environmental considerations have been taken into account.

I.6 *The likely significant effects on the environment including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors. These effects should include secondary, cumulative, synergistic, short,*

medium and long-term permanent and temporary, positive and negative effects:

- The likely sustainability effects of implementing the Local Strategy (including environmental effects) is summarised in Sections 4, 5 & 6 of this Environmental Report, and detailed in Appendix 2, 3 & 4. Where possible, an indication of whether effects are likely to be cumulative, short, medium and long-term etc has been included.

I.7 *The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan:*

- No significant adverse effects were identified; however, recommendations are provided in Section 6 to address uncertainties identified by the assessment.

I.8 *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:*

- Section 4 of this Environmental Report summaries the assessment of alternatives with detail provided in Appendix 3. The reasons for selecting or rejecting alternatives are also provided in Section 4.

I.9 *A description of the measures envisaged concerning monitoring*:

- Measures envisaged concerning the monitoring of key environmental effects of implementing the Local Strategy are provided in Section 7 of this Environmental Report.

I.10 *A non-technical summary of the information provided under the above headings:*

- The non-technical summary is set out at the beginning of this report.

Appendix 2: Compatibility Analysis of Objectives

Local Strategy Objectives	SEA Objectives
Overarching Objective 1 reducing the impacts on individuals, communities businesses and the environment; 18. Reduce distress by reducing the number of people exposed to the risk of flooding. 19. Reduce community disruption by reducing the number of residential and commercial properties affected by the risk of flooding. 20. Reduce risk to life by reducing the number of people exposed to risk of flooding of significant depth and velocity. 21. Reduce disruption to critical infrastructure or prepare plans to allow the operations to be maintained. Overarching Objective 2 raising awareness of and engaging people in the response to flood 22. Provide systems to give early warning of potential flooding to individuals and communities. 23. Provide efficient systems for the management and maintenance of surface assets. 24. Reduce economic damage. 25. Reduce cost of management.	1. To minimise the risk of flooding and increase resilience against flooding 2. To adapt development to the impacts of climate change 3. To protect and enhance water quality and resources 4. To protect and enhance biodiversity and geodiversity 5. To protect and enhance soils 6. To protect and enhance the valued landscape character of Torfaen as well as historic resources and their settings 7. To protect and enhance the economy 8. To protect and enhance human health and well being 9. To protect existing infrastructure

Overarching Objective 3 providing an effective and sustained response to flood events 26. Protect and improve Sites of Special Scientific Interest (SSSIs) Sites of Importance for Nature Conservation (SINCs), Special Areas of Conservation (SAC) Local Nature Reserves (LNRs) and Regionally Important Geological Sites (RIGs). 27. Contribute to the delivery of Torfaen County Borough Council Biodiversity Action Plan. 28. Create natural channels and water bodies with minimal modifications. 29. Protect and Improve water quality. 30. Provide Flood Risk management Plans for each area subject to flood risk. 31. Ensure that measures are designed and constructed in a sustainable way. 32. Ensure that TCBC works in partnership with all other Risk Partners and works collaboratively with adjacent Authorities. Overarching Objective 4 Prioritising investment in communities most at risk. 33. Ensure that investment decisions for the implementation of flood risk management schemes are made on a consistent, defendable basis and are subject to cost benefit analysis.	

Key:

✓	Broadly compatible
X	Potential conflict
0	Not relevant
?	Dependent on nature of implementation measure

SEA Objectives	Local Strategy Objectives																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	0	0	0	✓	0	✓	0
2	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	0	0	0	✓	0	✓	0
3	✓	✓	✓	✓	0	?	0	0	?	✓	✓	✓	✓	?	?	0	0
4	?	?	?	?	0	?	0	0	?	✓	✓	✓	✓	?	?	0	0
5	?	?	?	?	0	?	0	0	0	0	0	✓	✓	?	✓	0	0
6	?	?	?	?	0	?	0	0	?	0	0	0	0	✓	0	✓	0
7	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	0	0	0	✓	0	✓	✓
8	✓	✓	✓	✓	✓	✓	✓	0	✓	0	0	0	✓	✓	0	✓	0
9	✓	✓	✓	0	✓	✓	✓	✓	✓	0	0	0	0	✓	0	✓	0

Summary: The majority of Local Strategy Objectives were found to be compatible with SEA Objectives. Reducing the risk of flooding, providing warning systems and reducing the vulnerability of the County Borough to the impacts of climate change are compatible against SEA objectives relating to minimising flood risk, adapting to climate change, protecting the economy, infrastructure and human health. Uncertainties were identified for Local Strategy objectives that seek to reduce flood risk against SEA objectives relating to water quality and resources, biodiversity, soils, landscape character and historic assets as measures to reduce flood risk have the potential for both positive and negative effects, depending on the individual measure or scheme.

Appendix 3: SEA of Alternatives

Appraisal key

Assessment Scale	Assessment Category
+++	Strongly positive
++	Moderately positive
+	Slightly positive
0	Neutral or no obvious effect
-	Slightly negative
--	Moderately negative
---	Strongly negative
?	Effect uncertain

SEA Objective	Comparative Assessment of Effects Nature of the predicted effect (positive/negative, short/medium/long term, cumulative, scale, reversibility, likelihood)		
	High Level Strategy Option 1: Do Nothing	High Level Strategy Option 2: Maintain Flood Risk	High Level Strategy Option 3: Reduce Flood Risk
1. To minimise the risk of flooding and increase resilience against flooding.	---	-	+++
2. To adapt development to the impacts of climate change.	---	+	+++
3. To protect and enhance water quality and resources.	-	+	++
4. To protect and enhance biodiversity and geodiversity.	?	?	?
5. To protect and enhance soils.	-	+	++
6. To protect and enhance the valued landscape character of Torfaen as well as historic resources and their settings.	--	+	++
7. To protect and enhance the economy.	--	+	++
8. To protect and enhance human health and well being.	--	+	++
9. To protect existing infrastructure.	--	+	++

Summary:

Option 1 would not address the current or predicted levels of flood risk in the Borough, which would have significant short to long term negative effects on minimising flood risk and adapting to climate change. This would also result in indirect short to long term negative effects for SEA objectives relating to the economy, infrastructure, human health/ well being and landscape character/ historic assets as a result of increased flood risk. Flooding has the potential to negatively affect water quality through the transfer of contaminants to water and can also affect water supplies by restricting how and when water can be abstracted. Increased flood risk therefore has the potential for indirect medium to long term negative effects on water quality and resources. Measures to manage flood risk have the potential for

both positive and negative effects on biodiversity/ geodiversity. As mentioned previously, reducing flood risk could have a positive impact on the water environment, which could result in a positive effect for biodiversity/ geodiversity. Conversely, physical flood management measures can result in disturbance and habitat fragmentation/loss, which could have a negative effect. The potential effects on biodiversity/ geodiversity are predominantly dependent on the location and implementation of physical flood management measures. Increased flood risk also has the potential for negative effects on soils through increased potential for water-logged soils, erosion and mobilisation of contaminated sediments.

Option 2 seeks to keep pace with climate change so that there is no net increase in flood risk. This would not help to reduce or minimise the current number of people (7,542), critical services (40) and non-residential properties at risk from flooding (852), as identified in the Preliminary Flood Risk Assessment Report (PFRA) 2009. This Option would therefore have a long term negative effect against the SEA objective that relates to minimising the risk of flooding but a long term positive effect against the objective relating climate change adaptation. Keeping pace with climate change so that there is no net increase in flood risk would also have an indirect long term positive effect on SEA objectives relating to the economy, infrastructure, human health/ well being and landscape character/ historic assets as it would protect them in the future from a potential increase in flood risk. As previously identified for Option 1, flooding has the potential to negatively affect water quality through the transfer of contaminants to water and can also affect water supplies by restricting how and when water can be abstracted. Ensuring that there is no net increase in flood risk therefore has the potential for a long term positive effect on water quality and resources. Similarly to the other Options, there is the potential for both positive and negative effects on biodiversity/ geodiversity, however; the potential effects are dependent on the location and implementation of physical flood management measures. This Option has the potential for long term positive effects on soils through reducing the future potential for water-logged soils, erosion and mobilisation of contaminated sediments.

Option 3 seeks to take action to reduce the social, economic and environmental impact of flooding. This would have a significant short to long term positive effect on minimising flood risk in the areas identified in the PFRA (2009) and the Broad Level Assessment of Flood Risk. This Option would also help the County Borough to adapt to the impacts of climate change by reducing flood risk, which will have significant long term positive effects. Reducing flood risk would help to protect the economy, infrastructure, human health/ well being and landscape character/ historic assets of the County Borough, which is likely to have indirect short to long term positive effects. As previously identified for the other Options, flooding has the potential to negatively affect water quality through the transfer of contaminants to water and can also affect water supplies by restricting how and when water can be abstracted. Minimising current and future flood risk in the County Borough will have medium to long term positive effects on water quality and resources. Similar to the other options, there is also the potential for both positive and negative effects on biodiversity/ geodiversity, however; the potential effects are dependent on the location and implementation of physical flood management measures. This Option will have a greater positive effect on the SEA objective relating to soils than the other Options as it seeks to not only address the future increase in flood risk but seeks to minimise current levels of risk.

Appendix 4: SEA of Measures

Appraisal key

Assessment Scale	Assessment Category
+++	Strongly positive
++	Moderately positive
+	Slightly positive
0	Neutral or no obvious effect
-	Slightly negative
--	Moderately negative
---	Strongly negative
?	Effect uncertain

Development Planning and Adaption

SEA Objective	Measures					
	1.1 Strategic Land Use Planning Prevention	1.2 SFRA / SFCA Prevention	1.3 Water Cycle Strategies	1.4 Relocation	1.5 Mineral and waste plans	1.6 Sustainable Drainage (SuDS)
1.	+	+	+	+	+	+
2.	+	+	+	+	+	+
3.	+	+	+	0	+	+
4.	0	0	0	0	0	0
5.	+	+	+	0	+	+
6.	+	+	+	0	+	+
7.	+	+	+	0	+	+
8.	+	+	+	++	+	+
9.	+	+	+	0	+	+

Summary:

Measures 1.1 and 1.5 re-iterates the policy measures provided in existing land use plans to help reduce the risk of flooding. This will not directly reduce the risk of flooding but will help the Local Strategy to provide a consistent and more effective approach to management of flooding in the Borough. The measures will not have significant effects but could have minor indirect positive effects on the SEA objectives.

Measures 1.2 and 1.3 will not have a direct influence on the SEA objectives, however; they will help improve the evidence base and therefore help the Council to manage flood risk more effectively. The measures will not have significant effects but could have minor indirect short term positive effects on the majority of SEA objectives.

Measure 1.4 seeks to relocate any residents whose housing is subject to flood risk that might endanger life. The measure sets out a procedure that seeks to reduce flood risk to the house before relocation occurs, this includes reducing the volume of water being generated by the upstream catchment and the building of new flood defences. If the steps identified within the procedure are impracticable for reasons of cost or engineering then the Council will relocate residents to vacant housing. The measure will help to reduce the risk of flooding at properties where there is potential for loss of life, which has the potential for a long term positive effect on human health and well being.

Measure 1.6 sets out the Council's responsibility under the Flood and Water Management Act 2010 to take the role of the SuDS Adopting and Approving Body. The Council has a commitment to promote the use of SuDS wherever new sites are developed or brown-field sites are redeveloped. This will help to minimise the impact of development on flood risk and have a minor positive effect on the majority of SEA objectives.

Flood forecasting, warning and response

SEA Objective	Measures						
	2.1 Flood Awareness	2.2 Flood Warning	2.3 Flood forecasting	2.4 Emergency response plans	2.5 Community flood plans	2.6 Multi-Agency Flood Plans	2.7 Major Incident Plans
1.	0	0	0	0	0	0	0
2.	0	0	0	0	0	0	0
3.	0	0	0	0	0	0	0
4.	0	0	0	0	0	0	0
5.	0	0	0	0	0	0	0
6.	0	0	0	0	0	0	0
7.	0	0	0	0	0	0	0
8.	+	+	+	+	+	+	+
9.	0	0	0	0	0	0	0

Summary:

Improving the awareness of communities to the risk of flooding (measure 2.1) will allow them to take appropriate action prior or during a flood even, which has the potential for a minor short term positive effect on human health and well being. This is also the case for measures 2.2 and 2.3 as flood warning and forecasting will allow local communities to be warned of potential flooding and allow them to take appropriate action.

The remaining measures (2.4, 2.5, 2.6 & 2.7) focus on the response of the Council and Risk Partners after a flooding event has occurred. This includes giving support to communities during and after emergencies, which will have a minor short term positive effect on human health and wellbeing.

Land, cultural and environmental management

SEA Objective	Measures						
	3.1 Land management	3.2 Resilience	3.3 Resistance	3.4 Restoration	3.5 Environmental Enhancement	3.6 Water Level Management Plans	3.7 Habitat creation
1.	+++	0	0	++	+	0	++
2.	++	0	0	+	+	0	+
3.	+	0	0	+	+	0	+
4.	+ ?	++	++	+ ?	+ ?	0	+ ?
5.	+ ?	0	0	+	+	0	+ ?
6.	+ ?	0	0	+	+	0	+ ?
7.	+	0	0	+	+	0	+
8.	+	0	0	+	+	+	+
9.	+	0	0	+	+	0	+

Summary:

Measure 3.1 encourages the Council to seek opportunities to influence land managers to continue or change land management practices in order to reduce runoff and/or control peak flows from catchments above areas identified as being subject to flood risk. This will have significant medium to long term positive effects for minimising the risk of flooding in the County Borough. Reducing the risk of flooding will also have medium to long term positive effects on the SEA objective relating to climate change and minor medium to long term positive effects on objectives relating to the water environment, economy, human health/ well being and infrastructure. There is also the potential for minor medium to long term positive effects for biodiversity, soils and the landscape through reduced flooding, however; there is also uncertainty as no detail is provided on the type of land management measures that might be considered. Certain land management measures, such as planting or the creation of wetlands have the potential for negative

effects on biodiversity, soils and the landscape character of the Borough.

Measure 3.2 and 3.3 seek to reduce the risk of flood water entering important areas of biodiversity and restore habitats as quickly as possible following a flooding event to their previous condition. This has the potential for a short to long term positive effect on biodiversity.

Measure 3.4 seeks to address the management of water on restoration sites with a preference for using 'soft' engineering solutions. Drainage techniques (including swales, French drains and surface water sewers) will be used to restore the surface water run off to a level similar to green field values once the vegetation has been established and the site matured. This has the potential for medium to long term positive effects on minimising flood risk, which could result in minor medium to long term positive effects on the majority of other SEA objectives. There is an element of uncertainty against the SEA objective relating to biodiversity as the engineering solutions could have adverse effects on important biodiversity present on the site.

Measure 3.5 outlines the benefits of environmental enhancement schemes in helping to decrease surface water runoff on new developments. This has the potential for minor long term positive effects against the majority of SEA objectives through decreasing surface water runoff and therefore reducing the risk of flooding.

Measure 3.6 proposes the preparation of a database of all water bodies - with a surface area greater than 2,000m^2 - that could have a significant impact on surface water flooding in case of an emergency resulting from a failure in any water retaining structure. This is unlikely to have an effect against the majority of SEA objectives but does have the potential for a minor short to long term positive effect on human health as the database will help to determine if the public are at risk from a flooding event.

Measure 3.7 supports habitat creation as a means to mitigate the negative effects from development. Habitat creation has the potential to improve water management through reducing surface water runoff and increasing water retentive capacity, which has the potential for long term positive effects on minimising flood risk. This also has the potential for minor long term positive effects on SEA objectives relating to climate change, the water environment, economy, human health and infrastructure. As identified for measure 3.1, there is also the potential for minor medium

to long term positive effects for biodiversity, soils and the landscape through reduced flooding, however; there is also uncertainty as habitat creation can also have the potential for negative effects.

To address the uncertainties identified through the assessment, it is recommended that measures 3.1, 3.4, 3.5 and 3.7 include wording to ensure that any proposals for physical flood measures or changes to land management/ habitat creation consider the effects on the environment and the landscape of the Borough and provide suitable mitigation for any adverse effects.

Asset Management and Maintenance (SAMPs)

SEA Objective	Measures			
	4.1 System Asset Management Plans	4.2 Defence/ structure management	4.3 Channel maintenance	4.4 Culvert maintenance
1.	+	+	+++	+++
2.	+	+	+	+
3.	+	+	+	+
4.	0	0	+ ?	+ ?
5.	+	+	+	+
6.	+	+	+	+
7.	+	+	+	+
8.	+	+	+	+
9.	+	+	+	+

Summary:

Measure 4.1 sets out the requirement for the Council under the Flood and Water Management Act (2010) to maintain a register of structures or features that are likely to have a significant effect on flood risk in the Borough. This will not have a direct influence on the SEA objectives, however; it will help improve the evidence base and therefore help the Council to manage flood risk more effectively. There is the potential for minor short to long term positive effects for the majority of SEA objectives through more effective flood risk management.

Measure 4.2 outlines the formal and informal flood defences in the Borough to be included as part of the evidence base for managing flood risk. The effects will be similar to those identified for measure 4.1.

Measure 4.3 and 4.4 propose that a survey is carried out of all channels and culverts that are considered to be significant in terms of flood risk. The surveys will identify details of the construction materials, size and shape of the channel/ culverts and its condition. This will then be used to produce a detailed programme for work for the maintenance and/ or replacement of all existing channels and culverts. Ensuring that all channels and culverts are well maintained and fit for purpose will have significant short to long term positive effects on reducing flood risk, which will have indirect positive short to long term effects on the majority of other SEA objectives. There is some uncertainty of the effect of this measure on biodiversity as channel/ culvert maintenance could result in the disturbance or removal of biodiversity.

To address the uncertainties identified through the assessment, it is recommended that measures 4.3 and 4.4 include wording to ensure that any proposals for the maintenance/ improvement of channels/ culverts consider potential effects on biodiversity and provide suitable mitigation for any adverse effects.

Studies, Assessments and Plans

SEA Objective	Measures							
	5.1 Investigation	5.2 Risk assessment	5.3 Strategy Plan	5.4 Local property-level flood mitigation - resilience	5.5 Local property-level flood mitigation - resistance	5.6 Pre-feasibility studies, Feasibility studies	5.7 Project plans	5.8 Surface Water Management Plans
1.	0	0	+	++	++	+	+	+
2.	0	0	0	++	+	+	+	+
3.	0	0	0	0	0	+	+	+
4.	0	0	0	0	0	+	+	+
5.	0	0	0	0	0	+	+	+
6.	0	0	0	++ ?	+	+	+	+
7.	0	0	0	++	+	+	+	+
8.	0	0	0	++	+	+	+	+
9.	0	0	0	++	0	+	+	+

Summary:

Measure 5.1 identifies that there is a lack of available information for certain issues and then re-iterates the surveys proposed through other measures in the strategy. The effects of this measure are addressed through the assessment of other measures. Measure 5.2 sets out the timescales for re-assessing flood risk in the Borough as part of the requirements of the Flood Risk Regulations, it will therefore not have any effects on the SEA objectives.

Measure 5.3 outlines how the Local Strategy provides a framework for the preparation of Flood Risk Management Plans so that they are all prepared in a consistent way. This has the potential for a minor positive short term effect on the SEA objective relating to reducing flood risk.

Measure 5.4 proposes that all Council owned buildings at risk of flooding will be identified once detailed flood modeling has been completed. If any of these properties are due for refurbishment the Council will consider including flood resilience measures if a cost benefit analysis determines it to be beneficial in that case. The measure also proposes that where new buildings are planned within areas at risk of flooding the Council will adopt a policy of using building standards that are resilient to water inundation. This could include the use of flood resilient materials and building techniques. There is the potential for medium to long term positive effects against the first SEA objective through increasing the resilience against flooding. The significance of this impact is dependent on the number of Council owned properties that are refurbished to improve their flood resilience. There is also the potential for medium to long term positive effects through reducing the vulnerability of existing and new development to the impacts of climate change. This will also have medium to long term positive effects on the SEA objectives relating to historic resources, the economy, human health and infrastructure as buildings that are subject to flooding will be less damaged and brought back into use more quickly. There is an element of uncertainty relating refurbishment of historic buildings as there could be adverse effects, however; the planning system already has measures in place to ensure that there are no adverse effects on important heritage assets.

Measure 5.5 proposes that the Council will consider measures, such as portable flood walls, to prevent the ingress of water into individual properties in areas of flood risk with flood water levels below 600mm. This will have a direct temporary positive impact on reducing flood risk and a minor indirect positive effect on SEA objectives relating to climate change, the economy, historic assets, human health and infrastructure, which includes services and facilities.

Measures 5.6, 5.7 and 5.8 set out studies and tasks to be undertaken during the development of the Flood Risk Management Plans, which will help to identify flood risk more precisely and deliver the most appropriate measures to manage flood risk in the Borough. This has the potential for minor medium to long term positive effects on the reducing flood risk objective and the potential for minor indirect medium to long term positive effects on the majority of SEA objectives through a more effective approach to the management of flooding in the Borough.

To address the uncertainty identified through the assessment, it is recommended that measure 5.4 includes wording to ensure that any proposals for refurbishment of buildings considers consider potential effects on historic assets and provides suitable mitigation for any adverse effects.

High level awareness and engagement

SEA Objective	Measures
	6.1 Partnership working
1.	**+**
2.	**+**
3.	**+**
4.	**0**
5.	**+**
6.	**+**
7.	**+**
8.	**+**
9.	**+**

Summary:

This measure proposes close working with a number of partnerships, including the Torfaen Biodiversity Partnership, Torfaen Environment Partnership and Torfaen Local Service Board Climate Change Adaptation Partnership. Collaborative working between partnerships will help to implement more effective measures to reduce flood risk with minor positive effects on SEA objectives. The significance of this effect will be dependent on the effectiveness of partnerships and sharing of information.

Monitoring

SEA Objective	Measures			
	7.1 Erosion monitoring	7.2 Habitats monitoring	7.3 Topographical survey	7.4 Aerial photography
1.	0	0	0	+
2.	0	0	0	0
3.	0	0	0	0
4.	0	+	0	0
5.	+	0	0	0
6.	0	0	0	0
7.	0	0	0	0
8.	0	0	0	0
9.	0	0	0	0

Summary:

Measures 7.1, 7.2 and 7.4 will have no effect on the majority of SEA objectives as they focus on monitoring of erosion, habitats and sites. There is the potential for a minor indirect long term positive effect for measure 7.4 against minimising flood risk as monitoring could help to develop more effective flood management measures in the future. There is also the potential for a minor indirect long term positive effect for measure 7.1 and 7.2 against soil and biodiversity respectively, as more effective flood management measures may help to reduce adverse effects on soils and biodiversity.

Measure 7.3 will not have any effects on SEA objectives.

Appendix 5: Scoping Report Consultation Responses

SEA Scoping Report (July 2012)

Consultee	Section of Report	Consultee Comments	Response
Countryside Council for Wales 03/08/12	General	We very much welcome this Scoping Report, which is clear, detailed and focussed. The baseline environmental information and description of environmental issues are largely comprehensive and we support the efforts that have been taken to develop a draft Framework of SEA objectives in preparation for assessment.	Noted.
	General	We would encourage more specific consideration of the particular type of flood risk that Torfaen will be susceptible to, with information about the factors that exacerbate this type of flood risk. We would also welcome more attention to the role that natural processes and appropriate land management can play in flood risk management.	Noted, Section 3 (Environmental Context) in the Environmental Report now includes more information on particular types of flood risk.
	Purpose of this Report	The reference to the SEA Regulations should be 'The Environmental Assessment of Plans and Programmes (Wales) Regulations 2004.	Noted.
	1.4 Purpose of the LFRMS and context	We very much welcome this information about the purpose of the Local Flood Risk Management Strategy and its intention to involve communities in decisions about how flood risk is managed.	Noted.
	Method and scope of the SEA	In this section, it would also be helpful to state how the stages and timing of the SEA process relate to the production of the Strategy itself.	Noted.
	2.5 Information limitations	We are encouraged to see recognition of the importance of identifying data limitations as part of the SEA process. No such limitations are recorded in this Scoping Report and we look forward to more information on this topic in later stages.	Noted, data gaps and limitations are identified within Section 2 of the Environmental Report.
	Plans and Programmes	While it seems pragmatic to have used the recent review of Plans, Programmes and Policies carried out for the Local	Noted, a list of key plans and programmes is provided within Section

	Review	Development Plan to inform this Scoping process, it would have been very helpful to have included a list of at least the key documents and points of relevance to this particular Strategy in an appendix to this Report.	3 of the Environmental Report.
	Plans and Programmes Review	The focus of the review for this particular Strategy is necessarily different to that for the LDP and we seek reassurance that a focussed review, targeted to the Local Flood Risk Management Strategy, was undertaken. The last review for the LDP took place in March 2012 and it would be helpful to state how and whether this task will be repeated during the SEA process, to ensure the most up to date information/environmental objectives are referenced.	As part of the Scoping Stage a focused review of the Plans and Programmes presented in the PP review for the SA/SEA of the LDP. A key list of plans and programmes considered is presented in Section 3 of the Environmental Report.
	Baseline Information Summary	We very much welcome this summary of baseline information, which is largely very comprehensive. We suggest that a map, showing some of the key information in relation to flood risk, would be helpful.	Noted.
	additional suggestions for information:-	While reference is made to properties at flood risk, there should also be information about risk to other 'essential' infrastructure, such as energy generation and transmission infrastructure, telecommunications and hospitals.	Section 4 of the Environmental Report now includes information on the flood risk to critical services, which includes hospitals. A data gap has been identified with regard to flood risk and essential energy and transport infrastructure.
	additional suggestions for information:-	We would like to see reference to the general landscape distinctiveness of Torfaen Geodiversity interest within the County Borough should also be recorded.	The SEA Framework contains objectives that specifically relate to the landscape character and geodiversity of Torfaen.
	Figure 5.1 Key Environmental Issues for the Local Strategy	Within this figure, we consider it important for there to be a description of the type of flood risk relevant to Torfaen, with consideration of the factors that exacerbate this risk.	The key environmental issues have been updated in Section 3 of the Environmental Report to include further information of the types of flood risk and their sources.
	5.3 Key environmental issues and SEA framework	We agree with the decision taken to scope the topic 'Air Quality' out of subsequent stages of the SEA process.	Noted.
	Figure 5.3 SEA	We very much welcome the efforts made to establish SEA	Noted.

	Framework	objectives.	
	Objective 1 – Flooding	In formulating the wording of this Objective, we would encourage consideration of the difference between flood risk and flood hazard. In seeking to minimise the risk of flooding, it should be recognised that it is possible to increase the hazard. Under the first criterion, the term 'local sources' is confusing, as it implies that flooding from other sources (whole catchment level) will not be taken into account. The second criterion seeks to 'have a reducing effect on the impact of flooding'. There are many impacts of flooding and it is not clear which are covered here.	Noted, please refer to Table 3.1 in the Environmental Report to see how comments have been incorporated into the SEA Framework.
	Objective 2 – Climate Change	We suggest that there is a distinction between adapting to climate change and adapting to the impacts of climate change.	Noted, please refer to Table 3.1 in the Environmental Report to see how comments have been incorporated into the SEA Framework.
	Objective 4 – Biodiversity and geodiversity	Under the second criterion, reference is made to international and national designated sites. This does not encompass local biodiversity and geodiversity designations. Consideration of adverse impacts applies 'within the catchment'. It is not clear how this relates to the Local Authority boundary. We suggest that a criterion could be added (perhaps to this and other objectives, such as Soils) to consider the importance and positive contribution of natural processes and appropriate land management to the management of flood risk.	Noted, please refer to Table 3.1 in the Environmental Report to see how comments have been incorporated into the SEA Framework.
	Objective 5 – Soil	There should be a criterion here about contaminated land and potential for pollution incidents.	Noted, please refer to Table 3.1 in the Environmental Report to see how comments have been incorporated into the SEA Framework.
	6.1 Consultation and next steps	We note that this section refers to statutory consultees. The SEA Regulations specifically refer to 'consultation bodies' in relation to this consultation process. It is recommended that this wording is altered.	Noted, the Environmental Report refers to consultation bodies.
	Appendix 1:	We very much welcome this appendix as an example of best	Noted.

	Compliance Review	practice.	
	Habitats Regulations Assessment	We note that there is no reference within this Scoping Report to the need to undertake a Habitats Regulations Assessment of the LFRM Strategy. The HRA process needs to be undertaken in accordance with the process set out in the Annex to TAN 5 and in accordance with CCW guidance on the HRA of plans which can be found at:- **http://www.ccw.gov.uk/landscape--wildlife/managing-land-andsea/environmentalassessment/habitats-regulations-assessmen.aspx?lang=en**	An HRA of the Local Strategy has been produced to meet the requirements of the Conservation of Habitats and Species (Amendment) Regulations 2012. The HRA is being reported separately, the Environmental Report contains a summary of the HRA findings in Section 1.
Environment Agency Wales 13/08/12	Task A1: Identifying other relevant Policies, Plans and Programmes, and SA objectives.	We recommend that you consider inclusion and review of other plans and programmes at International/ European/ National and Local levels. The following list does not appear to be included but will be relevant to your SEA Local Flood Risk Management Strategy (LFRMS) and should be considered by your Authority/Consultant (Enfusion); **International Plans & Programmes** EU Floods Directive – Directive 2007/60/EC EU Water Framework Directive – Directive 2000/60/EC UN Framework Convention on Climate Change **National Plans & Programmes** • Flood & Water Management Act 2010 • Flood Risk Regulations 2009 • Land Drainage Act 1994 • Environment Act 1995 • Welsh Government National Strategy for Flood and Coastal Erosion Risk Management in Wales November 2011 and it's summary April 2012 • Welsh Government Local Flood Risk Management Strategies; Local Strategy November 2011 • Welsh Government Adapting to Climate Change; Guidance for Flood & Coastal Management Authorities in Wales December 2011	Noted, Section 3 of the Environmental Report includes a list of the key plans and programmes considered.

		• Welsh Government Technical Advice Note 15 (TAN 15); Development & Flood Risk July 2004 • Welsh Government Flood Risk Management; Community Engagement Toolkit October 2011 • Welsh Government Guidance for the Transfer of Ordinary Watercourse Regulatory Powers for Lead Local Flood Authorities in Wales (including the Appendices) February 2012 • Environment Agency's National Coastal Erosion Risk Mapping Project • Dwr Cymru/Welsh Water (DCWW) Water Resources Management Plan October 2011 • Current Planning Appraisal Guidance (PAG) Guidance • CIRIA C687 Planning for SuDS • CIRIA C690 Guidance for Water Cycle Management for New Developments • CIRIA C697 The SuDS Manual **Local Plans & Programmes** • Preliminary Flood Risk Assessment (PFRA); Torfaen County Borough Council, Monmouthshire County Council, Blaenau Gwent County Borough Council • Other relevant documents including local studies/modelling work	
	Task A1: Identifying other relevant Policies, Plans and Programmes, and SA objectives.	We note that the LDP SEA includes reference to; ▪ Climate Change Act 2008 ▪ Climate Change: The UK Programme ▪ Wye and Usk Catchment Flood Management Plan (CFMP) 2010 - 'Managing Flood Risk' ▪ Strategic Environmental Assessment and Climatic Change for Practitioners. ▪ Strategy for Flood Risk Management 03 - 08 (EA). ▪ River Basin Management Plan 'Severn River Basin District' (Dec 2009)	Noted.
	Task A1:	We also note and welcome the reference to the objectives as	Noted.

	Identifying other relevant Policies, Plans and Programmes, and SA objectives.	per the National Strategy for Flood and Coastal Erosion Risk Management in Wales (November 2011).	
	Task A2: Collecting baseline information	As part of the LDP SEA we have provided an input at each stage of SEA i.e. Key Stages A to E. We are aware that the documents in support of your LDP have some weight as these have been scrutinised through public consultation and examination. The work in relation to the LDP SEA was completed some time ago and therefore we recommend that your Authority/Enfusion now review the latest data, evidence and information. We are able to provide our local evidence package on request. This will include any update with regard to WFD data.	Noted, the local evidence package was requested and received from the EAW. The baseline conditions have been updated in Section 3 of the Environmental Report to reflect this information.
	Task A2: Collecting baseline information	With respect to the summary in Figure 4.2 of this SEA; • the report focuses only on the main river flooding i.e. Afon Lwyd, and the associated 1% (1 in 100 year) and 0.1% (1 in 1000 year) flood events including the Development Advice Map (Zone C2). Other sources of flooding e.g. Ordinary Watercourses, Surface Water, Groundwater and Sewers should also be included.	Noted, the baseline conditions presented in Section 3 of the Environmental Report have been updated to include other sources of flooding.
	Task A2: Collecting baseline information	• the Environmental Baseline Information presents river quality data from 2003-04 and 2006. This needs to be updated with the summary information that underpins the WFD assessment for the relevant waterbodies. In particular the Afon Lwyd to confluence with Dowlais Brook (GB109056032910), Dowlais Brook (GB109056026790) and Afon Lwyd from Dowlais confluence to Pont Sadwrn (GB109056026870) are all failing waterbodies (not meeting ecological status/potential targets for fish or water chemistry).	Noted, the baseline conditions presented in Section 3 of the Environmental Report have been updated to include more recent data available as part of the local evidence package.
	Task A2: Collecting	• reference is made to 1,800 potentially contaminated sites being identified within the borough. We assume	Noted.

	baseline information	that this information is based on the Torfaen's Contaminated Land Strategy and advise that this Strategy should be further consulted as it will provide useful information with regards to these potential sources of pollution.	
	Task A3 Environmental Issues and Problems	With respect to the Key Environmental Issues for the Local Strategy in Figure 5.1; • There should be inclusion of reducing flood risk from all other sources in addition to Main River i.e. Ordinary Watercourses, Surface Water etc. This could involve delivery of wider environmental benefits such as restoring the natural function of rivers/floodplains and the increased use of SuDS techniques.	The key environmental issues have been updated in Section 3 of the Environmental Report to include a reference to reducing flood risk from other sources.
	Task A3 Environmental Issues and Problems	• The management to prevent the spread of Invasive Non-Native Species such as Japanese Knotweed, Giant Hogweed and Himalayan Balsam should be included.	Noted, the key environmental issues have been updated in Section 3 of the Environmental Report to include this.
	Task A3 Environmental Issues and Problems	• Potential impacts on Water Resources. The scoping report has described the main river that runs through their area and mentioned from where the areas water is supplied. However they have not mentioned the abstractions that are located within their area. Flooding can affect how and when water can be abstracted. This could affect industry, public water supplies, private water supplies etc.	Noted, the key environmental issues have been updated in Section 3 of the Environmental Report to include a reference to water quality and resources.
	Task A4 Developing the SA Framework	**Objective 1 - To minimise the risk of flooding and increase resilience against flooding** • Information on the main sources of flooding, including how many are at risk within the Authority should be identified. These are highlighted earlier in Section 4 of this report.	Noted, please refer to Table 3.1 in the Environmental Report to see how comments have been incorporated into the SEA Framework.
	Task A4 Developing the SA Framework	**Objective 2 - To adapt development to the impacts of climate change** • Information in respect of the key climate change predictions would be useful for inclusion in the criteria for assessment e.g. 25% increase in fluvial flows and	Noted, please refer to Table 3.1 in the Environmental Report to see how comments have been incorporated into the SEA Framework.

		increase in extreme daily rainfall intensities by 20%. These values are taken from the "Adapting to Climate Change: Guidance for Flood and Coastal Erosion Risk Management Authorities" report dated December 2011.	
	Task A4 Developing the SA Framework	**Objective 4 - To protect and enhance biodiversity and geodiversity** • We welcome and are pleased to see that your Authority recognises and protects biodiversity (BAP habitats and species) and Geodiversity. In particular, the criteria for assessment under Objective 4 of Figure 5.2 captures the key biodiversity issues of the area. However, there is also an opportunity here to give a few examples of the species relevant to the area including European Protected Species such as otters, Atlantic Salmon, Eel, Bullhead, White-Clawed Crayfish and the Marsh Fritillary Butterfly.	Noted, please refer to Table 3.1 in the Environmental Report to see how comments have been incorporated into the SEA Framework.
	Task A4 Developing the SA Framework	**Objective 8 - To protect and enhance the economy** • What are the key flood risk issues for the Authority as a result of increasing development to accommodate population increases in the future? Are there opportunities to reduce flood risk to protect the health and well being of the population?	Noted, please refer to Table 3.1 in the Environmental Report to see how comments have been incorporated into the SEA Framework.
	Task A4 Developing the SA Framework	**Objective 9 - To protect existing infrastructure** • What areas of infrastructure (critical, essential and water related) e.g. transport (commuter routes), railway networks etc., are considered susceptible to flooding and need protecting? These need to be included.	Noted, please refer to Table 3.1 in the Environmental Report to see how comments have been incorporated into the SEA Framework.
	Task A4 Developing the SA Framework	We seek clarity on how objectives relate to indicators and targets. These should be specified.	A table illustrating how SEA objectives relate to indicators is provided in Section 7 within the Environmental Report.
	Task A5 Consulting on the scope of the SEA.	We have no adverse comments to make.	Noted.

	Additional matters for consideration	• We seek clarity on how '**Alternatives**' are being considered and appraised.	An assessment of alternative options is provided in Appendix 3 and a summary of the findings provided in Section 4 of the Environmental Report. The reasons for progressing or rejecting alternatives is also provided In Section 4.
	Additional matters for consideration	• We seek clarity on how different **timescales** will be considered. A Local Strategy is a living document and its objectives should cover short, medium and long term timescales. Consideration of possible measures over this timescale should be included in the main SEA document. The Welsh Government guidance on Local Flood Risk Management Strategies (Nov'2011) advises that measures to achieve objectives should be considered over the short (0-20 years), medium (20-50 years) and longer term (50-100 years).	The SEA considered the same timescales as those used for the measures proposed in the Local Strategy - short (0-20 years), medium (20-50 years) and longer term (50-100 years).
	Additional matters for consideration	• We would also ask for further details on monitoring i.e. under what frequency and circumstances e.g. changes to legislation, or a flood event or changes in data. This is essential to ensure that local flood risk management is responsive to changes that could include amendments to partner responsibilities, updates to legislation, alterations in the nature (or understanding) of local flood risk, or a flood event. It may be appropriate to align review of the Local Strategy with similar revision schedules for existing assessments and plans. For example, review of the National Strategy will occur on a six-yearly cycle to coincide with the Flood Risk Regulations 2009. Consideration should also be given to the review programmes of documents such as Catchment Flood Management Plans. This reporting on Local Strategies would need to input into the Water Management Act 2010 reviews, whereby a Local Authority should scrutinise/report on all flood risk management activities. Please note; under the Act, the	Please refer to Section 7 of the Environmental Report, which addresses monitoring.

		Environment Agency must report on the management of all sources of flood risk and may use information about LLFAs progress towards developing and implementing their Local Strategies in this process.	