Monmouthshire Local Flood Risk Management Strategy Environmental Report

Draft

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Abbreviations

ALC	Agricultural Land Classification
AONB	Area of Outstanding Natural Beauty
AQMA	Air Quality Management Area
BAP	Biodiversity Action Plan
CCW	Countryside Council for Wales
DCWW	Dŵr Cymru Welsh Water
EA	Environment Agency
EC	European Community
FCEC	Flood and Coastal Erosion Committee
FCERM	Flood and Coastal Erosion Risk Management
FRMP	Flood Risk Management Plan
GI	Green Infrastructure
INNS	Invasive Non-Native Species
LLFA	Lead Local Flood Authority
LNR	Local Nature Reserve
LFRMS	Local Flood Risk Management Strategy
LWS	Local Wildlife Site
MCC	Monmouthshire County Council
NERC	Natural Environment and Rural Communities
NLCA	National Landscape Character Area
NNR	National Nature Reserve
NRW	Natural Resources for Wales
PFRA	Preliminary Flood Risk Assessment
PPW	Planning Policy Wales
RLOHI	Registered Landscapes of Outstanding Historic Interest
RIGS	Regionally Important Geological Site
RMA	Risk Management Authority
SAC	Special Area of Conservation
SEA	Strategic Environmental Assessment
SEPA	Scottish Environment Protection Agency
SI	Site Investigation

SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
SUDS	Sustainable Drainage Systems
TAN	Technical Advice Note
WFD	Water Framework Directive

Definitions

Term	Definition
Air Quality Management Area	Under Part IV of the Environment Act 1995, local authorities are required to review current and predicted air quality within areas under their responsibility. If an area is not likely to achieve national air quality objectives, the local authority must designate an AQMA for the associated pollutants and an action plan to achieve the objectives.
Agricultural Land Classifications	The Agricultural Land Classification is part of the planning system in England and Wales – it provides a method for classifying agricultural land in six categories, or "grades" according to versatility and suitability for growing crops.
Biodiversity Action Plan	Plans developed by organisations to protect and enhance the biodiversity of an area.
Climate Change Risk Assessment	Under the 2008 Climate Change Act, the UK Government is required to publish a UK-wide Climate Change Risk Assessment every five years. The Act specifies that these must assess the risks for the UK from both the current and predicted impacts of climate change.
Flood and Coastal Erosion Risk Management Strategy	The strategy describes what needs to be done by all risk management authorities involved in flood and coastal erosion risk management for the benefit of people and places.
Habitat Regulations Assessment	A process that determines whether the proposed development strategy could negatively significantly impact the designated features of protected European sites.
Indices of Multiple Deprivation	The Index of Multiple Deprivation measures relative deprivation in an area. It is a combined measure of deprivation based on 37 separate indices of deprivation, grouped into seven key domains reflecting different aspects of deprivation.
Landscape Character Assessment	The process of identifying and describing variation in character of landscape in a certain area. The assessment identifies and explains the unique combination of elements and features that make landscapes distinctive by mapping and describing character types and areas.

Term	Definition
Local Biodiversity Action Plan	Local plans developed by Local Planning Authorities to protect and enhance the biodiversity of an area.
Local Enterprise Partnership	Business led partnerships between local authorities and local private sector businesses, which play a central role in determining local economic priorities and undertaking activities to drive economic growth and job creation, improve infrastructure, and raise workforce skills within the local area.
Regionally Important Geodiversity Sites	Geological sites that are important for historical, scientific research or educational reasons.
Lead Local Flood Authority	County councils and Unitary Authorities which lead in managing local flood risk.
Local Nature Reserve	Statutory designation under the National Parks and Access to Countryside Act 1949. These can be declared by Parish and Town Council, but these must be delegated to by principle local authority.
Lower Super Output Area	Lower Layer Super Output Area are areas of population household minimum and maximum thresholds. These areas were designed to improve the reporting of small area statistics.
Local Wildlife Site	Areas of land which are especially important for their wildlife.
National Landscape	National Landscapes (formerly known as Areas of Outstanding Natural Beauty) were designated under the National Parks and Access to the Countryside Act of 1949. They protect areas of the countryside of high scenic quality that cannot be selected for National Park status because of their lack of opportunities for outdoor recreation.
National Landscape Character Area	A natural subdivision of Wales based on a unique sense of place. The Character Area framework is used to describe and shape objectives for the countryside, its planning and management.
National Nature Reserve	Reserves established to protect some of our most important habitats, species, and geology, and to provide outdoor laboratories for research.
Natural Resources Wales	Non-departmental public body responsible for protecting and improving the environment (formerly Environment Agency Wales and Countryside Council).
Office of National Statistics	The Office for National Statistics is the executive office of the UK Statistics Authority, a non-ministerial department which reports directly to the UK Parliament.
Planning Policy Wales	Planning Policy Wales outlines guidance for making planning decisions. The guidance is supplemented by Technical Advice Notes, Circulars, and Policy Clarification Letters.
Public Right of	A public right of way is a right by which the public can always

Term	Definition
Way	pass along routes over land.
Technical Advice Notes	Guidance Notes are statements of the Government's national policy and principles towards certain aspects of the land use planning framework.
Site of Special Scientific Interest	A conservation designation legally protected under the Wildlife and Countryside Act 1981 (as amended). These sites are selected for wildlife and natural features in Wales.
Special Area of Conservation	Special Areas of Conservation are protected in the UK under, the Conservation of Habitats and Species Regulations 2017 (as amended) in England and Wales. The purpose of this designation is to conserve the habitat and species identified in the EU Habitats Directive.
Special Protection Area	Protected areas for birds in the UK, under the Wildlife & Countryside Act 1981 and the Conservation Regulations 2010.
Strategic Environmental Assessment	A decision support process which aims to promote sustainable development by assessing the extent to which the emerging plan will help achieve relevant environmental, economic, and social objectives.
Special Protection Area	Protected areas for birds in the UK, under the Wildlife & Countryside Act 1981 and the Conservation Regulations 2010.
Surface Water Management Plan	Non-statutory plans, which preceded the introduction of the Flood and Water Management Act 2010, used to look at existing flood problems and to inform planning decisions for new development.
Sustainable Drainage System	SuDS are drainage system which manage surface water incorporating natural elements and green infrastructure. They are designed to manage stormwater, mimicking natural drainage and manage pollution risks resulting from runoff.
Water Framework Directive	The Water Framework Directive is a European Union directive transposed into UK law through The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017. It aims to prevent deterioration of the water environment and improve water quality.

Non-Technical Summary

Introduction

Monmouthshire County Council is currently in the process of developing a Local Flood Risk Management Strategy (LFRMS) to replace the existing strategy adopted in 2013. The strategy will encompass the risks associated with local flood risk sources and provides an overall strategic approach to the management of flood risk in Monmouthshire.

The following Non-Technical Summary outlines the conclusions of the Strategic Environmental Assessment (SEA) undertaken as part of the review of Monmouthshire Council's LFRMS, fulfilling the requirements of the SEA Regulations.

Purpose of this assessment

When preparing a LFRMS, it is a statutory requirement to carry out a SEA to identify any potentially significant environmental effects arising from the implementation of the strategy. SEA is an integrated, systematic appraisal of the potential environmental impacts of policies, plans, strategies, and programmes during their development before they are approved. It ensures that implications for the environment have been fully and transparently considered. It considers a range of environmental issues including biodiversity, population, human health, flora and fauna, soils, water, air, climate, material assets, heritage, landscape, and the interactions among these factors.

A SEA of the LFRMS has been undertaken to identify any potentially significant environmental effects arising from the implementation of the measures contained within it. This document forms the Environmental Report stage of the SEA process.

Background to the Monmouthshire review

The Flood and Water Management Act (2010) determined the need for flood risk to be managed within the framework of National Strategies for England and Wales and within Local Strategies for each Lead Local Flood Authority Area (LLFA).

The National Strategy for Flood and Coastal Erosion Risk Management in Wales sets out the principles for flood risk management, the aims and objectives to reduce the risk of flooding to people, and which organisations are responsible for its implementation (Welsh Government, 2020a).

In accordance with the national strategy for Wales, LLFAs have been allocated responsibility for developing independent strategies to address sources of local flooding (defined as surface runoff, groundwater, and ordinary watercourses).

Monmouthshire's first LFRMS was adopted in 2013; since this document was produced, knowledge of the broad nature and extent of flood risk across Monmouthshire has grown. It was determined that the 2013 strategy should be revised to comply with updated national legislation.

Summary of the Strategic Environmental Assessment process

SEA is a staged process which ensures that the potential environmental effects of a policy or plan are identified during the development of the plan. It provides a framework through which to consult upon potential environmental effects of the LFRMS and to subsequently amend the strategy prior to its adoption. The stages of SEA can be summarised as follows:

- Stage A: Setting the context, establishing the baseline, and deciding on the scope of the assessment. A Scoping Report is produced at this stage.
- Stage B: Developing and refining options and assessing effects.
- Stage C: Preparing the Environmental Report.
- Stage D: Consulting on the draft plan.
- Stage E: Monitoring significant effects of implementing the plan.

The first stage of the SEA process involved the preparation of a Scoping Report for consultation in October - November 2023. The Scoping Report identified the main plans, policies, and programmes of relevance to the strategy. It also set out the baseline environmental characteristics and key issues. The Scoping Report identified key environmental topic that needed to be assessed in the SEA and scoped out issues where significant effects were not anticipated.

The Scoping Report was finalised following consultation and after this, Stage B commenced including developing and refining options and assessing effects. This Environmental Report has been prepared as Stage C.

Developing the SEA Framework

The SEA framework is made up of several SEA objectives, developed during the scoping process, which are used to test the objectives, policies, and options of the LFRMS. The SEA objectives are outlined in Table 1.

Table 1: SEA Objectives

Receptor	Objective
Landscape and visual amenity	Protect the integrity of local urban and rural landscapes in the area.
Biodiversity, Flora and Fauna	Maintain, enhance, and extend biodiversity, wildlife, and habitat connectivity.
Water environment	Protect and enhance the quality of water features and resources.
Geology and soils	Maintain soil quality and conserve geological designations.
Historic environment	Preserve and where possible enhance important historic and cultural sites.
Population and human health	Protect and enhance human health and wellbeing.
Material assets	Minimise the impacts of flooding on the transport network and key critical infrastructure.

Receptor	Objective
Climate change	Reduce vulnerability to the effects of climate change.

Strategic Environmental Assessment

The LFRMS was developed and includes a series of overarching objectives, measures and actions. The objectives and measures contained within the Strategy and actions within the accompanying action plan were subject to the SEA process.

Three alternative management processes and their associated likely environmental impacts were assessed including:

- Do nothing;
- Maintain the current Monmouthshire LFRMS (2013); and
- Manage and reduce local flood risk through the preparation of a new LFRMS.

It was determined that the development of a new LFRMS was the only realistic option for managing flood risk in Monmouthshire.

The objectives, measures and actions as set out in the LFRMS were fully assessed against the SEA objectives to identify aspects of the strategy that may require revising because of potential impacts identified. Symbols are used to outline likely impacts and the significance of the impact, as shown in Table 2.

Table 1-1: SEA Impact Significance Framework.

Symbol	Explanation of effect
++	Significantly beneficial to the SEA objective - multiple opportunities for environmental improvement or resolves existing environmental issue.
+	Partially beneficial (not significant) to the SEA objectives – contributes to resolving an existing environmental issue or offers some opportunities for improvement.
O	Neutral effect on the SEA objective and environment.
-	Partially undermines (not significantly) the SEA objective –would contribute to an environmental issue or reduce opportunities for improvement.
--	Significantly undermines the SEA objective – will significantly contribute to an environmental problem or undermine opportunity for improvement.
?	Insufficient detail on the option or baseline – cannot effectively assess the significance of the strategy objective on the SEA objective.

Summary of SEA findings

The result of the assessment concluded that the LFRMS will likely have direct positive effects on all of the SEA objectives, particularly through the promotion of Sustainable Drainage Systems (SuDS) and natural flood management schemes, as well as embedding community engagement and resilience in future flood risk management schemes.

There is some uncertainty regarding the scale of some of these positive effects. Sometimes this is because for some actions the scale and / or process of implementation is currently

unclear, also, some indirect positive effects maybe outside the control of the organisations delivering measures. However, positive effects are generally likely across the implementation of the strategy, across a wider range of the SEA objectives.

The assessment also suggests mitigation should be implemented to avoid any potential adverse effects to SEA objectives resulting from the development of flood alleviation schemes. It also suggests opportunities to better meet objectives relating to carbon reduction should be promoted.

From the assessment, no potential negative effects on any of the SEA objectives were identified from any of the LFRMS objectives, measures, or actions at this stage.

Proposed monitoring

This Environmental Report provides some suggested monitoring measures for each SEA objective. These simple, effective, and measurable indicators will aid the future monitoring of the plan.

Concluding statement

The LFRMS has been developed and informed by a clear evidence base of baseline environmental data and complies with relevant national and local planning policy.

Overall, the assessment of the LFRMS objectives, measures, and actions against the SEA objectives highlights positive impacts, especially on SEA objectives 6, 7 and 8. By actively managing the flood risk, there will be obvious benefits to the population, human health, material assets, and climate change resilience. Through promoting a greater understanding of flood risk, improving baseline data collection and knowledge of flood risk per catchment, and ensuring information on flood risk assets and infrastructure is kept up to date, communities and responsible parties will be better placed to effectively minimise the risk of flooding in the Monmouthshire Council area. The LRFMS provides opportunities for environmental enhancements through the implementation of natural flood management and SuDS schemes. Such schemes reduce flood risk whilst also allowing for sensitive consideration of ecological, visual, water, and heritage assets.

The next stage of the SEA process will involve consultation on the draft SEA Environmental Report and the draft LFRMS with statutory consultees, stakeholders, and the public. This consultation aims to identify any necessary amendments and updates to the documents. All consultation responses received will be reviewed and considered for the next stage of the SEA process, which involves preparing a Post-Adoption Statement.

1 Introduction

1.1 Overview

Monmouthshire County Council (MCC) is currently in the process of developing a Local Flood Risk Management Strategy (LFRMS) to update the LFRMS published in 2013. As Lead Local Flood Authority (LLFA) under the Flood and Water Management Act 2010, MCC is responsible for the management of local flood risk, including from surface runoff, groundwater, and flooding from ordinary watercourses (smaller rivers and streams).

The aim of a LFRMS is to guide the management of local flood risk, reflecting local circumstances such as the level of risk and the potential impacts of flooding. MCC's updated LFRMS must assess local flood risk, set out measures for managing local flooding and determine the costs and benefits associated with the implementation of such measures.

When preparing a LFRMS that will inform decision making and identify actions to be taken to reduce the risk of flooding, it is a statutory requirement to conduct a Strategic Environmental Assessment (SEA) in accordance with the Environmental Assessment of Plans and Programmes (Wales) Regulations 2004 (hereafter 'the SEA Regulations'), which implement the European Directive 2001/42/EC on ‘the assessment of certain plans and programmes on the environment’ ('the SEA Directive') into Welsh law.

This Environmental Report has been prepared in accordance with the 'Strategic Environmental Assessment: how the regulations apply in Wales' guidance (published by the Department for Communities and Local Government and the Welsh Assembly Government) (Welsh Government, 2015).

Due to the scale of the changes proposed in the updated LFRMS and the potential for significant environmental effects, it was considered appropriate that the SEA process was applied to this updated LFRMS .

The SEA process, culminating in the preparation of this Environmental Report, will inform the preferred long-term flood risk management strategy through the identification of likely significant impacts upon the environment, resulting from the implementation of the LFRMS.

This SEA Environmental Report will outline how objectives, measures and actions have been appraised.

2 SEA Process and Methodology

2.1 Background

SEA is an iterative process that is undertaken during the development of plans, programmes, and strategies to ensure that any potential significant environmental effects arising from them are identified, assessed, mitigated and communicated to plan-makers.

SEA also requires the monitoring of the significant effects once the plan / programme / strategy is implemented. The intention is that the SEA is fully integrated into the strategy making process from the earliest stages, both informing and being informed by it. By identifying potential issues at an early stage, it is then possible to amend the policies / plans to ensure that they are as sustainable as possible.

The SEA informs the decision-making process through the identification and assessment of both the significant and cumulative environmental effects from a plan or programme, or its reasonable alternatives. Significant effects are defined as those that may cause substantial, potentially substantial, adverse, or beneficial changes to the existing environmental baseline. In this case, it involves assessing the LFRMS against a series of SEA objectives.

The SEA process is undertaken in accordance with the requirements of the SEA Regulations, the UK Government's Planning Practice Guidance (PPG), and the Welsh official SEA guidance. This scoping report has been prepared in compliance with these regulations and guidance.

Schedule 2 of the SEA Regulations sets out the scope of the information to be provided in a scoping report. Table 2-1 identifies where in the SEA process each requirement is met.

Table 2-1: Stages in the SEA Process as identified within Schedule 2 of the SEA Regulations.

SEA Regulations Requirements	Location in the SEA
1. An outline of the contents, main objectives of the plan or programme and its relationship (if any) with other relevant plans and programmes.	SEA Scoping Report (Section 2, 3 and 4); SEA Environmental Report (Sections 3, and 5 and Appendix A).
2. The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme.	SEA Scoping Report (Section 5); SEA Environmental Report (Section 5).
3. The environmental characteristics of areas likely to be significantly affected.	SEA Scoping Report (Section 5); Environmental Report (Section 5).

SEA Regulations Requirements	Location in the SEA
4. Any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated under EU-derived domestic legislation which transposed Council Directive 79/409/EEC on the conservation of wild birds or Directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds and the Habitats Directive.	SEA Scoping Report (Section 5); Environmental Report (Section 5).
5. The environmental protection objectives, established at international, Community or national level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation.	SEA Scoping Report (Sections 4 and 5); Environmental Report (Section 5 and Appendix A).
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.	SEA Environmental Report (Section 8)
7. The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme.	SEA Environmental Report (Section 8)
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.	SEA Environmental Report (Section 7)
9. A description of the measures envisaged concerning monitoring in accordance with regulation 17.	SEA Environmental Report (Section 9)
10. A non-technical summary of the information provided under paragraphs 1 to 9.	SEA Environmental Report (Non-Technical Summary)

2.1.1 Stages in the SEA process

A practical guide to the Strategic Environmental Assessment Directive, published by the Department for Communities and Local Government, the Welsh Assembly Government, the Scottish Executive and the Department of the Environment for Northern Ireland (ODPM, 2005), sets out a five-stage process (A to E) to be followed (outlined in Table 2-2). The scoping report addresses Stage A of the process, wherein the context and objectives of the SEA are identified, and the scope of assessment is determined. For the purposes of this assessment, Stages A1 to A4 will be completed, whilst Stage A5 comprises consultation on the scoping report, which will be conducted as outlined in Section 9 of this document.

Table 2-2: Stages in the SEA process.

SEA Stages and Tasks	Purpose	Where Covered in the SEA
Stage A	Setting the context and objectives, establishing the baseline and deciding on the scope	SEA Scoping Report
(A1) Identifying other relevant plans, programmes and environmental protection objectives	To establish how the plan or programme is affected by outside factors, to suggest ideas for how any constraints can be addressed and to help to identify SEA objectives.	SEA Scoping Report Sections 4 and 5
(A2) Collecting baseline information	To provide an evidence base for environmental problems, prediction of effects, and monitoring; to help in the development of SEA objectives.	SEA Scoping Report Section 5
(A3) Identifying potential environmental problems	To help focus the SEA and streamline the subsequent problems, prediction of effects, and monitoring; to help in the development of SEA objectives.	SEA Scoping Report Section 5
(A4) Developing SEA objectives	To provide a means by which the environmental performance of the plan or programme and alternatives can be assessed.	SEA Scoping Report Section 7
Stage B	Developing and refining options and assessing effects.	SEA Environmental Report
Stage C	Preparing the Environmental Report.	SEA Environmental Report
Stage D	Consulting on the draft LFRMS and the Environmental Report.	SEA Environmental Report (to be prepared)
Stage E	Monitoring the significant effects of implementing the LFRMS.	SEA Environmental Report (to be prepared)

Stage A of the process (Scoping) was carried out in October and November 2023, and an SEA Scoping Report was submitted to the statutory consultees - Natural Resources Wales (NRW) and Cadw - in October 2023. Comments were received from the consultees and the responses have been incorporated into this Environmental Report. Further details of the scoping process are provided in Section 4 of this report.

The purpose of the Environmental Report is to report the findings of the SEA of the Monmouthshire LFRMS. This Environmental Report summarises:

- How the SEA has been conducted and how it informs the current emerging LFRMS;
- The likely significant effects on the emerging LFRMS on people, communities, the economy, and the environment; and
- How the SEA will continue to inform the implementation of the emerging LFRMS, such as through recommended mitigation and monitoring.

This report documents Stage B of the SEA process and fulfils the requirements of Stages C and D.

2.2 Habitats Regulations Assessment

Due to the potential for the LFRMS to have significant effects on sites of international nature conservation importance (Ramsar sites, Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), a Habitat Regulations Assessment (HRA) has been undertaken in parallel with this SEA. This has been produced as a separate standalone report, details of which are summarised in Section 5.3.3 of this report.

3 Background to the Monmouthshire LFRMS

3.1 Overview

The Flood and Water Management Act (2010) determined the need for flood risk to be managed within the framework of National Strategies for England and Wales and within Local Strategies for each LLFA area.

The National Strategy for Flood and Coastal Erosion Risk Management in Wales sets out the principles for flood risk management, the aims and objectives to reduce the risk of flooding to people, and which organisations are responsible for its implementation (Welsh Government, 2020a).

In accordance with the national strategy for Wales, Lead Local Flood Authorities have been allocated responsibility for developing independent strategies to address sources of local flooding (defined as surface runoff, groundwater, and ordinary watercourses).

Local flooding is defined by the Flood and Water Management Act 2010 as flood risk derived from:

- surface runoff,
- groundwater, and
- ordinary watercourses.

Groundwater flooding occurs when the water table within the underlying rock or soil rises above ground level or interacts with properties or infrastructure below ground level. The level of the table varies because of seasonal changes in precipitation, recharge, and groundwater abstraction. When the water level reaches ground level, water can start to emerge causing flooding, which can result in significant property damage.

Flooding from ordinary watercourses occurs when water levels in a non-main river, canal, sewer, lake, ditch, reservoir, or stream rises and overflows onto the neighbouring land.

Flood risk from the sea, main rivers and large reservoirs is therefore not defined as local flood risk and is the concern of the Natural Resources Wales. Such sources of flood risk do, however, need to be considered insofar as they may interact with those flood risks defined as “local”, to ensure that all joint risks of flooding are assessed at the local scale.

Each LFRMS identifies which local organisation is accountable for managing flood risk and establishes roles and responsibilities and partnership agreements, as well as undertaking an assessment of flood risk and developing plans / actions for tackling these risks.

As stipulated by the Flood and Water Management Act 2010, Monmouthshire Council as LLFA has a responsibility to develop, maintain, apply, and monitor a strategy for local flood risk management, considering flood risk from surface water, groundwater, and ordinary watercourse.

3.2 LFRMS Updates

Monmouthshire's first Local Flood Risk Management Strategy was adopted in 2013. Since this document was produced, knowledge of the broad nature and extent of flood risk across Monmouthshire has grown. The LFRMS must be consistent with the National Strategy for Flood and Coastal Erosion Risk Management (FCERM) in Wales, produced by the Welsh Government in 2020 (Welsh Government, 2020a). The LFRMS is therefore being updated in alignment with policy updates and integrates Monmouthshire's Local Strategy and Flood Risk Management Plan, referred to as the Flood Action Plan, to reduce complexity and enables MCC to communicate and manage local flood risk more effectively.

The LFRMS will be reviewed within 2 years of the publication of the next National Strategy, which is approximately every 6 years. The Flood Action Plan will be reviewed and updated every 3 years or as required.

3.3 Study Area

Monmouthshire County Council is a unitary authority in the southeast of Wales, where it meets the border with England to the east and includes part of the River Severn Estuary to the south.

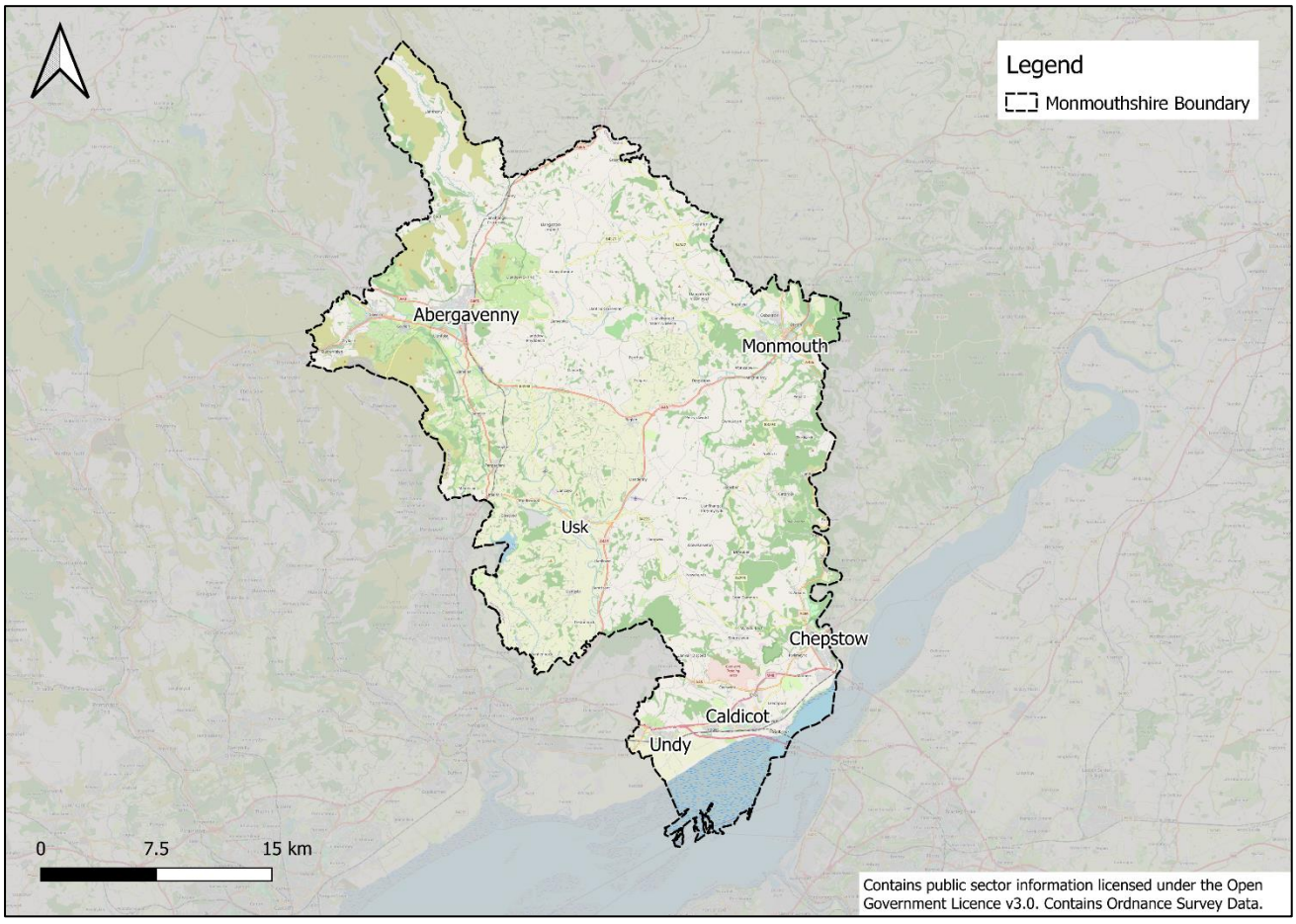

Figure 3-1: Key settlements in Monmouthshire.

For the purposes of the LFRMS, Monmouthshire has been split into nine strategic flood risk areas, as shown in Figure 2-2. These are:

- Honddu
- Mill Reen
- Monnow
- Mounton Brook
- Nedern Brook and West Pill Reen
- Olway
- Trothy
- Usk
- Wye

Individual environmental constraints plans per river catchment has been produced, and are included in Appendix A.

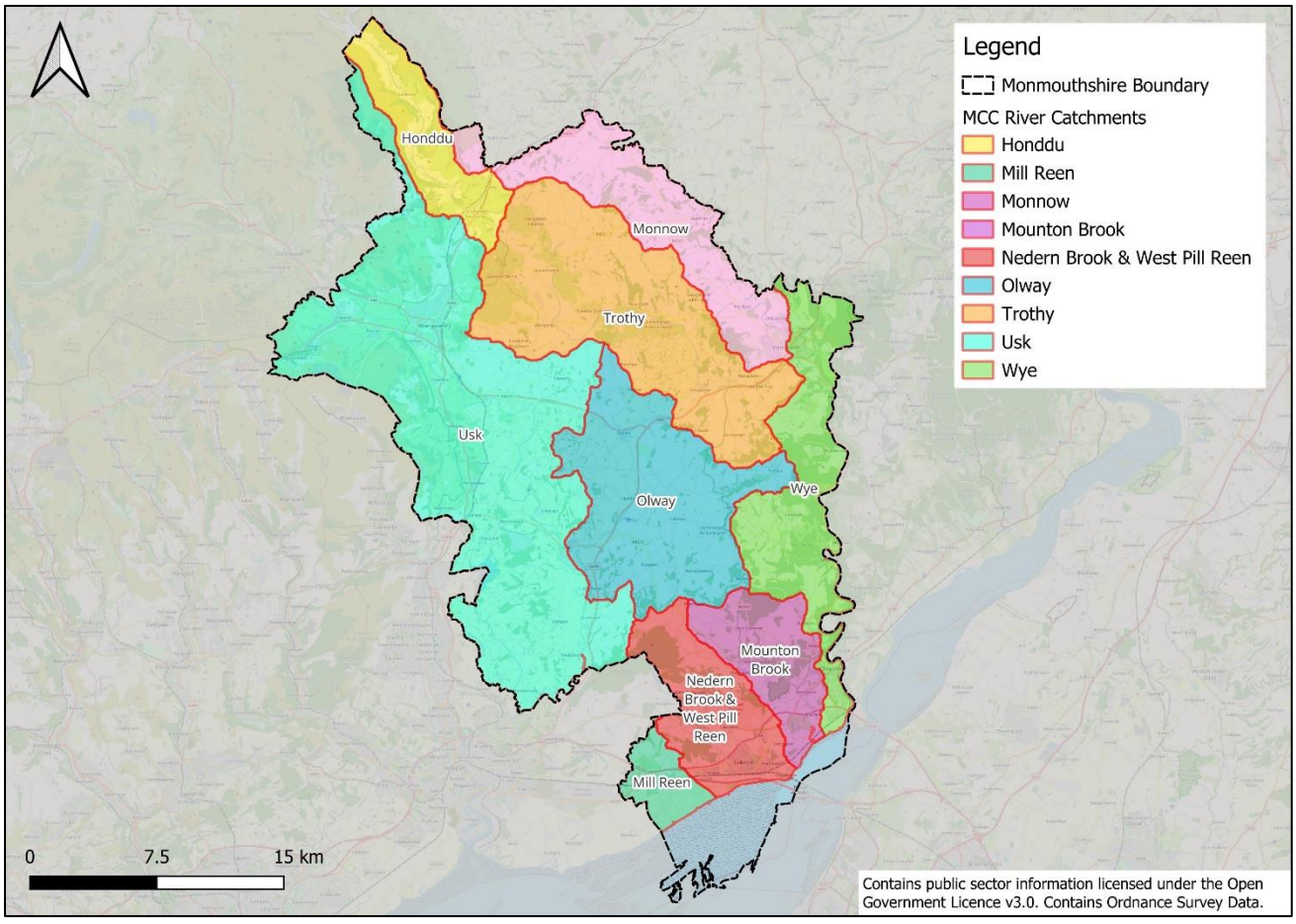

Figure 3-2: River catchments within Monmouthshire County Council.

3.4 Historic Flooding

Severe fluvial flooding occurred in Monmouthshire in 1979 when the Rivers Usk, Wye and Monnow overtopped defences causing flooding in Monmouth and across Usk. In April 1998,

widespread fluvial flooding occurred, including in the village of Skenrith from the River Monnow and undefended areas of Monmouth from the River Wye (MCC, 2013).

Flood events across Monmouthshire in recent years have triggered Section 19 reports. These reports are the outcome of MCC's statutory duty as the LLFA to investigate significant flood events. MCC's trigger for a Section 19 report was internal flooding to five or more properties; however, this was increased to internal flooding of 20 or more properties following the publication of the National Strategy for FCERM in 2020 (Welsh Government, 2020).

In October 2019, fluvial flooding occurred in Monmouth and Skenfrith. Flooding occurred to residential properties along Forge Road and Osbaston Road in Monmouth due to heavy rainfall causing the River Monnow to overtop and ordinary watercourses backing up and not discharging into the River Monnow (MCC, 2022a). In Skenfrith, heavy rainfall led to the overtopping of the Norton Brook and the River Monnow which affected the entire village with internal flooding of 18 residential properties as well as the church, village hall, and local pub (MCC, 2020a).

In February 2020, flooding occurred across the County due to multiple instances of heavy rainfall during Storm Ciara, Storm Dennis and Storm Jorge which led to oversaturated land and the backing up of watercourses. This included Caldicot, Monmouth, Llanbadoc, Llanvihangel Gobion & Kemeys Commander, Llanwenarth, Mayhill, Monmouth, Skenfrith, Woodside, Usk, and Forge Road, Monmouth. In Caldicot, flooding was primarily from the Nedern Brook and the local surface water drainage system surcharging, and a blockage occurring of the trash screen inlet at the M4 culvert downstream of the Severn Bridge industrial estate. This resulted in overtopping and the backing up of surface water systems and including a Dŵr Cymru Welsh Water (DCWW) sewer within Castle Lea where the road network and residential properties flooded (MCC, 2021a).

Storm Bert over the weekend of 23rd-25th November 2024 resulted in significant river and surface water flooding across England and Wales. Record levels were recorded on a several rivers including the Monnow at Skenfrith and the Olway Brook at Usk. This resulted in the flooding of 75 properties and 22 businesses in Monmouthshire.

3.5 Future Flood Risk

There is considerable uncertainty regarding the localised impact of climate change, but it is likely that the risk of flooding will increase under climate change scenario. This increased risk could manifest itself as more frequent flooding, increase in flood extent and increase in flood depth.

Climate change is increasing the frequency and magnitude of hazardous weather events such as flood and heatwaves. A review of recent evidence of the anthropogenic intensification of short-duration rainfall extremes concluded that heavy rainfall extremes are intensifying (Fowler et al. 2021). Combined with warmer, generally drier summers, the harder ground struggles to instantly absorb water from rainfall – which in turn intensifies the frequency of flash flooding (Met Office, 2022).

4 Stage A: Scoping Stage Findings

4.1 Environmental Topics Scoped In

Stage A of the SEA process involves gathering evidence to help set the context and objectives, establish the environmental baseline, and determine the scope of the SEA.

The Scoping Report produced as part of Stage A outlined the findings of the evidence gathering and the scope of the SEA.

Table 4-1 below describes the SEA topics which were scoped into the assessment. Further details on the environmental baseline for each of the topics is provided in Section 5: Environmental Characteristics and Key Issues.

Table 4-1: Environmental topics scoped in.

Environmental Topic	Definition in relation to this report	Relevance
Biodiversity (including flora and fauna)	Designated nature conservation sites; protected and notable species and habitats; trends in condition and status; invasive non-native species (INNS).	Potential impact on designated and priority habitats both from the LFRMS and a scenario without it. There is the potential for both positive and negative impacts because of the LFRMS. Potential impacts to protected species and sites must be considered throughout development and implementation of the LFRMS. The potential for positive enhancements to watercourses as part of future works should also be considered.
Climatic Factors	As the LFRMS is a flood risk strategy, this topic will focus on greenhouse gas emissions. Flood risk and adaptation to climate change will be assessed under each of the other SEA topics.	Scope to include greenhouse gas emissions only (e.g., embodied carbon and emissions from plant and vehicles). The impact of climate change on flood risk will be considered as part of the LFRMS itself. In addition, the LFRMS is unlikely to have a significant impact on climate.
Cultural Heritage	Designated and non-designated heritage assets, including historic landscapes; pressures on heritage assets (including changes to setting).	Flooding and flood risk management measures have the potential to threaten sites and monuments of archaeological and historical importance, including listed buildings and Scheduled Monuments.

Environmental Topic	Definition in relation to this report	Relevance
Population and Human Health	Population trends and demographics; education; inequality and deprivation; key community facilities; recreation opportunities; trends and patterns in human health, including life expectancy.	People, properties, and settlements potentially affected by flood risk, as well as the community infrastructure around them. The LFRMS has the potential to provide benefits to the population of the study area by managing flood risk.
Landscape	National and local landscape character; protected and notable landscapes; key local landscape features.	Local landscape qualities and integrity across the study area could be affected by changes to the way watercourses and flood risk is managed in the area. Furthermore, impacts on locally important urban and rural landscapes and landscape features may occur, for example because of flood defence construction.
Material Assets	Critical infrastructure (including transport and other infrastructure), community services; and Green Infrastructure	The study area contains several important infrastructure assets including motorways. Flooding may compromise the function of these assets and the LFRMS must take this into account.
Geology and Soils	Variety of rocks, minerals, and landforms; the quantity and distribution of agricultural land including the highest quality soils; soil health and functions; designated geological sites; land contamination.	Flooding has the potential to affect geodiversity and soil quality, which support designated sites within the area. Flood risk management of potentially contaminating land uses or sources of land (or water) contamination. Conversely, flooding may provide a beneficial effect through mitigation such as natural flood management processes, catchment sensitive farming and soil erosion reduction.

Environmental Topic	Definition in relation to this report	Relevance
Water	The availability / supply and quality of water. It considers in turn surface and groundwater resources, chemical and biological water quality; surface and groundwater resources.	Flood risk management has the potential to impact on water availability and quality within the study area and achievement of Water Framework Directive (WFD) objectives. There is also the potential for indirect impacts on water dependent designated sites / species. Impact on water resources and quality must be considered in developing the strategy. The potential for positive enhancements to watercourses as part of future works should also be considered.
Interrelationship between the above factors	The relationship between environmental features and issues	The effect of known proposals / commitments.

The LFRMS and SEA have been influenced by many different plans and programmes. This is recognised by the SEA Regulations, which require a review of relevant plans and programmes to be completed in the preparation of documents.

Key international, national, regional, and local documents were reviewed as part of the SEA Scoping stage. The full review can be found in Appendix A. The review process has provided a valuable source of information and a framework for developing different components of the LFRMS and SEA. In particular:

- At a high level, key legislation and national policies provided the planning context for the LFRMS; and
- Regional and local documents provided a valuable source of baseline information and identified local priorities and objectives as well as conditions that the LFRMS and SEA should adhere to'.

As part of the SEA process, an assessment of the integration of existing policies, plans and programmes on the LFRMS has been undertaken. This is required under Schedule 1 of the SEA Regulations:

(i) ‘the degree to which the plan or programme sets a framework for projects and other activities either with regard to the location, nature, size and operating conditions or by allocating resources.

(ii) The degree to which the plan or programme influences other plans and programmes including those in a hierarchy;

(iii) The relevance of the plan or programme for the integration of environmental considerations in particular with a view to promoting sustainable development.'

5 Environmental Characteristics and Key Issues

5.1 Introduction

This section covers information on the current environmental baseline across Monmouthshire, focussing on catchments where appropriate, and summarises the key information from policies, plans and programmes which need to be considered in the SEA for each environmental topic. A desk-based study for baseline environmental data was undertaken to identify the key environmental characteristics, the findings of which are presented below.

In addition to the environmental baseline for the study area, an environmental constraints plan for each of the catchments are included in Appendix A to clearly illustrate the environmental constraints present within them.

5.2 Landscape and Visual Amenity

5.2.1 Current Baseline

As shown in Figure 5-1 MCC falls within several National Landscape Character Areas (NLCAs) (NRW, 2023). Moving from north to south, their English names are:

- **NLCA30 Bannau Brycheiniog and the Black Mountains:** This area is the highest range of mountains in southern Britain. The vast swathes of smooth, unenclosed moorland rise gentle ridges, between which run deeply cut valleys that terminate in high mountain passes. The Beacons are made up of Old Red Sandstones, that has weathered and sharpened by ice to create consistent, simple, smooth-sided slopes, falling abruptly and dramatically from ridges to provide the sharp outlines that are so characteristic, and which contrast with the hedged, enclosed farmed landscapes of the deeper valleys.

  The Bannau Brycheiniog National Park forms a large part of the NLCA and extends across the northwest of Monmouthshire as shown on Figure 5-2.

- **NLCA37 South Wales Valleys:** Only the very northeastern edge of this landscape crosses into the west of Monmouthshire. The area is characterised by deep, urbanised valleys dissecting an extensive upland area. Combined with industrial heritage and the distinct identity of its people, the South Wales Valleys provide some of Wales' most widely known and iconic national images.

- **NLCA31 Central Monmouthshire:** This is a gently undulating lowland landscape of hills, valleys and floodplains. It contrasts with the adjacent upland landscapes that rise to the west. Fault-aligned vales and glacial deposits give rise to the fertile alluvial deposits that are key to the prosperity of this rural, farmed area. The River Usk drains much of the south and west. The Monnow and Trothy drain the north.

- **NLCA32 Wye Valley and Wentwood:** The area contains the largest and longest river gorge in Wales. Today the area is managed as a National Landscape

(formerly Area of Outstanding Natural Beauty (AONB)) together with other parts of the gorge on the English side of the border, whose line cuts through the character area.

- **NLCA34 Gwent Levels:** This area is characterised by large, open expanse of primarily pastoral agricultural land. It is generally sparsely settled, with small nuclear settlements linked by narrow road. A key landscape feature is the pattern of drainage ditches which also reflect the settlement pattern. The land has been reclaimed from the sea and coastal marshes and is protected by a sea wall.

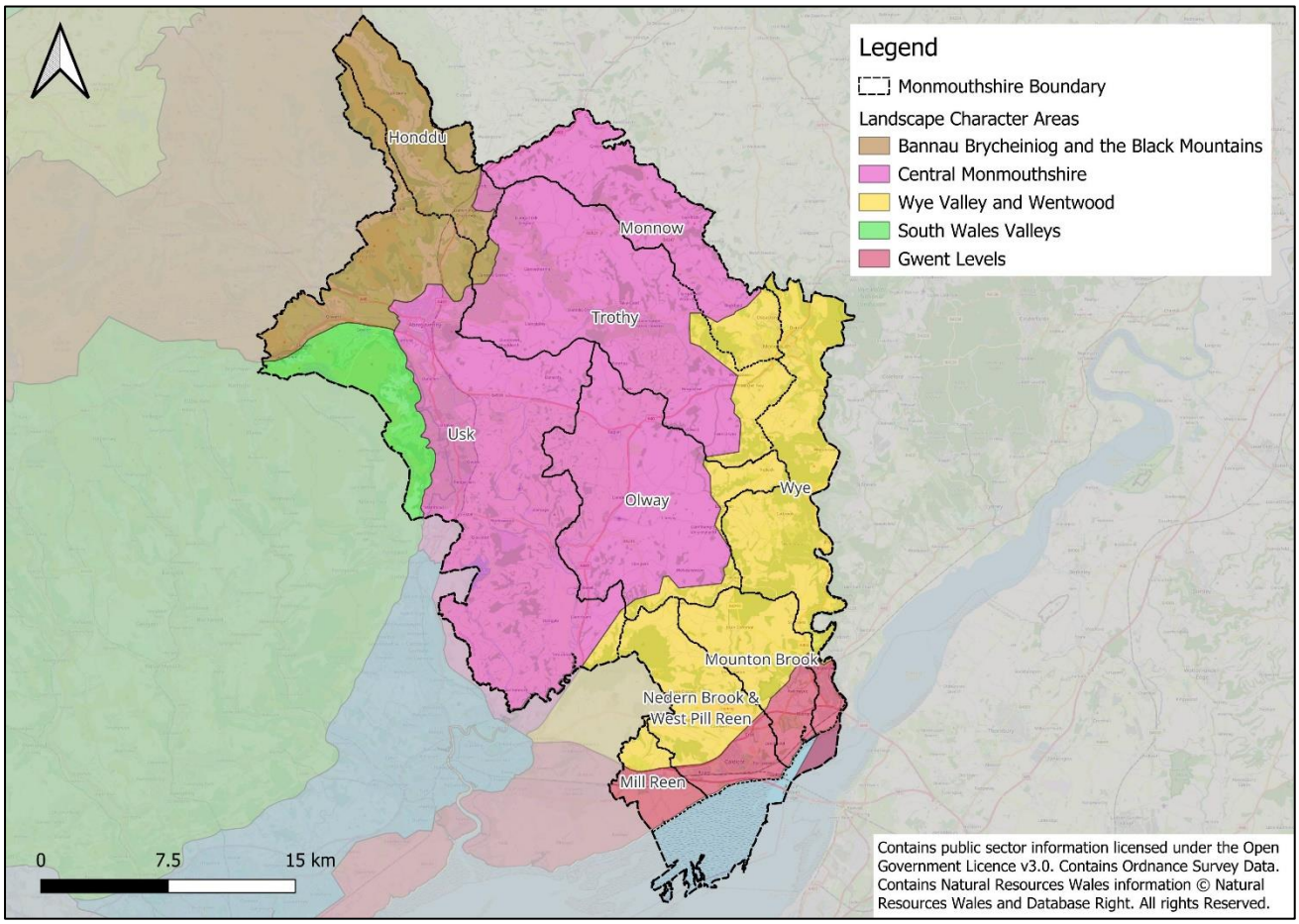

Figure 5-1: National Landscape Character Areas in Monmouthshire.

The Wye Valley National Landscape crosses into the southeast of the County from England, as shown in Figure 5-2. The Wye Valley National Landscape is generally characterised by a lowland landscape with the River Wye running through it. The National Landscape is an important example of active and past geomorphological processes and contains a variety of geological outcrops, which have produced distinctive farming patterns and settlements. Considering the Wye Valley National Landscape as a whole, it contains an abundance of wildlife habitats with three SACs, 46 Sites of Special Scientific Interest (SSSIs), four National Nature Reserves (NNRs) and 204 Local Wildlife Sites (LWSs). The limestone woodlands are one of the largest remaining areas of ancient semi-natural broadleaved woodland in the country and the River Wye is a designated SAC and SSSI. The cultural identity of Britain is rooted in the River Wye, which was a major transportation

route in the country, prior to the railway and roads, and has influenced the settlement pattern and the abundance of historic features across the surrounding regions. At present, the main industries operating in the Wye Valley are forestry, tourism, and agriculture (Wye Valley National Landscape Joint Advisory Committee, 2021).

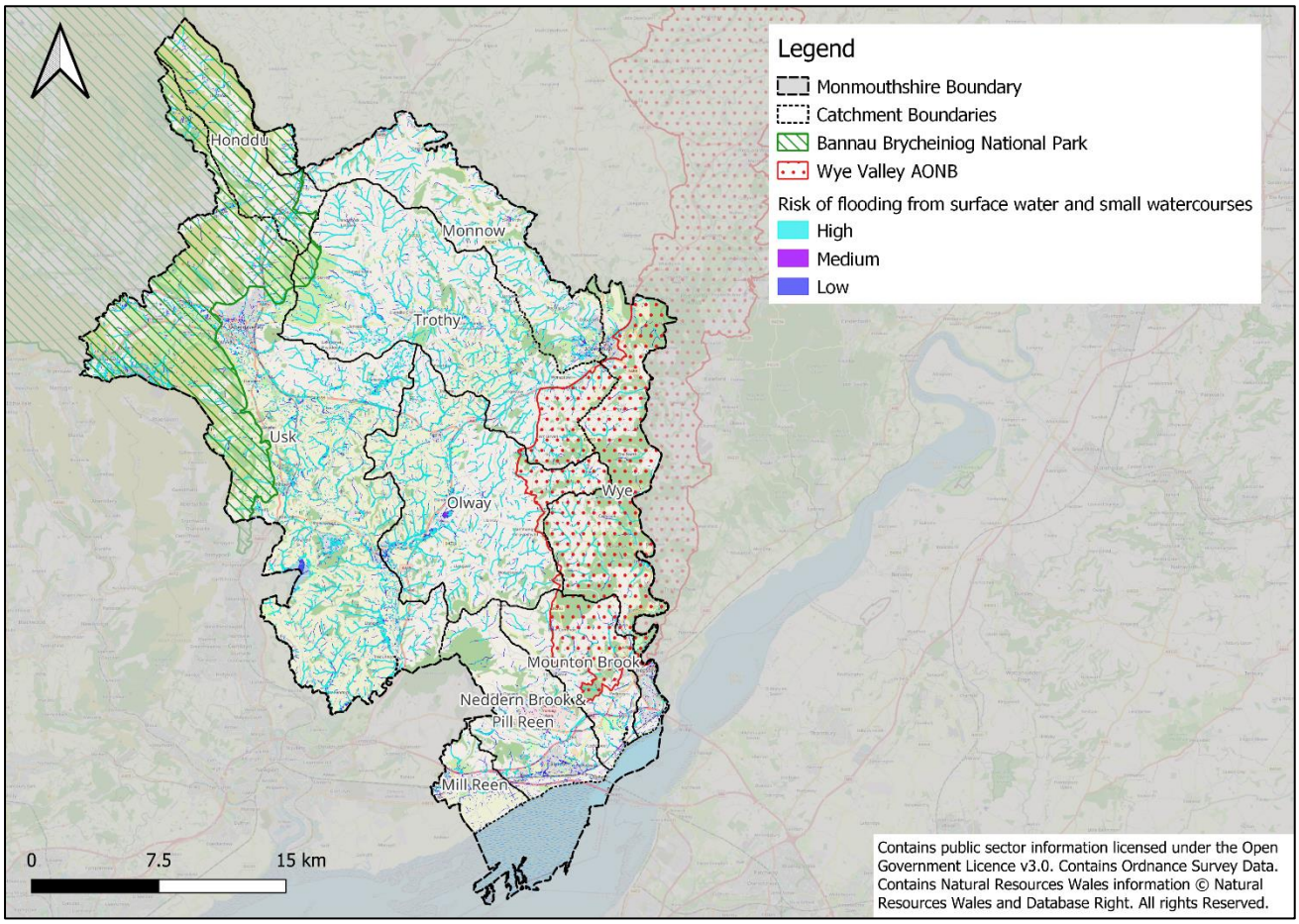

Figure 5-2: Key landscape designations in Monmouthshire relative to surface water and small watercourses flood risk.

5.2.2 Management Plans

Some examples of changes or threats to landscape character within the Wye Valley National Landscape, which were identified in the management plan (Wye Valley AONB Joint Advisory Committee, 2021) are as follows:

- Overall landscape: Sustainable land management can conserve or enhance landscape character; however, inappropriate land management may degrade or destroy landscape features.
- Biodiversity: Degradation of the historic environment, for example, INNS such as conifers in ancient woodland sites. Increased development overfilling old drainage and sewer systems. Changes through climate change and altered seasonal rainfall. Development of land for housing and road widening.

- Geological: Changes to the rock used in new developments which are not in keeping with the historic landscape character.
- Visual and sensory: Changes or inappropriate landscape blocking physical/visual access to viewpoints/view. Large developments or cumulative impact of developments altering the visual landscape and the sense of tranquillity. Sense of naturalness degraded through new standards e.g., street lighting.
- Historic environment: Neglect or unsympathetic management of archaeological features. Changes in the popularity of sites increasing/decreasing visitors to the area. Inappropriate land management degrading registered parks and gardens.
- Language: Influence of universal education and media resulting in a loss of local identity and erode traditional usages of the Welsh language.
- Access and recreation: Blockage and/or obstruction of paths and old tracks e.g., through water erosion, deep rutting, waterlogging, hard surfacing, road widening. Erosion of paths through overuse.

Furthermore, the Management Plan for the Bannau Brycheiniog National Park for the period 2023 to 2028 set out a series of policies to demonstrate how the purposes and duty of the National Park will be met within the geographic area of the Plan (BBNP, 2023). It identified the following threats that will need to be tackled over the five year period, and into the future:

- Flood risk - flooding damages the physical infrastructure of the town (including structures of historic and cultural merit) but also impacts on integrity.
- Climate change resulting in water shortages and wildlife losses.
- Harmful land management practices e.g., phosphate levels threatening rivers and wetlands - key features of the national park.
- INNS leading to habitat loss, fragmentation and human health.

5.2.3 Summary of Key Issues

Local flooding resulting from increased precipitation has the potential to affect local landscape characteristics in Monmouthshire. This includes impacts on existing character areas and on Wye Valley National Landscape. The key issues relating to landscape and visual amenity because of local flooding are summarised below:

- Alteration of existing landscape features and designations due to increased flooding.
- Disturbance to existing views across the council area, in particular Wye Valley and the Bannau Brycheiniog.

To maintain the landscape within the county, the LFRMS should consider and take account of the key issues.

5.3 Biodiversity, Flora and Fauna

5.3.1 Protected Sites

Monmouthshire encompasses many high-quality environments which have been recognised through international, national, and local ecological designations.

Statutory protected sites include:

- SACs are designated to conserve habitats and species listed on the European Council Directive 92/43/EEC (the Habitats Directive). SACs are protected by the Conservation of Habitats and Species Regulations 2017 (as amended), and the Conservation of Offshore Marine Habitats and Species Regulations 2017.
- SPAs are protected areas for birds under the Conservation of Habitats and Species Regulations 2017 (as amended), and the Conservation of Offshore Marine Habitats and Species Regulations 2017.
- Ramsar sites: designated wetlands of international importance.
- SSSIs are areas which are of special interest due to its flora, fauna, geological, geomorphic, or physiographical features and are designated under the Wildlife and Countryside Act 1981 (as amended).
- NNRs are protected areas under the Wildlife & Countryside Act 1981 (as amended).
- Local Nature Reserves (LNRs) are declared and managed by district and county council under the National Parks and Access to the Countryside Act 1949 due to biological, geological, educational, or public interest importance.

There are nine SACs, one Ramsar, one SPA, four NNRs, and two LNRs in Monmouthshire, which are detailed in Table 5-1 below. There are 58 SSSIs which have been designated for biological importance, the details of which are provided in Appendix C. The location of the designated sites is shown on Figure 5-3 below, and on the environmental constraints map for each catchment in Appendix A.

Table 5-1: Details of several statutory sites in Monmouthshire.

Site	Designation	Catchment(s)	Reason for Designation
Severn Estuary (Wales)	SPA, Ramsar, SAC	Adjacent to the coastline of catchments Mill Reen, Nedern Brook & West Pill Reen, and Mounton Brook	The Severn Estuary is one of the largest estuaries in Britain and has the second largest tidal range in the world. It supports a number of internationally important wintering bird populations and other migratory species. It contains the Annex I habitats: estuaries, mudflats and sandflats not covered by seawater at low tide, and Atlantic salt meadows. It also supports Sea lamprey, River

Site	Designation	Catchment(s)	Reason for Designation
			lamprey and Twaite shad which are important Annex II species.
Cleddon Bog	LNR, SSSI	Wye	The bog is a biologically designated SSSI which is one of the best sites for recording butterflies and moths in eastern Wales. The site's interfaces between boggy heathland and woodland, with patches of bilberry and heather grow under an open canopy of rowan and other deciduous trees, means that it is home to a variety of important lepidoptera species for Wales such as the Bilberry Pug and welsh wave moths. White-line Snout, a UK Biodiversity Action Plan (BAP) species, is present at the site.
Coed-y-Cerrig	LNR, NNR, SAC	Usk	Coed y Cerrig is a good example of alluvial forest in southern Wales. The valley-bottom woodland has a canopy dominated by alder with ash Fraxinus, and a rich understorey that includes guelder-rose and bird cherry. The ground flora is characterised by abundant large sedges, and a wide diversity of wet woodland species. The woodland is continuous with diverse ash-elm and oak woodland on the valley sides. The Coed-y-Cerrig reserve has a variety of wet and dry woodland habitats, making it rich in wildlife. Its moist valley floor is covered by an unusual type of alder woodland rich in fungi in the autumn.

Site	Designation	Catchment(s)	Reason for Designation
Penhow Woodlands	NNR	Mill Reen	Penhow Woodlands NNR covers three areas of ancient semi-natural woodland. Only one of them, at Coed Wen, is open to the public. The woods are dominated by ash, small-leaved lime, wych elm and gean, with an understorey of hazel. The site is coppiced in order to keep a reasonably open canopy allowing plenty of light onto the woodland floor, to benefit plants which grow beneath the trees. The woods grow on the tops and slopes of the limestone hills in the vicinity of Newport. This type of habitat is increasingly rare in the UK, as are the plants which grow within it.
Lady Park Wood	NNR	Wye	The reserve is considered to be one of the most important sites for woodland conservation in the United Kingdom and lies on the southern side of a gorge formed by the winding River Wye. Located halfway between Monmouth and Ross-on-Wye, it is part of the long stretch of woodland which fringes the lower part of the Wye Valley and then joins the Forest of Dean. The nearest community is Symonds Yat. The wood is in the Wye Valley Area of Outstanding Natural Beauty. It is part of the Upper Wye Gorge SSSI and the River Wye SAC.
Fiddler's Elbow	NNR, SSSI	Wye	This woodland nature reserve is designated as a SSSI for its biological characteristics, containing a wide variety of flora such as local and rare tree species English Oak, Cornish Oak with small leaved lime, and also bluebell wood. Fauna such as Dormice and Roe Deer are also present.
Cwm Clydach Woodlands / Coedydd Cwm Clydach	NNR, SSSI, SAC	Usk	Cwm Clydach is of special interest for its stands of beech woodland, intergrading with more open habitats, which together support

Site	Designation	Catchment(s)	Reason for Designation
			several rare and scarce vascular plants including whitebeams and soft-leaved sedge and important fungal assemblages containing rare species. Cwm Clydach Woodlands is an example of beech forests close to the northern-western limit of the habitat's UK and European range and at relatively high altitude. The main wood is on a steep valley side, comprising a mature canopy of large trees with abundant dead wood. Transitions occur to more acidic beech woodland. Rare and characteristic plant species at the site include the whitebeam, mountain sedge, yellow bird's-nest and bird's-nest orchid.
Wye Valley Woodlands / Coetiroedd Dyffryn Gwy (Wales)	SAC	Wye	The woods of the lower Wye Valley on the border of south Wales and England form one of the most important areas for woodland conservation in the UK. Wye Valley Woodlands contains the Annex I habitats: Asperulo-Fagetum beech forests, Tilio-Acerion forests of slopes, screes and ravines, and Taxus baccata woods of the British Isles.
Wye Valley and Forest of Dean Bat Sites / Safleoedd Ystlumod Dyffryn Gwy a Fforest y Ddena (Wales)	SAC	Wye, Olway, Mounton Brook,	This complex of sites on the border between England and Wales contains by far the greatest concentration of lesser horseshoe bat *Rhinolophus hipposideros* in the UK, totalling about 26% of the national population, and greater horseshoe bat *Rhinolophus ferrumequinum* in the northern part of its range, with about 6% of the UK population.

Site	Designation	Catchment(s)	Reason for Designation
Usk Bat Sites / Safleodd Ystlumod Wysg	SAC	Usk, Honddu	The Usk Valley area in south-east Wales contains one of the largest maternity roosts for lesser horseshoe bat *Rhinolophus hipposideros* as well as several important hibernacula in caves in the area. The area contains up to 5% of the UK population, though counts in hibernation sites suggest this may be an underestimate.
Sugar Loaf Woodlands	SAC		Sugar Loaf Woodlands are the largest example of old sessile oak woods near the south-eastern fringe of the habitat's range in the UK and Europe. The relatively dry situation restricts the development of the Atlantic flora associated with the habitat, but the main floristic components of sessile oak *Quercus petraea* canopy, acidic ground flora (typically of bilberry *Vaccinium myrtillus* and wavy hair-grass *Deschampsia flexuosa*) and extensive fern and bryophyte cover are in place. The woodland is grazed, but regenerates within gaps and at the fringes, where transitions to upland grassland and heath communities occur.

Site	Designation	Catchment(s)	Reason for Designation
River Wye (Wales)	SAC	Wye	The Wye, on the border of England and Wales, is a large river representative of Annex I habitat: water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation. It has a geologically mixed catchment, including shales and sandstones, and there is a clear transition between the upland reaches, with characteristic bryophyte-dominated vegetation, and the lower reaches, with extensive Ranunculus beds. The river channel is largely unmodified and includes some excellent gorges, as well as significant areas of associated woodland. It also includes several Annex II species.
River Usk / Afon Wysg	SAC	Usk	The River Usk is designated for the several Annex II species located there including Sea lamprey, Brook lamprey, River lamprey, Twaite shad, Atlantic salmon, Bullhead, and Otter.

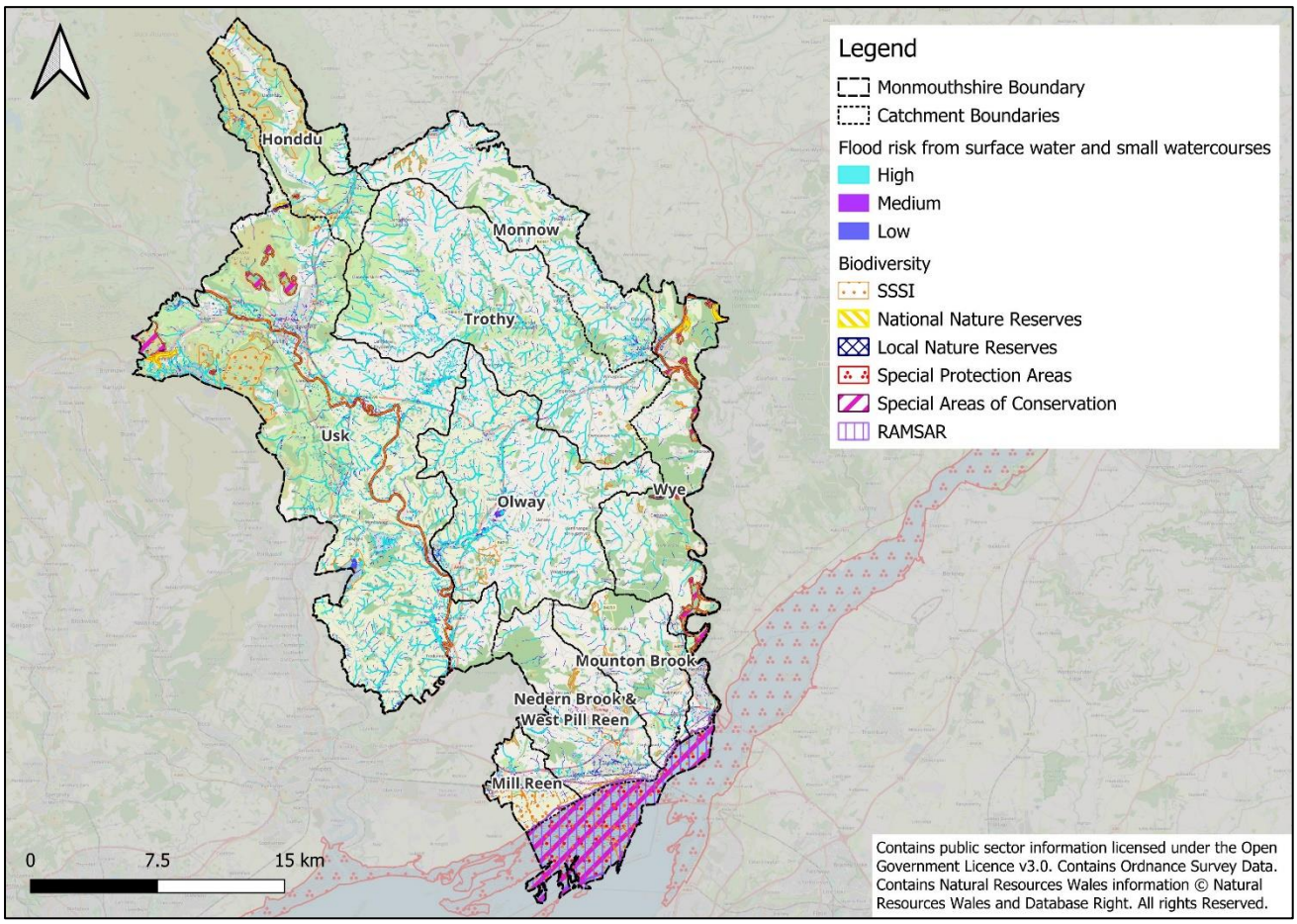

Figure 5-3: Ecologically designated sites in Monmouthshire.

Non-statutory sites include Local Wildlife Sites (LWS), which are areas with considerable nature conservation value selected due to important habitats and species within a region (The Wildlife Trust, 2022). Over 700 sites (including the statutory designated sites mentioned above) have been identified for their important for nature conservation in Monmouthshire. The LWSs in Monmouthshire are conserved by the Monmouthshire Local Nature Partnership who aim to protect and enhance semi-natural habitats, identify species of local importance, increase awareness of local wildlife, and influence conservation management activities (MLNP, 2023).

5.3.2 Monmouthshire Biodiversity Forward Plan

As part of Monmouthshire's Biodiversity Forward Plan, a list of habitats and species of principal importance for the county is required under the duty set out in Section 6 of the Environment (Wales) Act 2016.

The list of species of principal importance was based on data form the South East Wales Biodiversity Record Centre and the Rare Plant Register for Monmouthshire Vice County 35. A total of 16 mammal species, 43 species of bird, six fish species, six species of reptiles and amphibians, 108 invertebrate species, 19 vascular plant species, three species of mosses and liverworts, four fungi species and three marine species were identified as

present or present and breeding within MCC area (MCC, 2017). These are shown in Table 5-2 below.

Table 5-2: Species of principal importance identified as present or present and breeding within MCC which are Wales only species (MCC, 2017a).

Species of Principal Importance	
Mammals	Common Pipistrelle
Birds	Ringed Plover
	Hen Harrier
	Kestrel
	Pied Flycatcher
	Black Headed Gull
	Bar Tailed Godwit
	Golden Plover
Invertebrates	The Silurian
	Scarce Hook Tip
	Welsh Clearwing
Vascular Plants	A Maidenhair Speenwort
	Stag's-horn Clubmoss
Fungi	A Fairy Club / Violet Coral

The list of species of principal importance in Monmouthshire includes UK BAP and Welsh BAP priority fish species: European Eel, River Lamprey and Brown/Sea Trout. The LFRMS should consider the wider UK BAP species which are not captured in the regional BAP. In particular, the Spined Loach fish species.

The habitats identified under Section 42 of the Natural Environment and Rural Communities Act (2006) are listed in Table 5-3.

Table 5-3: Priority habitats in Monmouthshire (MCC, 2017a).

Priority Habitats	
Terrestrial, coastal & freshwater	
Broadleaved, mixed and yew woodland	Traditional orchards
	Wood pasture and parkland
	Upland oak woodland
	Lowland beech and yew woodland
	Upland mixed ash woodland
	Wet woodland
	Lowland mixed deciduous woodland
Boundary and linear features	Hedgerows

Priority Habitats	
Arable and horticulture	Arable field margins
Improved grassland	Coastal and floodplain grazing marsh
Neutral grassland	Lowland meadows
Calcareous grassland	Lowland calcareous grassland
	Upland calcareous grassland
Acid grassland	Lowland dry acid grassland
Dwarf shrub heath	Lowland heathland
	Upland heathland
Fen, marsh and swamp	Upland flushes, fens and swamps
	Lowland fens
	Purple moorgrass and rush pastures
	Reedbeds
Bogs	Blanket bogs
Rivers and Streams	Rivers
Standing open waters and canals	Ponds
	Mesotrophic lakes
	Eutrophic standing waters
	Aquifer-fed naturally fluctuating water bodies
Inland rock	Inland rock outcrop and scree habitats
	Open mosaic habitats on previously developed land
Supralittoral rock	Maritime cliff and slopes
Marine	
Littoral rock	Sabellaria alveolata reefs
	Estuarine rock habitats
	Coastal saltmarsh
Littoral sediment	Intertidal mudflats
	Seagrass beds
	Peat and clay exposures
	Tidal swept channels
Sublittoral rock	Subtidal sands and gravels

Monmouthshire LBAP (MCC, 2013) identified the main causes of biodiversity loss in Monmouthshire as:

- Intensive agriculture;
- Afforestation of grassland and heathland habitats;
- Infrastructure, such as roads causing habitat fragmentation, and developments including residential, industrial, and commercial; and

- Neglect of habitats.

5.3.3 Habitat Regulations Assessment

Under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, a screening assessment must be undertaken to consider the potential direct or indirect adverse effects of the LFRMS on protected habitats and species, with a Habitats Regulations Assessment (HRA) to be undertaken if there is a possibility of a significant effect. Mitigation or avoidance measures must then be applied should the HRA determine that significant adverse effects on site integrity, in view of a site's conservation objectives, are likely. HRA screening has been undertaken to consider potential direct or indirect adverse effects of the LFRMS on designated sites. It determined that there would be no likely significant effects because of the Monmouthshire LFRMS.

The HRA also assessed the potential in-combination effects of the Tidal Lagoon Cardiff, which is a project proposed to generate a station that has the capacity to produce 1800 and 2800 Mega Watts (MW). It is proposed to be located on the northern shore of the Severn Estuary, with landfall of the lagoon breakwater walls proposed at Cardiff Docks in the west and near to the mouth of the River Usk in the east (on the west bank of the river). It concluded that no in-combination effects will result from the Tidal Lagoon Power project.

5.3.4 Summary of Key Issues

The key issues relating to ecological receptors in MCC are summarised below:

- Sensitive designated sites for nature conservation, including priority habitats and species, which are at increased risk of flooding due to surface water flooding and groundwater flooding.
- Alteration of existing nature conservation features and designations due to increased flooding.

There is a growing requirement to reverse the trend of ecological decline. To maintain and improve existing habitats, species, and ecologically designated sites, and contribute to nature's recovery, the LFRMS must consider and take account of the issues outlined above. The LFRMS should consider and prioritise options which aid nature's recovery through the creation of new habitats through the implementation of nature-based solutions, natural flood management and green infrastructure.

However, measures outlined within the LFRMS should consider how to prevent the spread of INNS, particularly those prevalent within the aquatic environment.

5.4 Water Environment

5.4.1 Watercourses

The Welsh part of the Severn River Basin Management Plan (2021-2027) Summary (NRW, 2022) outlines the significant water management issues in the river basin district. In descending order, the main reasons for the rivers not achieving good status are physical modifications, pollution from rural areas, pollution from towns, cities and transport, pollution from wastewater and changes to the natural flow and levels of water. Over 90% of the waterbodies are affected by physical modifications while the second contributor, pollution from rural areas, affects approximately 50% of waterbodies.

Much of Monmouthshire is within the Usk management catchment. The Usk Management Catchment (NRW, 2016) provides information on the overall status of waterbodies in the catchment. At the time of the report, "33% of surface water bodies are at good overall classification status, 59% at moderate and 9% at poor overall status. There are no water bodies at high or bad overall status". However, the Water Watch Wales (WWW) map shows that there has been some deterioration with the Nedern Brook's status now 'Bad' (NRW, 2023).

The Severn River Flood Risk Management Plan covers six flood risk areas in Wales and two in England, which are areas at high risk of surface water flooding. The 2015 plan states that within the Severn River Basin District there are 32,600 people at a high risk of flooding from rivers and the sea, 67,400 people at medium risk, 260,000 people at risk of flooding from reservoirs and 120,000 people at a medium to high risk of surface water flooding. The main sources of flood risk in the Usk and Wye catchments are surface water flooding which occurs along the towns in the narrow valley floors and fluvial flooding across the wide flood plains which have a history of intensive farming (EA and NRW, 2015).

5.4.2 Water Resources

DCWW is responsible for the water supply across Wales including Monmouthshire. According to the Waste Resources Management Plan (WRMP) (DCWW, 2019), the key challenges for water supply across Wales are:

- Government proposals for Abstraction Reforms.
- The potential need to transfer water across company areas e.g., with England, and so an understanding of the value of water resources is needed.
- Updates to climate change policies and planning, and the risks of drought.
- Improvements to resilience of water supply in extreme drought events.
- Ensuring water remains affordable for customers.
- Growth of new developments putting pressure on water resources.
- The future use of Natural Capital Accounting impacting options for future water resource schemes.

A revised WRMP was produced in 2024 which provides an update on the water supply challenges in the country. It found that their long-term targets for water efficiency can only

be met with support from Government mandatory water labelling together with a range of interventions, for example water saving devices, home audits, leaky loos fixes and encouragement of behaviour change (DCWW, 2024).

As a rural area, Monmouthshire has approximately a thousand properties supplied by private water supplies. These are typically sourced from wells, boreholes, streams, springs, rivers, lakes, or ponds (MCC, 2020d).

5.4.3 Water Quality

NRW conducted a review of the Rivers in Wales which are also SACs for phosphate breaches. Within Monmouthshire, NRW identified that 88% of the River Usk's waterbodies failed to meet the required phosphate target and 67% of the River Wye failed to meet the required phosphate target (MCC, 2023).

The ecological and chemical status of the waterbodies within the council area are present in Table 5-3, and the catchments are shown in Figure 5-5.

Table 5-3: Waterbodies in MCC ecological and chemical status (NRW, 2025).

Waterbody	Catchment	Ecological Status	Chemical Status
Mill Reen - source to River Severn Estuary	Mill Reen	Moderate	High
Monks Ditch - Wainbridge to mouth	Mill Reen	Moderate	High
Nedern Brook - source to River Severn Estuary	Nedern Brook and West Pill Reen	Bad	High
Pill Brook - source to confluence Olway Brook	Usk	Good	High
Mounton Brook - source to River Severn Estuary	Mounton Brook, Wye	Good	High
Tintern Brook - source to conf River Wye	Wye	Moderate	High
Olway Brook - source to confluence Nant y Wilcae	Olway	Moderate	High
Olway Brook - confluence Nant y Wilcae to River Usk	Olway, USk	Moderate	High
Nant y Wilcae - source to confluence Olway Brook	Olway	Moderate	High
Trothy - confluence Llymon Brook to confluence River Wye	Trothy, Wye	Moderate	High

Waterbody	Catchment	Ecological Status	Chemical Status
Llymon Brook - source to confluence River Trothy	Trothy	Moderate	High
Clawdd Brook - source to confluence River Usk	Usk	Moderate	High
Monnow - confluence Afon Honddu to confluence River Wye	Monnow, Wye	Moderate	Moderate
Afon Honddu - source to confluence River Monnow	Monnow, Honddu	Poor	High
Gavenny - source to conflence River Usk	Usk	Moderate	High
Usk confluence Afon Crawnon to confluence Gavenny River	Usk	Good	High

MCC monitor the quality of private water supplies in the area through an annual sampling programme. Pollution to private water supplies is often caused by agricultural practices such as farm sludge spreading, fertiliser run off or fertiliser percolating through the soil; animals gaining access to the supply; or corroded pipes resulting in water picking up metals (MCC, 2020d).

5.4.4 Summary of Key Issues

The key issue relating to the water environment within the study area is summarised below:

- Growth of new developments putting pressure on water resources.
- Water efficiency targets will not be met without government support and demand reductions.
- Most waterbodies within the MCC catchments are failing to meet WFD targets for both chemical and ecological status.

To maintain and improve flood management across the council area, the LFRMS should consider the issue outlined above.

5.5 Geology and Soils

5.5.1 Current Baseline

The geology of a catchment can be an important influencing factor on the way that water runs off the ground surface. This is primarily due to variations in the permeability of the surface material and bedrock stratigraphy.

The bedrock geology of Monmouthshire comprises Silurian mudstones and shales in the central region surrounded by Lower Devonian Rocks, predominantly Devonian Old Red Sandstone. The western part of Monmouthshire around the Usk catchment sits on Millstone Grit and Carboniferous Limestone where many of the sites of geological interest can be found due to the formation of unique cave passages and rock exposures here.

There are 44 nationally designated sites of geological importance, 33 of which are Regionally Important Geological Sites (RIGS) and 11 are SSSIs designated for geological importance. Figure 5-4 shows the location of these sites and Table 5-4 lists the SSSI designations and qualifying features of each of the sites. The full list of sites is included in Appendix C.

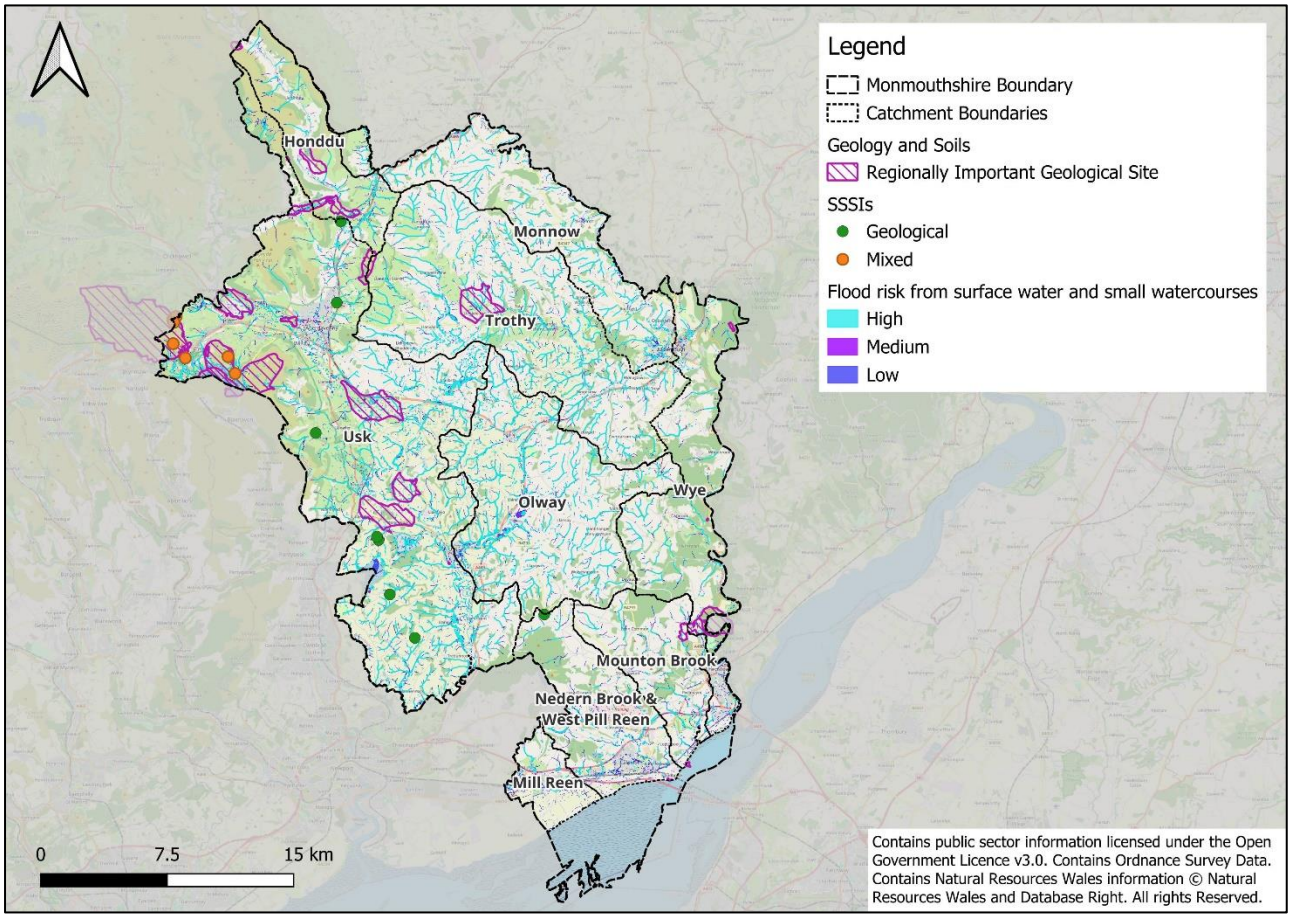

Figure 5-4: Sites designated for geological importance in Monmouthshire, relative to flood risk.

Table 5-4: Site designated for geological importance in Monmouthshire.

Site name	Desi.	Catchment	Qualifying features
Cwm Clydach	SSSI	Usk	The site is of special interest in supporting two localities of national geological importance. The best available sections of the Clydach Beds and the Gilwern Oolite of the Oolite Group occur here. The site is of additional importance for the presence of well-preserved plant remains. It is a

Site name	Desi.	Catchment	Qualifying features
			key paleogeographic and stratigraphic locality.
Gilwern Hill (Gilwern and Pwll Du Quarries Part I)	SSSI, RIGS	Usk	An area of limestone grassland and old quarries supporting a characteristic limestone grassland community. There are several species that are rare in the county. The steeper slopes support ash Fraxinus excelsior woodland over a rich ground flora.
Mynydd Llangatwg (Mynydd Llangattock)	SSSI	Usk	Beneath the Mynydd Llangatwg plateau lie more than 40 km of caves which drain from the northern escarpment to resurgences in the Clydach Gorge. The cave passages of the system are mostly large and have a long complex history revealed in both their morphology and their important clastic sediment sequences. Cave development is uniquely extensive under an unbroken cover of Millstone Grit, with important examples of collapsive and upward stoping initiated at considerable depth.
Siambre Ddu	SSSI	Usk	This site is unique in Britain in that it is the only accessible cave formed at the junction of the Millstone Grit and the Carboniferous Limestone.
Brook Cottage, Llangybi	SSSI	Usk	The section of late Silurian rocks exposed here is made up of silty mudstones and siltstones spanning the late Ludfordian and Downtonian stages. These beds contain a well preserved shelly fauna and is the only locality in the Usk Inlier that shows clearly the transition from the Ludlow to the Downtonian.
Cilwrgi Quarry	SSSI	Usk	Cilwrgi Quarry exposes an important section through the Usk Limestone which has been of great value in helping to reconstruct the sequence of events which occurred during the middle to late Silurian, some 420 million years ago.
Cwm Mill Section, Mardy	SSSI	Usk	Cwm Mill Section is situated on gently undulating land on the edge of the village of Mardy to the North of Abergavenny. The stream flows from the east where it emerges from under the A465, the main road between Abergavenny and Hereford, and the adjacent railway line to join the River Gavenny in the west. The rock outcrops form part of the bed and banks of the stream.

Site name	Desi.	Catchment	Qualifying features
Cwm-Ton, Glascoed	SSSI	Usk	This is an important geological site providing excellent exposures of Silurian rocks, formed about 410 million years ago. The rocks exposed consist mainly of limestone, representing the upper part of the Usk Limestone, overlain by siltstone.
Golden Hill Quarry, Devauden	SSSI	Neddern Brook & Pill Reen	The volcanic neck exposed in Golden Hill Quarry is the most southerly major occurrence of mantle derived xenoliths in Britain. The neck, of probable Lower Carboniferous age, is composed of vent agglomerate and massive monchiquitic basanite. Both rock types contain abundant mantle xenoliths and megacrysts.
Llanfihangel Moraine	SSSI	Usk	A large arcuate moraine at Llanfihangel Crucorney marks the terminus of the Late Devensian ice sheet in South Wales. It runs west from Llanfihangel Crucorney for about 1.5 km and rises up to 20 m high above the valley floor. Over much of South Wales clear evidence for the terminal limits of the Late Devensian ice sheet is lacking, so that the Llanfihangel Crucorney moraine provides important information on this problem.
Llanover Quarry	SSSI	Usk	Llanover Quarry has long been recognised as an important source of fossil plant material, much of which has been the subject of detailed studies on the land plants which flourished some 380 million years ago.

The Predictive Agricultural Land Classification (ALC) published by Natural Resources Wales (2021) classifies agricultural land in to five grades with Grade 1 as the best quality through to Grade 5 which is the poorest quality. Figure 5-5 shows the majority of Monmouthshire, particularly in the Monnow, Trothy and Olway catchments, but also in parts of the southern catchments, is classed as Grade 1 (excellent quality) and Grade 2 (good quality). Non-agricultural land is located in the Wye and the Honddu catchments.

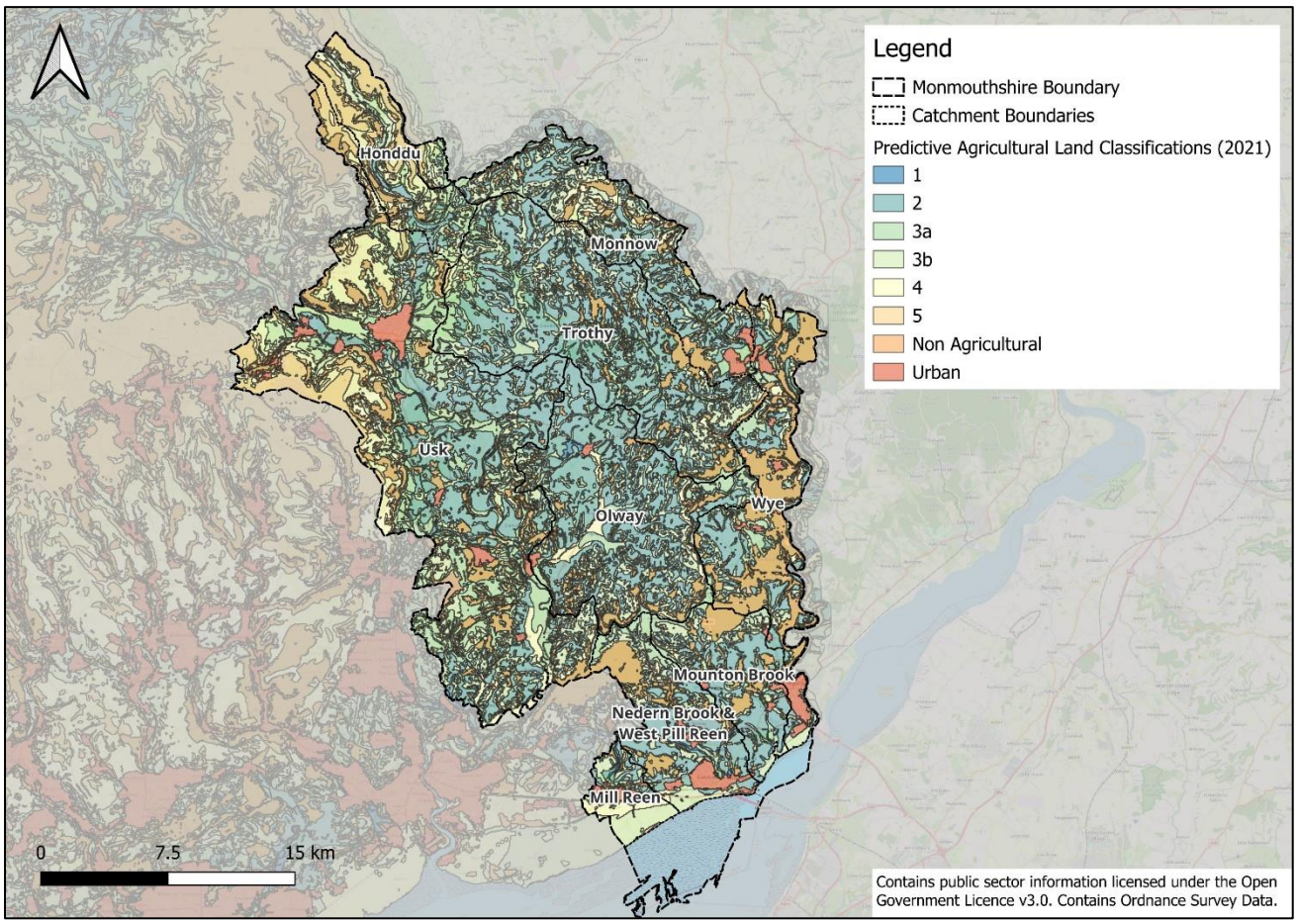

Figure 5-5: Agricultural Land Classification (Predictive) in Monmouthshire.

Contaminated land contains substances in or under the land that are actually or potentially hazardous to health of the environment. MCC published their Contaminated Land Strategy in 2017 setting out their approach to investigating potential land contamination in the region. Monmouthshire has not declared any land as 'contaminated' (MCC, 2017b); however. historic and current landfill sites are areas of potential contamination. There are 36 historic landfill sites across Monmouthshire as shown in Figure 5-6, and approximately 12 permitted waste sites (NRW, 2023).

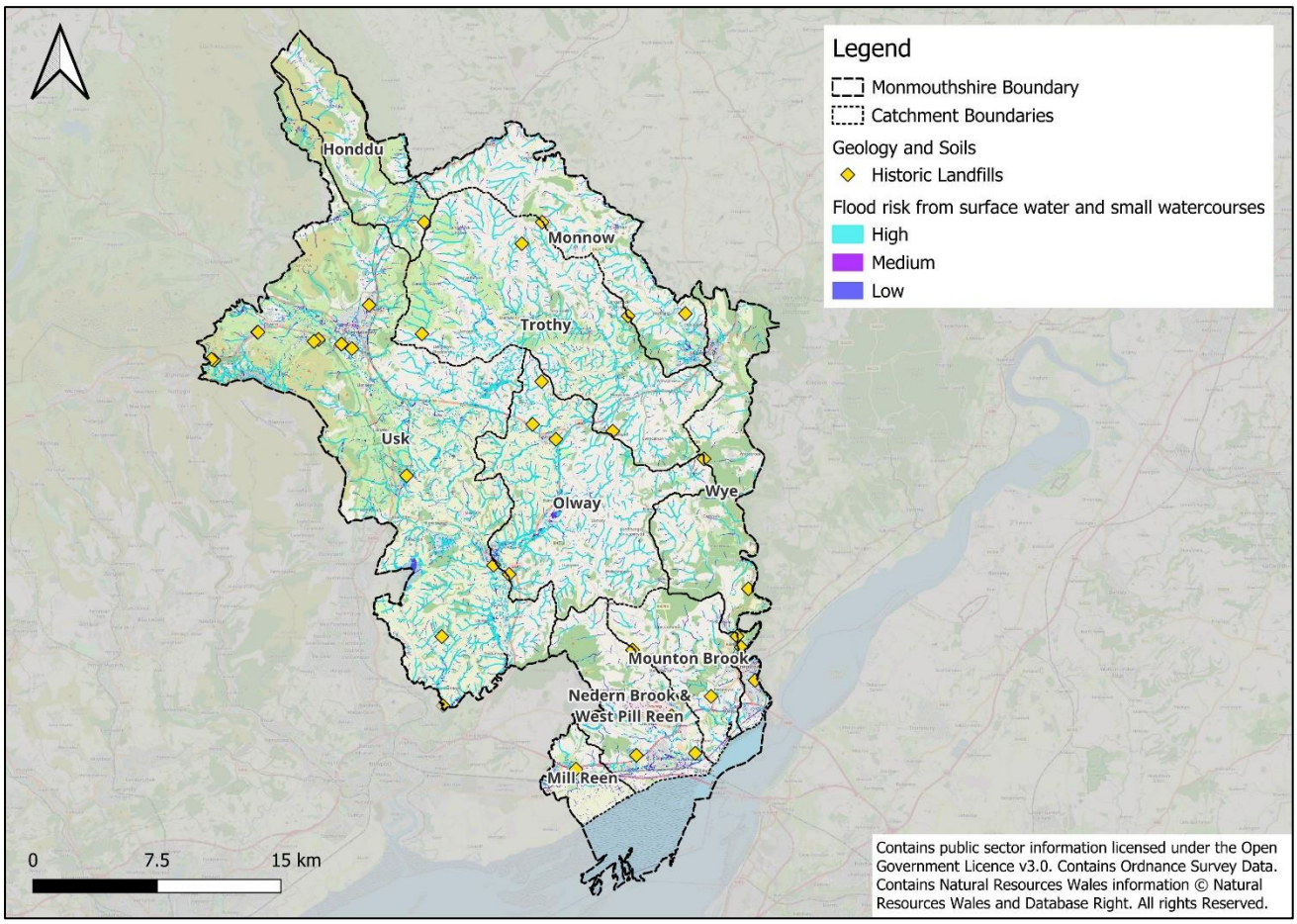

Figure 5-6: Locations of historic landfills in Monmouthshire relative to flood risk from surface water and small watercourses.

5.5.2 Summary of Key Issues

The geological context of the study area, including geological designations and areas of potential contamination, are outlined above. The key issues identified are summarised below:

- Flood risk may result in contaminants leaching into surface water, increasing levels of pollution, and threatening human health and the environment.
- Risk of damage or disturbance to geologically designated SSSIs and RIGS.

The LFRMS must consider the issues outlined above to prevent erosion of landfill waste into the watercourse, which would threaten human health and the environment.

5.6 Historic Environment

5.6.1 Current Baseline

There are many historically and culturally valuable sites across Monmouthshire reflecting a rich and diverse historic environment, as shown in Figure 5-7. There are approximately

2420 listed buildings, 201 scheduled monuments, 49 registered parks and gardens, and 31 conservation areas in Monmouthshire.

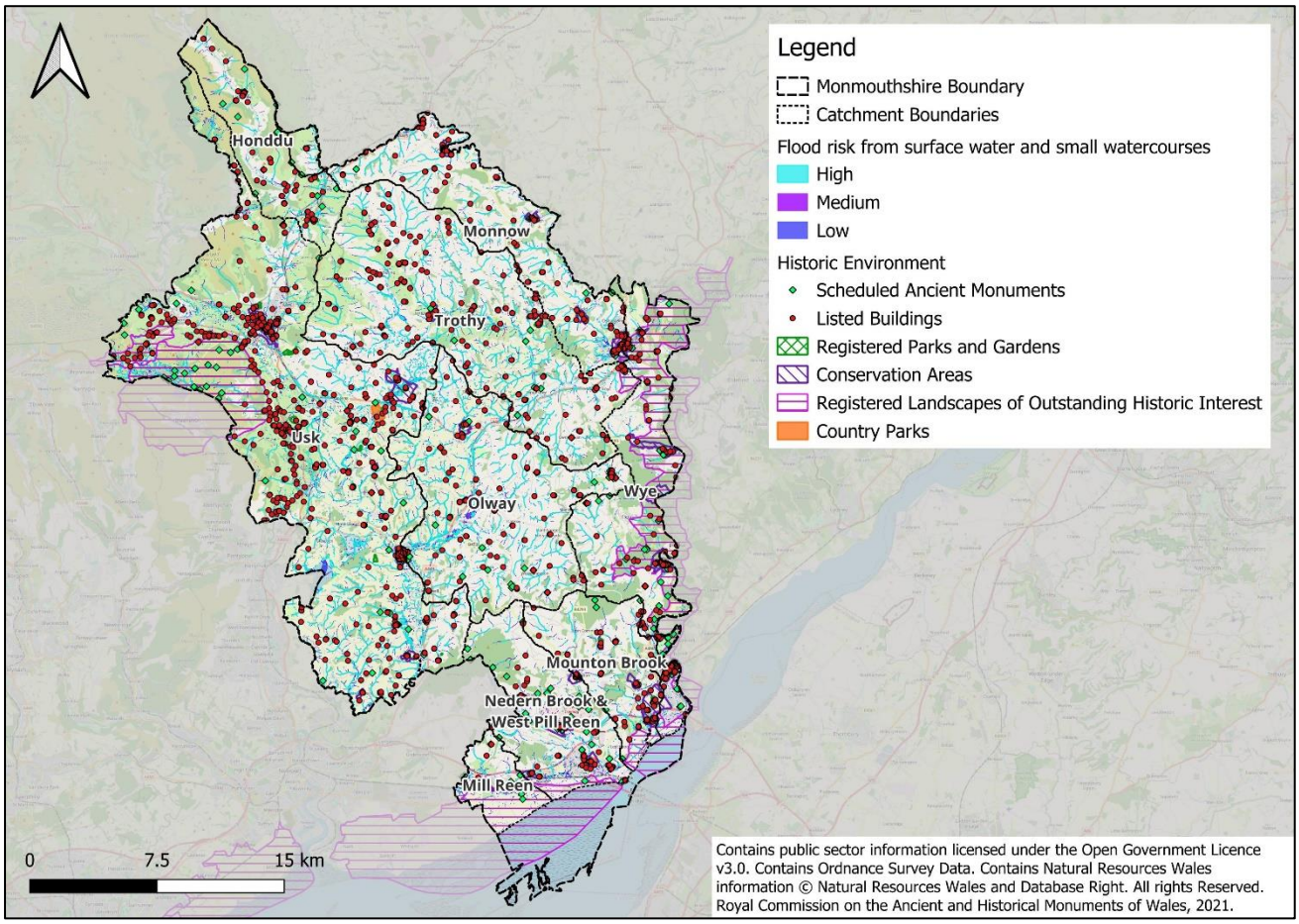

Figure 5-7: Historic environment in Monmouthshire relative to flood risk from surface water and small watercourses.

Registered Landscapes of Outstanding Historic Interest is a list of 58 historic landscapes which are recognised by Cadw for their value and have been identified as the best examples of different types of historic landscapes in Wales (Cadw, 2023). In Monmouthshire, these are:

- Blaenafon / Blaenavon
- Gwastadeddau Gwent / Gwent Levels
- Pen Isaf Dyffryn Gwy / The Lower Wye Valley
- Cwm Clydach / Clydach Gorge

Monmouthshire has 12 Archaeologically Sensitive Areas (A.S.A.), which protect known dense layers of archaeology that are of significance to Monmouthshire's development and history. These are listed in Table 5-5 below.

Table 5-5: Designated A.S.A.s in Monmouthshire (MCC, 2019ba).

Name	Catchment	Significance
A.S.A. 1: Abergavenny	Usk	Strategic military site; Roman settlement and fort 12th century castle; the Priory church and associated buildings. Planned Medieval walled town and mural suburbs, milling and market. Post-Medieval agricultural centre, railway town and the communications infrastructure associated with it.
A.S.A. 2: Caerwent	Nedern Brook and West Pill Reen	Particularly well-preserved Roman walled town with extensive remains of houses, civic buildings, villas, roads, and religious buildings. Outside the Roman town walls, remains of roads, cemeteries, villas and additional buildings have been found.
A.S.A. 3: Chepstow	Wye	Medieval walled market town with its historic street layout. The Castle and priory are 11th century. Also, for the Port and shipbuilding industry.
A.S.A. 4: Grosmont	Monnow	Important planned Medieval town which expanded following receipt of a charter in the 13th century, and prospered between the 16th and 18th centuries.
A.S.A. 5: The Levels: Magor & Undy; Rogiet, Caldicot	Mill Reen; Nedern Brook and West Pill Reen; Mounton Brook; Wye	Extensive low-lying area consisting of estuarine alluvium. Reclaimed from the sea from prehistoric times onwards. Distinctive patterns settlements, enclosures, and drainage. Strong potential for large-scale and important buried, waterlogged archaeological and environmental deposits. Remains of a network of artificial drainage systems. Deposits attributable to numerous historic periods demonstrating human activity from the Mesolithic, Neolithic, Bronze Age, Iron Age, Roman, Medieval, and post-Medieval periods.
A.S.A. 6: Monmouth	Monnow; Wye	Important defensive Medieval town, consisting of two main suburbs along Monnow Street and Overmonnow. One of the main routes into south Wales based on its location. Prehistoric activity Roman settlement with the fort of Blestium. Early Medieval Christian foundation of St Cadoc, 11th century castle and priory church, and 13th century fortified bridge with tower found here.
A.S.A. 7: Raglan	Olway	Specifically relates to the Medieval town. Achieved borough status in the 14th century, held Markets in the 15th century, established a Court House from the 17th century, and also Raglan castle and town were the site of a siege during the Civil War.
A.S.A. 8: Skenfrith	Monnow	Close association with Grosmont and Whitecastle castles. Early defensive castle with river access from the castle. Compact core Medieval settlement associated with the castle and church.
A.S.A. 9:	Wye	Substantial Cistercian abbey, precinct and landholdings,

Name	Catchment	Significance
Tintern		including granges, two Medieval churches. Industrial wire making remains. Landscape significance during the 18th century. Part of the picturesque movement and Wye Tour.
A.S.A. 10: Trellech	Olway	Bronze Age stones known as Harold's stones. One of the largest 13th century Medieval planned towns in the country; it is believed to date to the early 13th century and achieved borough status, a market. Evidence of an iron working industry too.
A.S.A. 11: Usk	Usk; Olway	Site of the Roman fort of Burrium and developed further. A Medieval town, castle and church, and post-medieval settlement.
A.S.A. 12: Whitecastle	Trothy	Early 11th century castle with a close association with Grosmont and Skenrith castles. Whitecastle was primarily a defensive centre built to maintain conquered territory.

5.6.2 Summary of Key Issues

There are a variety of heritage assets present within the study area. The key issues are summarised below:

- Potential flood-related damage to many historical assets including their setting, cultural, and archaeological sensitive areas within the study area due to changed water levels or through the force and inundation of flood waters.
- Watercourses and their surrounding fluvial landscapes can be an important component of the historic environment, containing a wider range of heritage assets.

The provision of flood protection provided by the LFRMS must consider the potential consequences for the historic environment. Where required, early consultation with the Heneb will help identify the presence of any unknown undesignated archaeological assets and any mitigation to be factored in.

5.7 Population and Human Health

5.7.1 Population

The population growth in Monmouthshire was higher than across Wales with an increase of 1.8% from 91,300 people in 2011 to 93,000 people in 2021. In general Monmouthshire is getting older, with the median age rising from 45 to 49 years between 2011 and 2021, which is the second highest average age for an area in Wales. Furthermore, the number of residents aged 65 to 74 years rose by approximately 2,500 (an increase of 25.1%), while the number of residents between 35 and 49 years decreased by almost 3,800 (a 19.4% decrease) (ONS, 2023).

5.7.2 Deprivation

The Indices of Multiple Deprivation (IMD) is based on 39 indicators which cover the seven key themes of deprivation. The IMD splits each local authority into Lower Super Output Areas (LSOA) which have an average population of 1500 people or 650 households, to further breakdown and compare data.

The IMD deciles are calculated by ranking the 32,844 LSOAs in Wales from most to least deprived. LSOAs in decile 1 fall within the most 10% deprived of LSOAs nationally and LSOAs in decile 10 fall within the least deprived 10% of LSOAs nationally. Monmouthshire has the lowest levels of deprivation of all the local authorities in Wales and has no areas in the most deprived 10% (Welsh Government, 2019b). Table 5-6 shows the percentage of small areas in Monmouthshire which are most deprived. It should be noted, however, that Monmouthshire has the highest levels of income inequality in Wales (MCC, 2023c).

Table 5-6: Concentrations of WIMD 2019 income deprived areas in Monmouthshire (Welsh Government, 2019b).

Area	% LSOAs in most-deprived 10%	% LSOAs in most-deprived 20%	% LSOAs in most-deprived 30%	% LSOAs in most-deprived 50%
Monmouthshire	0.0	3.6	5.4	26.8

Nonetheless, due to the rural nature of Monmouthshire, access to employment, education and services is a major issue. In 2011, 22.4% of the most deprived areas in Wales for access to services were in Monmouthshire, with access reliant on households owning a car (MCC, 2015b).

MCC use the provision of Green Infrastructure (GI) to deliver and measure environmental wellbeing. As detailed in the previous sections, Monmouthshire benefits from a diverse landscape, cultural and biodiverse environment. Nonetheless, the Monmouthshire Wellbeing Assessment 2022 - 2027 found that much of rural Monmouthshire does not have easy access to good quality green space, for example, the Welsh average for access to parks, public gardens, or playing fields within a 1000m radius is 3.4% whereas in Monmouthshire it is just 2.67% (MCC, 2022b). As the council is one of the least deprived in Wales, it is considered that access to quality greenspace is low due to the rural nature of the council area, rather than because of economically deprived areas which is the usual association.

5.7.3 Monmouthshire's Wellbeing Assessment

Monmouthshire's Wellbeing Assessment (MCC, 2022b) has highlighted the likely future trends of the council area. The key emerging issues are:

- The ageing population in Monmouthshire could put pressure on health and social care, and high property prices may make it difficult to attract a workforce required to meet the needs of the region.

- Pressure on social care for children and adults along with workforce shortage means that short term needs are being met but no model for longer term provision is in place.
- One in four adults and one in ten children experience mental health issues exacerbated by loneliness.
- Lack of affordable housing exacerbated by limits to development of new homes in Monmouthshire and increase phosphate levels in rivers resulting in a block on new developments.

5.7.4 Summary of Key Issues

The key issues relating to the population and health of the study area are outlined above and summarised below:

- Predicted increase in proportion of older adults within the population, resulting in a relatively small working age population supporting a larger dependent population.
- Increase in level of phosphates in rivers leading to blocks on new developments.

The provision of flood management strategies provided by the LFRMS should consider the potential consequences for the local population.

5.8 Material Assets

5.8.1 Infrastructure

The strategic road network in MCC comprise two motorways, six trunk roads which pass through Monmouthshire, and a series of county strategic roads which connect key settlements within Monmouthshire. The motorways in MCC are the M4 from Cardiff to the second Severn Crossing, of which congestion issues are prevalent near Newport, and the M48 to Chepstow and the Severn Crossing. The Heads of the Valleys Road (A465), the A449, A40 and A4042 also pass through the county. There is an overreliance on cars in the county as the bus services that connect to the smaller towns and villages are infrequent (MCC, 2024).

Caldicot, Chepstow and Severn Tunnel Junction are the main railway stations in the south of the county, and Abergavenny is the only main railway station in the north of Monmouthshire. The railway lines are the South Wales Western Mainline connecting South Wales with Bristol and London; a second railway line branches off to Gloucester; and a third railway line 'The Marches Line' passes through the north and west of MCC and the town of Abergavenny connecting South Wales with North Wales and Manchester (MCC, 2024(.

The strategic road network and railway lines are shown on Figure 5-8.

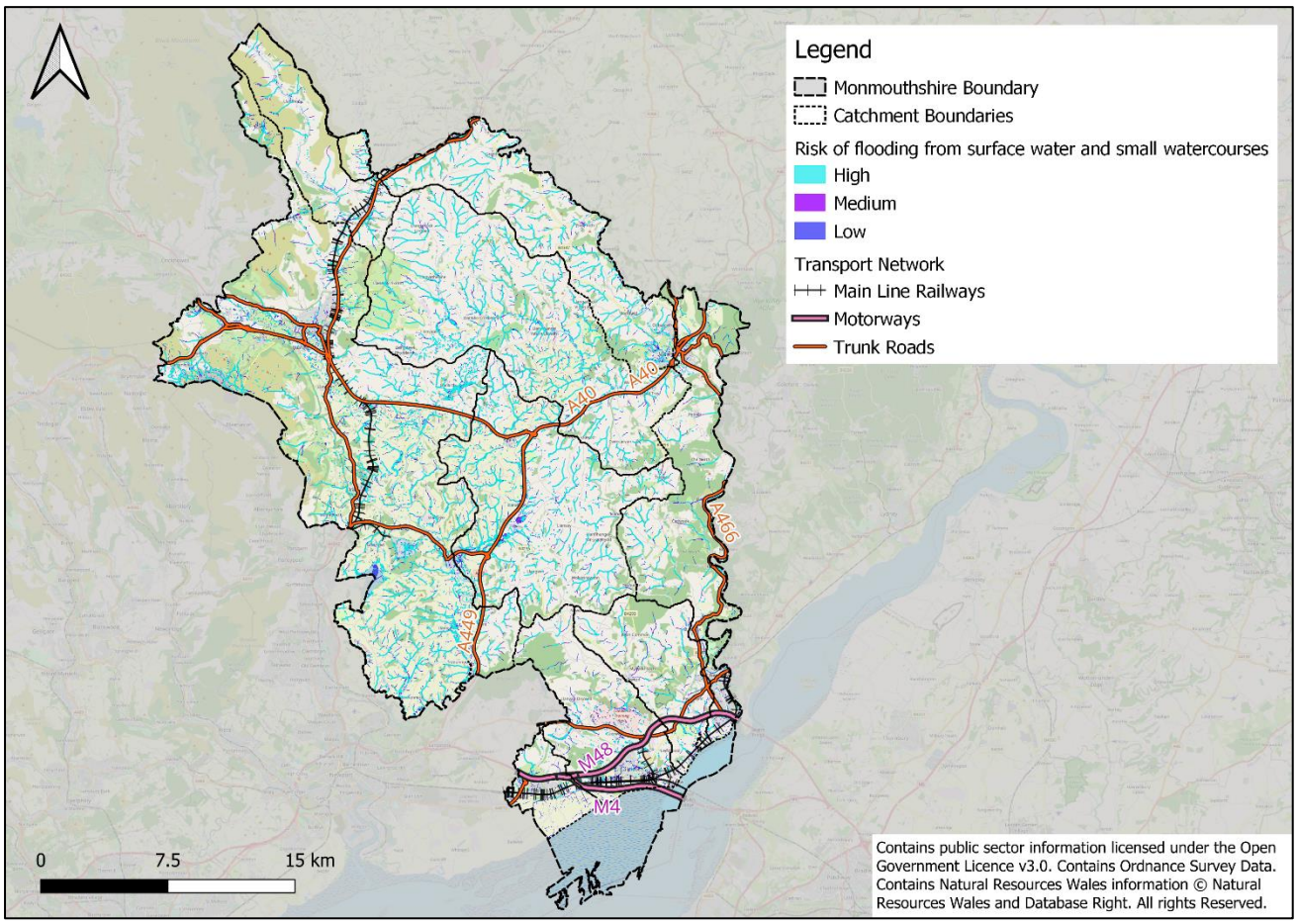

Figure 5-8: Main transport links in Monmouthshire relative to flood risk.

There is approximately 2,165km of public rights of way, although 89% of these are footpaths only and are not accessible for cyclists or horse riders (MCC, 2022a). However, there are two long distance cycling route which cross Monmouthshire as part of the National Cycle Network. These are Chepstow: The Celtic Trail along the southern edge of Wales, and Lon Las Cymru heading north through the Bannau Brycheiniog (MCC, 2020b).

5.8.2 Monmouthshire Economic Development and Local Transport Plan

The transport infrastructure in MCC is critical for the economic development of the county. Monmouthshire is part of the Cardiff Capital Region (CCR) which includes many unitary authorities in the South of Wales. The CCR has a vision of a low carbon future where transport network and mobility culture are able to support a thriving economy while also providing a betterment of the health and wellbeing of the population through sustainable travel options. It is predicted that traffic levels here will see a 32% net increase between the period of 2015 to 2040 (MCC, 2015b). The Welsh Government has identified priority areas which include Enterprise Zones, local growth Zones and City Regions. The CCR is one of such areas where the Welsh Government has a vision for a multimodal rapid transit network (MCC, 2024a).

The 2024 LTP identified challenges that the county is facing. Notably, poor public transport connectivity and lack of alternatives leads to social isolation for residents without access to private vehicles, which is further exacerbated by the rural nature of Monmouthshire. For those with private vehicles, this leads to a reliance on cars and in turn traffic congestion and poor air quality. Monmouthshire experiences a net out-commute of 39% of the working population commuting long distances per day. There are ongoing projects to upgrade the active travel networks around the county such as the Severnside spinal route – including Caldicot Links, which is converting a disused railway to an Active Travel path and links through Caldicot town to the railway station (MCC, 2024a).

5.8.3 Summary of Key Issues

Key issues are summarised below:

- Critical infrastructure including energy infrastructure, industrial areas, public amenity, and transport routes may be vulnerable to flood risk; and
- Sensitivity of infrastructure to damage/disturbance from flooding and associated socio-economic costs.

The provision of flood protection provided by the LFRMS must consider the potential consequences for established and future material assets.

5.9 Climate Change

5.9.1 Current Baseline

Carbon emissions in Monmouthshire come from a variety of sources. The Climate Emergency Strategy (2024) identified that the source of CO_2 emissions in Monmouthshire was primarily from transport which comprised 48% of CO_2 emission sources. 24% of emissions were from domestic homes, 17% from industry, 7% from agriculture, 2% from commercial and 2% of emissions were from the public sector. Nonetheless, MCC has seen a downward trend in carbon emissions from the county area with net carbon emissions reducing by 17.8% between 2019 and 2023 (MCC, 2024b). Nonetheless, Monmouthshire has a high carbon footprint per head of population, with an estimated 718 kilo-tonnes of carbon emitted in the county, which is equivalent to 7.5 tonnes per person, which is higher than the UK average of 5.6 tonnes per person (MCC, 2023c). The reason for this is considered to be due to the rural nature of the county resulting in car usage as the dominant mode of transport (MCC, 2022b).

Monmouthshire is in the southeast of the Wales climate region. The mean annual temperature range for low altitudes in the region varies from approximately 9.5˚C to 11˚C, with the higher values occurring near the coast. Temperatures in the region follow seasonal and diurnal variation. January is the coldest month with mean daily minimum temperatures of approximately 0˚C in mid-Wales and 3-4˚C near the coast. Furthermore, air frost each year can typically range from 40 to 80 days, increasing with distance from the coast. July is usually the warmest month, with mean daily maximum temperatures varying from

approximately 17˚C inland to 21˚C in the east of Powys and Monmouthshire, compared to the daily maximum of 23.5˚C in the London area (Met Office, 2016).

Rainfall in Wales varies widely; however, areas near the coast and close to the English border tend to be drier than the central upland of Wales, with less than 1000mm a year. Throughout Wales, the months from October to January are significantly wetter than between February and September. In the east and south of Wales, there are approximately 40 days of rainfall in winter and 25 days in summer (Met Office, 2016).

5.9.2 Future Predicted Climate Change

The Met Office climate visualisation tool uses climate projections in 12km-square grids across the UK (Met Office, 2022). For Raglan, in the centre of the MCC area, climate projections indicate that:

In summer:

- The hottest summer day of the past 30 years was 33.4˚C in this area. If global average temperatures increase 2˚C above pre-industrial levels, the hottest summer day could be about 35.2˚C. If global temperatures rise by 4˚C, it could be 40˚C.
- In the 30 summers from 1991 to 2019 there were two days above 25˚C per month on average. If global temperatures rise by 2˚C, there could be six days. With a rise of 4˚C, there could be 14 days.
- On the wettest summer day of the 30 years from 1991 to 2019, 49mm of rain fell in the area. At a 2˚C rise, this could be about 56mm. At a rise of 4˚C it could be about 58mm, which is 20% greater than current levels.

In winter:

- The warmest winter day of the 30 years from 1991 to 2019 in the area was 17.7˚C. If global average temperatures increase by 2˚C above pre-industrial levels, the warmest winter day could be about 17.9˚C. If global temperatures rise by 4˚C, it could be about 19.1˚C.
- In the 30 years from 1991 to 2019 there were 13 rainy days on average per month in winter, and at both 2 and 4˚C the number of rainy days per month could be roughly the same.
- On the wettest winter day of the 30 years from 1991 to 2019, 62mm of rain fell in the area. At a 2˚C rise, this could be 66mm, and at 4˚C rise this could be 77mm, an increase of 25% compared to current levels.

Without the LFRMS, increased flood risk will likely indirectly lead to emissions of greenhouse gases, both in the recovery of floods, including extreme floods, and in the management of flood risk such as the additional maintenance of existing flood risk infrastructure due to flood damage.

The Third Climate Change Risk Assessment estimates that the UK-wide cost of climate change is high and increasing, with estimated damages to exceed £1bn per annum, which includes risks from flooding and risks to infrastructure networks such as water, which

specifically will need more action. It also found that early adaption investments in heatwave alerts and plans, surveillance and monitoring for pests and diseases, early warning systems, climate smart agriculture, climate resilient infrastructure, and upland peatland restoration were effective and would deliver value for money (Defra, 2022).

The risk of damage to property, infrastructure, land, and rural environments from flood events will increase, leading to activities to manage these impacts that themselves will have both embodied and direct greenhouse gas emissions. Therefore, the region will be more vulnerable to the risks of climate change, which also includes warmer air temperatures and increased heavy rainfall which can affect habitats, wildlife, human health, and how communities use the land.

5.9.3 Summary of Key Issues

The key issue relating to climate change is a projected increased frequency and intensity of precipitation events. Increased precipitation intensity from depression and thunderstorms will likely result in the overwhelming of drains and sewers due to increased surface run-off. In turn, this could result in localised flood events, which will have implications for human health, infrastructure, and designated sites.

To ensure that the region is resilient to impacts of climate change, the LFRMS must consider how to implement measures aimed at coping with them.

6 SEA Framework

6.1 Introduction

The SEA framework is used to identify and evaluate the potential environmental issues associated with the implementation of the LFRMS. The framework comprises a set of SEA objectives that have been developed to reflect the key environmental issues identified through the baseline information review. These objectives are supported by criteria, which are used as a suggested means to measure the potential significance of the environmental issues and can also be used to monitor the implementation of the LFRMS. These LFRMS objectives are tested against the SEA framework to identify whether each option will support or inhibit achievement of each objective.

Table 6-1 below summarises the purpose and requirements of the SEA objectives, criteria, and targets.

Table 6-1: Definition of SEA Objectives, Sub-objectives and Criteria

	Purpose
Objective	Provide a benchmark 'intention' against which environmental effects of the plan can be tested. They need to be fit-for-purpose.
Sub-objective	Aid the assessment of impact significance. Provide a means of ensuring that key environmental issues are considered by the assessment process.
Criteria	Provide a means of measuring the progress towards achieving the environmental objectives over time.

6.2 SEA Objectives and Criteria

SEA objectives and indicators have been compiled for each of the environmental receptors (or groups of environmental receptors) as established at the scoping stage of this SEA process. The SEA objectives for the LFRMS are given in Table 6-2 below. These objectives can be refined or revised should any additional information be obtained during the life of the strategy.

Table 6-2: SEA objectives and criteria.

Receptor	Objective		Sub-objective	Criteria
Landscape and Visual Amenity	1	Protect the integrity of local, urban, and rural landscapes in the area.	Prevent changes to the landscape character of NCLAs and local landscape character types.	Changes in the condition and extent of existing characteristic elements of the landscape. The condition and quality of new landscape features introduced to the environment (i.e., new flood defences).
Biodiversity, Flora and Fauna	2	Maintain and enhance biodiversity, wildlife, and habitat connectivity.	Protect and enhance protected, important, and notable habitats and species and designated nature conservation sites in the area. Increase biodiversity by enhancing, expanding, and connecting existing natural areas and wildlife refuges. Increase biodiversity resilience to flood risk and climate change.	Recorded numbers of protected habitats and species. Percentage change in area of priority habitats. 'Condition' of designated wildlife, geological sites, and habitats. Deliver measures which also improve the ecological status of WFD waterbodies. Net benefit for biodiversity (NBB) and other enhancements achieved in projects delivered through the LFRMS.
Water Environment	3	Protect and enhance the quality of water features and resources.	Do not inhibit achievement of WFD objectives and contribute to their achievement where possible.	WFD chemical or ecological status of waterbodies within the catchment.

Receptor	Objective		Sub-objective	Criteria
Geology and Soils	4	Maintain soil quality and conserve geological designations.	Reduce risk of contamination from all sources. Maintain soil quality and quantity. Conserve the condition of geological designated sites.	Number of contamination incidents. Risk levels of contamination. Soil quality. 'Condition' of geological designated sites.
Historic Environment	5	Preserve and where possible enhance important historic and cultural sites.	No adverse impact on designated and non-designated heritage sites as a result flooding. Protect and enhance historic and cultural sites. No adverse impact on the integrity / setting of designated and non-designated heritage sites from flood risk management measures.	Number of designated and non-designated heritage sites at risk from flooding. Number of heritage assets, including archaeological sites, adversely impacted upon by flood risk management measures.

Receptor	Objective		Sub-objective	Criteria
Population and Human Health	6	Protect and enhance human health and wellbeing.	Conserve and enhance open (including urban amenity areas) and natural green spaces including Public Right of Way (PRoW) and recreation opportunities. Protect key social infrastructure assets and services from flooding and increase resilience to climate change.	Number of open and natural green spaces. Number and value of PRoW routes. Number of residential properties at risk from flooding. Number of key services at risk from flooding. Health and wellbeing statistics.
Material Assets	7	Minimise the impacts of flooding to the transport network and key critical infrastructure.	No increase in length of road and rail infrastructure at risk from flooding. No increase in number of infrastructure assets at risk from flooding. Increase or enhancement of current Green Infrastructure Assets in the area.	Length of road and rail infrastructure at risk from flooding. Number of key infrastructure assets at risk from flooding. Number of Green Infrastructure assets created or enhanced through implementation of the LFRMS.
Climate Change	8	Minimise local and national contribution to climate change.	Minimise short-term carbon and reduce long-term emissions by preferencing low carbon and carbon neutral solutions.	Carbon dioxide equivalent emissions (CO_2e) associated with flood management schemes. Use of nature-based solutions which sequester carbon.

7 Potential Environmental Effects and Summary of Scope

7.1 Developing Alternatives

The SEA Regulations require an assessment of the plan and its 'reasonable alternatives'. To assess reasonable alternatives, different strategy options for delivering the LFRMS have been considered and assessed at a strategic level against the SEA objectives (see Table 6 2 and environmental baseline. The results of this assessment will be used to inform the decision-making process in choosing a preferred way of delivering the LFRMS.

7.2 Appraisal of Reasonable Alternatives

The LFRMS has the purpose of managing and reducing local flood risk in the study area. A high-level review of the options against the SEA Objectives was undertaken in the form of a simple matrix for each of the following options:

- **Do nothing**: where no action is taken, and existing assets and ordinary watercourses are abandoned.
- **Do minimum - maintain current Monmouthshire Local Flood Risk Management Strategy (2013)**: existing assets and watercourses are maintained as present in line with the existing local flood risk management plan as an alternative to preparing a new one. Existing infrastructure is not improved over time and the effects of climate change are not considered.
- **Manage and reduce local flood risk**: take action to reduce the social, economic, and environmental impact due to flooding through the preparation of a new LFRMS.

Table 7-1 compares all three strategy options against each of the SEA objectives.

Table 7-1: Assessment of the Strategy and alternative options against the SEA Objectives.

SEA Objectives		Do Nothing	Do Minimum: maintain current LFRMS	Manage and Reduce Flood Risk
1	Protect the integrity of local, urban, and rural landscapes in the area.	Potential negative effect resulting from no management that could adversely impact sensitive landscape character. Locally important landscape features, including those identified within the NLCAs, would likely be exposed to damage and deterioration through increased exposure to flood risk.	Little change to baseline in the short to medium term. However, in the future, because of climate change and increasing flood risk, adverse impacts on local landscapes may arise.	Potential for managing and promoting this objective through sensitively designed flood risk management schemes which enhance local landscape character, such as natural flood management.
2	Maintain and enhance biodiversity, wildlife, and habitat connectivity.	Potential for both adverse and beneficial impacts. For example, abandonment of assets may allow for the development of more natural watercourses and wetland habitat creation/ enhancement through increased inundation. However, there could be an increased risk of spreading of non-native invasive species through flooding; deterioration of existing wildlife corridors; and detrimental impacts on habitats intolerant of increased inundation.	Little / no change to baseline levels in the short to medium term. However, because of increased flooding in the future due to climate change, new habitats may be created, or existing wetland habitats enhanced. Habitats intolerant of increased inundation or changes in water quality may be adversely affected.	Potential for both adverse and beneficial impacts from active management. Opportunities may arise to enhance biodiversity and notable habitats within the area through the implementation of measures to reduce local flood risk, for example: natural flood management measures, improvements to fish passage; encouraging appropriate management of watercourses by riparian landowners; and undertaking watercourse maintenance.

SEA Objectives		Do Nothing	Do Minimum: maintain current LFRMS	Manage and Reduce Flood Risk
3	Protect and enhance the quality of water features.	Potential for both adverse and beneficial impacts. Abandonment of drainage infrastructure including flood risk could result in increased likelihood of contamination. However, reduced intervention may allow natural water features to establish and reduce the heavily modified nature of the water course.	Little / no change to baseline levels. However, potential deterioration of water quality during flooding incidents.	Potential for both adverse and beneficial impacts. Opportunities may arise to enhance water quality and improve WFD status, through the implementation of measures to reduce local flood risk, for example: natural flood management measures; encouraging appropriate management of watercourses by riparian landowners; and undertaking watercourse maintenance.
4	Maintain soil quality and conserve geological designations.	Potential negative effect resulting from increased erosion of soils because of increased flooding and no management of land contamination risks and subsequent effects.	Little / no change to baseline in the short to medium term. However, in the future, because of climate change, adverse impacts may arise through erosion and land contamination from increased flooding.	Potential for managing and promoting this objective through reduced flood risk, which will help to protect the Council area's soil resource from erosion and its quality.
5	Preserve and where possible enhance important historic and cultural sites.	Heritage assets will likely be exposed to damage and deterioration through increased exposure to flood risk.	Little / no change to baseline in the short to medium term. However, in the future, important heritage assets may be exposed to increased flooding and damage due to climate change.	Potential for both adverse and beneficial impacts from active management. For example, beneficial through increased protection of vulnerable heritage assets or reduced inundation resulting in the desiccation of buried archaeology. Adverse impacts on the setting of the

SEA Objectives		Do Nothing	Do Minimum: maintain current LFRMS	Manage and Reduce Flood Risk
				heritage asset can arise from flood alleviation schemes.
6	Protect and enhance human health and wellbeing.	Increased exposure to flood risk from a combination of no management and climate change. This could lead to a greater number of people and their properties at risk of flooding, causing greater damage and disruption, increases in social exclusion, deprivation, and health risks.	No improvements to health and well-being as existing flood risk schemes are maintained but the risk may increase in the future due to climate change.	Active management to reduce local flood risk should help to protect residential properties and key social infrastructure services from flooding. This has the potential to create a range of social benefits including reducing associated health impacts and social deprivation.
7	Minimise the impacts of flooding on the transport network and key critical infrastructure.	This option is likely to result in increased flood risk to key infrastructure, which would cause significant disruption to the county, impacting on human and economic activity, and the environment.	Maintains the current flood risk levels, although this risk may increase in the future due to climate change.	Managing and reducing local flood risk will minimise the impact of flooding on roads, railways, and other infrastructure assets. This will reduce disruption during flood events and enable a more effective response.
8	Minimise local and national contribution to climate change.	Increased exposure to flood risk may result in increased emissions locally. For example, from emissions associated with the recovery effort following flood events.	Little / no change to baseline levels in the short to medium term. However, future climate change and associated increased flood risk, may lead to an increase in emissions following flood events.	Potential for negative impacts if management is carried out using hard engineering approaches which contribute embodied carbon. Potential for management through low carbon measures such as natural flood management.

The assessment detailed in Table 7-1 indicates that Option 1 (do nothing) is likely to result in several significant adverse impacts, particularly in relation to people and property, and other environmental assets including heritage assets and biodiversity, where increased flooding may create new pathways for the spread of INNS. Surface water and groundwater quality could also be adversely affected, with increased flooding of contaminated sites leading to greater impacts on water quality. Given it is a statutory requirement under the Flood Management Act for the LLFA to maintain a strategy for local flood risk management in Monmouthshire, it is not an appropriate option to pursue.

Option 2, maintaining the current LFRMS (2013), is likely to result in little or no change in the environmental baseline in the short to medium term as the existing flood risk strategy would maintain existing levels of flood protection. However, because of climate change, flood risk will increase, resulting in many of the impacts identified under Option 1, although potentially to a lesser extent and significance. Whilst the existing LFRMS meets the statutory requirements for a flood plan, it does not take into consideration updates to the national strategy and improved knowledge and understanding of flood risk in Monmouthshire and how it can be managed, and is therefore not an appropriate option to pursue.

Option 3 requires the preparation of a new plan and has the potential to provide a range of environmental benefits. If designed and implemented appropriately, this could include reducing flood risk to people and property, contributing to the protection of heritage assets and improvements in water quality, and providing new opportunities for habitat creation and the provision of recreation and amenity assets. However, if implemented in an inappropriate manner, this could result in adverse effects on a range of environmental features. This risk is managed through the preparation of this SEA and through the correct application of the strategy, and associated policies and guidance, which is likely to require consideration of the sustainability of a project prior to its implementation. Therefore, it is evident that by doing nothing or maintaining existing management strategies, there are likely to be detrimental effects on the SEA objectives, which are likely to be prevented by carrying out active management measures as detailed in the LFRMS.

8 Appraisal of LFRMS Objectives and Actions to Improve Flood Risk

8.1 Appraisal

The LFRMS comprises a framework of eight objectives covering the main ways in which local flood risk is managed in Monmouthshire.

These are strategic objectives implemented through the actions detailed in the Strategy's action plan. The objectives and action plan measures have been compared against the SEA objectives to assess the potential effects and to understand how the Plan considers and protects the environment, ensuring the principles of sustainability.

8.2 Impact Significance

The appraisal seeks to identify significant effects as required by the SEA Regulations and sets out potential mitigation measures (potential improvements), as detailed in Section 8.5.

The degrees of significance for an effect have been considered. Table 8-1 below lists the five significance categories that have been used to determine effects of the LFRMS.

The unmitigated impacts of the LFRMS Actions on achieving the SEA objectives will be identified through the analysis of the baseline environmental conditions and use of professional judgement. The significance of effects will be scored using the five-point scale summarised in Table 8-1 below. If there is high uncertainty regarding the likelihood and potential significance of an impact (either positive or negative), it will be scored as uncertain.

Table 8-1: Impact significance key.

Impact Significance	Impact Symbol	Description
Significant positive impact	++	Significantly beneficial to the SEA objective -multiple opportunities for environmental improvement or resolves existing environmental issue.
Minor positive impact	+	Partially beneficial (not significant) to the SEA objectives – contributes to resolving an existing environmental issue or offers some opportunities for improvement.
Neutral impact	O	Neutral effect on the SEA objective and environment.
Minor negative impact	-	Partially undermines (not significantly) the SEA objective –would contribute to an environmental issue or reduce opportunities for improvement.
Significant negative impact	--	Significantly undermines the SEA objective – will significantly contribute to an environmental problem or undermine opportunity for improvement.
Uncertain impact	?	Insufficient detail on the option or baseline – cannot effectively assess the significance of the strategy objective on the SEA objective.

8.3 Assessment Approach

The LFRMS objectives and actions have been evaluated in light of their potential cumulative, synergistic, direct and indirect environmental effects on the different SEA receptors selected for further assessment. The assessment of these environmental effects has been informed by the baseline data collected at the scoping stage, professional judgement and experience with other water level management and flood risk related SEAs, as well as an assessment of national, regional and local trends. In some cases, the assessment has drawn upon mapping data and GIS to identify areas of potential pressure, for example due to presence of environmental designations.

Throughout the assessment the following will apply:

- Positive, neutral and negative impacts will be assessed, with uncertain impacts highlighted;
- The duration of the impact will be considered over the short, medium and long term;
- Consideration of whether the impact would be direct on a receptor or indirect;
- The reversibility and permanence of the impact will be assessed. For example, temporary construction impacts, such as during decommissioning pumping stations; impacts which can be mitigated against / restored over time such as altered drainage pressures; or completely irreversible changes to the environment; and
- In-combination effects.

The significance of effects upon each of the SEA objectives will then be evaluated and used to inform option selection.

8.4 Limitations and Assumptions

Many of the actions focus on specific locations and only some of the LFRMS actions are high-level and do not include the scale and/or implementation methods. As such, these assessments are based upon a high-level understanding of the individual actions.

It is assumed that actions will be undertaken in accordance with local and national policies, and to best practice guidance.

8.5 Assessment

The assessment of the LFRMS objectives against the SEA objectives are shown below in Table 8-2. The assessment of the overarching Monmouthshire flood risk actions and the actions for each strategic flood risk area are shown in Table 8-3 and Table 8-4 respectively.

Cumulative effects of the actions against the SEA objectives are shown in Table 8-5.

These are qualitative assessments that identify the range of potential effects that the LFRMS may have on delivering the SEA objectives.

Table 8-2: Assessment of LFRMS Objectives and SEA Objectives.

	LFRMS Objective	1	2	3	4	5	6	7	8	Comments
1	Reduce the risk and impact of flooding to people and property.	+	+	+	+	+	++	++	+	This objective seeks to positively benefit population and human health and material assets significantly through reduced flood risk. The impact upon the remaining SEA objectives is unclear as impacts will vary due to the type of management implemented. However, it is assumed that effective management will utilise an increased understanding of flood risk in Monmouthshire and consider the existing environmental baseline to positively contribute to all the SEA objectives.
2	Reduce disruption to critical infrastructure and essential services resulting from flooding.	O	O	O	O	O	++	++	O	This objective should positively benefit population and human health and material assets through improved resilience to flood events which may minimise impacts of flooding on communities and infrastructure. There will also be benefits through support provided during and in recovery from flood events. These measures are likely to significantly enhance human health and wellbeing. This objective will have neutral effects for the rest of the SEA objectives as there are no direct links with the topic they cover.
3	Ensure a risk based and sustainable approach to investment and delivery of flood risk management activities.	+	+	+	+	+	+	+	+	This objective should positively benefit population and human health and material assets through reduced flood risk and improved resilience in communities. However, conducting cost-effective flood management solutions could mean that some communities are favoured over others and the LFRMS must ensure that consideration is given to all communities and social infrastructure. Analysis of available data to inform appropriate selection of flood risk management measures would have the

	LFRMS Objective	1	2	3	4	5	6	7	8	Comments
										potential to positively contribute to the SEA objectives. For example, through the implementation of natural flood management or sustainable drainage systems there may be opportunities for habitat creation and improvements to water quality.
4	Ensure flood resilience at environmentally significant and sensitive sites of national, regional, and local importance is maintained and enhanced where possible.	+ +	+ +	+ +	+ +	+ +	+	+	+	This objectively seeks to positively benefit landscape, biodiversity, water quality, heritage, and geology and soils by ensuring flood resilience of environmentally sensitive sites. The impact upon population and human health, and material assets is unclear. However, it is assumed that the risk-based approach and consideration of the LFRMS Objectives 1 and 2, will ensure people and infrastructure are protected and climate change resilience is safeguarded. Through this objective, the LLFA can maximise opportunities for nature-based solutions which will have direct, long-term benefits to ecological receptors and will also likely lead to improvements in water quality, along with sequestering carbon. Implementation of nature-based solutions may also have indirect positive effects on all SEA objectives.
5	Support the Water Framework Directive by preventing deterioration of watercourses and improve water quality.	+	+ +	+ +	+	+	+	+	+	This objective will ensure that the water bodies in the area are enhanced and / or do not deteriorate which will have direct benefits for the water environment and ecology and will indirectly benefit several SEA objectives.

	LFRMS Objective	1	2	3	4	5	6	7	8	Comments
6	Continue to improve understanding of flood risk and the impact of climate change within Monmouthshire.	+	+	+	+	+	+	+	+	This objective should promote better flood management in the area through developing a better understanding of areas at risk of flooding and why. This has the potential to have direct long-term positive benefits on population and human health and material assets by improving resilience to future flooding. There is also potential for there to be direct benefits to other receptors including biodiversity, landscape, historic environment, water environment, geology and soils and climate if a strong understanding of local flood risk is achieved and appropriate flood management measures are implemented to facilitate environmental enhancements.
7	Raise awareness of flood risk amongst individuals and communities and support them to prepare for, respond to and recover from flood events.	+	+	+	+	+	++	++	+	Enhancing community preparedness and resilience to flooding will reduce the impact of flooding on communities and allow them to respond more effectively to flood events. This will lead to increased community health and wellbeing and enable measures to be taken to protect infrastructure.
8	Work collaboratively with other Risk Management Authorities and organisations to effectively manage flood risk.	+	+	+	+	+	+	+	+	Developing and implementing integrated approaches to flood management, incorporating input from multiple stakeholders will lead to benefits for all SEA objectives

Table 8-3: Assessment of Monmouthshire Flood Actions against SEA Objectives.

Action Ref.	LFRMS Action	1	2	3	4	5	6	7	8	Comments
Mon 1	Investigate and record flooding incidents from all sources appropriately, including producing and publishing Section 19 Flood Reports where appropriate, and use this information to inform future investigations and LLFA consultations.	+	+	+	+	+	+	+	+	This action should promote better flood management in the area through developing a better understanding of appropriate measures for each source of flooding. This has the potential to have direct long-term positive benefits on population and human health and material assets by improving resilience to future flooding. There is also potential for there to be direct, long-term benefits to other receptors including biodiversity, landscape, historic environment, water environment, geology and soils and climate if a strong understanding of local flood risk is achieved and appropriate flood management measures are implemented to facilitate environmental improvements.
Mon 2	Review MCC's flood investigation and reporting procedures and provide appropriate training to staff involved in flood incident investigation and reporting functions.	O	O	O	O	O	+	+	O	Supporting flood investigation and reporting training and education will ensure the relevant people are equipped to maintain flood management schemes, and prepare for, and respond more effectively, to future flood events.
Mon 3	Work with communities at risk of flooding from ordinary watercourses, groundwater and surface water runoff, to promote awareness and resilience, including property flood resilience	O	O	O	O	O	++	+	O	Enhancing community preparedness and resilience to flooding will reduce the impact of flooding on communities and allow them to respond more effectively to flood events. This will lead to increased community health and wellbeing and enable measures to be taken to

Action Ref.	LFRMS Action	1	2	3	4	5	6	7	8	Comments
	measures.									protect infrastructure.
Mon 4	Maintain a long-term capital pipeline of flood alleviation schemes in areas which have experienced significant incidents or at high risk.	+	+	+	+	+	+	+	-	Progressing the delivery of a pipeline of flood alleviation schemes will result in reduced risk to the local community for the benefit of population, human health and material assets. At a strategic level, appropriate appraisal, assessment and design from the outset will ensure that the works promote positive impacts for all SEA objectives through developing a full understanding of the environment and identifying opportunities for natural flood management, biodiversity net gain, and green infrastructure. However, a long term capital pipeline suggests the potential for significant infrastructure additions and embodied carbon.
Mon 5	Develop an effective way of ranking priority flood alleviation schemes to ensure funding is directed to areas most at risk.	+	+	+	+	+	+	+	+	This measure will direct funding towards the most at risk areas. This should help reduce the magnitude and likelihood of flooding and will have positive benefits to population and human health and material assets.
Mon 6	Cooperate with NRW as the Risk Management Authority (RMA) for main river flooding in regard to the development and delivery of flood schemes on main rivers.	+	+	+	+	+	+	+	+	Effective collaboration in developing and implementing flood protection schemes along main river and, incorporating input from multiple stakeholders will have benefits for population and material assets, and will likely lead to indirect benefits for all SEA objectives.
Mon 7	Work with Risk Management Authorities, land managers and the	+	++	++	+	+	++	+	++	Supporting use of nature-based solutions will have direct benefits to the ecological receptors

Action Ref.	LFRMS Action	1	2	3	4	5	6	7	8	Comments
	community to identify opportunities to incorporate natural flood management within Monmouthshire.									and ecological status of waterbodies of which most are 'moderate', by potentially creating enhanced habitats. Natural flood management would also sequester carbon. Reduction in flood risk will have an indirect positive effect on landscape, cultural assets, material assets and climate change. Working with communities and landowners will have a positive benefit for population by increasing community understanding and resilience.
Mon 8	In accordance with Section 21 FWMA, maintain the register of structures or features which, in the opinion of MCC as the LLFA, are likely to have a significant effect on a flood risk in Monmouthshire.	O	O	O	O	O	O	O	O	Maintaining asset data will not have any identified direct effect on SEA objectives, however this action should promote better flood management in the area, particularly if there is a focus on assets which have a significant effect upon local flood risk.
Mon 9	Review MCC's Culverting Policy to ensure alignment with best practice.	O	O	O	O	O	O	O	O	Reviewing Culverting Policy will not have any identified direct effect on SEA objectives, however, it may in the long-term positively benefit all the SEA objectives, particularly material assets and water quality, through improvements to culverts.
Mon 10	Improve and maintain MCC's network of CCTV monitoring stations on critical culverts.	O	O	+	O	O	+	+	O	This action will help prevent blockages and ensure continued maintenance of culverts in order to avoid exacerbating flooding in high rainfall events, which has the potential to benefit water quality, population and human health, and material assets.

Action Ref.	LFRMS Action	1	2	3	4	5	6	7	8	Comments
Mon 11	Establish responsibility for the management of flood risk from key watercourses, flood assets and drainage infrastructure where ownership is unclear and record on the Highways and Flood Management asset database.	O	O	O	O	O	O	O	O	Establishing a responsibility framework for assets will not have any identified direct effect on SEA receptors, however, it may in the long-term positively benefit all the SEA receptors, particularly material assets and water quality.
Mon 12	Identify, map and risk assess all significant ponds and small reservoirs within Monmouthshire, to inform future inspections, maintenance and flood risk management.	O	O	O	O	O	O	O	O	Risk mapping will not have any identified direct effects on the SEA objectives; however, the action should increase understanding of flood risk (including flood risk form reservoirs). The results will inform better flood management which may lead to indirect benefits to multiple SEA objectives.
Mon 13	Develop and maintain the pro-active routine Land Drainage Inspection schedule and undertake inspections as required.	O	O	O	O	O	O	O	O	This action does not have any identified direct effect on SEA receptors, however, it may in the long-term positively benefit all the SEA receptors through the consistent upkeep of drainage infrastructure. However, the regime has the potential for negative impacts to biodiversity from practices such as dredging and vegetation clearance, should these be required.

Action Ref.	LFRMS Action	1	2	3	4	5	6	7	8	Comments
Mon 14	Review existing inspection and maintenance practices of MCC highway drainage infrastructure to ensure areas at high flood risk are considered appropriately.	O	O	O	O	O	O	O	O	Reviewing existing practices will not have any identified direct effect on SEA receptors, however, it may in the long-term positively benefit all the SEA receptors, particularly material assets, through improvements to highway drainage.
Mon 15	Identify priority locations for more intensive ongoing maintenance and condition monitoring activities within the MCC Highways drainage network.	O	O	+	O	O	O	+	O	Continuing to maintain highway drainage assets will have positive benefits to material assets as a result of minimising surface water flooding impacts on infrastructure, including highways. This action will also have a positive impact upon water quality as a result of attenuation of highway runoff. However, the regime has the potential for negative impacts from practices such as dredging and vegetation clearance, should these be required.
Mon 16	Provide efficient responses to flooding incidents and emergency recovery following a flood incident.	O	O	O	O	O	+	O	O	Immediate flood recovery response will help reduce the impact of flooding on communities and allow them to respond more effectively to flood events. This will lead to increased community health and wellbeing and enable measures to be taken to protect infrastructure.
Mon 17	Provide support to communities looking to establish local flood groups and community flood plans to improve local resilience to flooding, with support from other Risk Management Authorities as required.	O	O	O	O	O	++	+	O	Enhancing community preparedness and resilience to flooding will reduce the impact of flooding on communities and allow them to respond more effectively to flood events. This will lead to increased community health and wellbeing and enable measures to be taken to

Action Ref.	LFRMS Action	1	2	3	4	5	6	7	8	Comments
										protect infrastructure.
Mon 18	In coordination with other Risk Management Authorities and related organisations, develop a programme of community engagement events in areas most at risk from flooding in Monmouthshire, to raise awareness and provide appropriate advice and guidance to residents and businesses alike.	O	O	O	O	O	++	+	O	Increasing community awareness of, and how to prepare for, flooding will reduce the impact of flooding on communities and allow them to respond more effectively to flood events. This will lead to increased community health and wellbeing and enable measures to be taken to protect properties and business prior to flood events occurring.
Mon 19	Review MCC's current sandbagging arrangements and update the current Sandbag Policy, covering how sandbags are procured and deployed by all relevant Council departments.	O	O	O	O	O	O	O	O	Reviewing sandbagging policy will not have any identified direct effect on SEA receptors, however, it may in the long-term positively benefit all the SEA receptors, particularly material assets, population and climate change through increased resilience to flood events.
Mon 20	Undertake a review and update the LFRMS Action Plan, including the Actions associated with the nine Strategic Flood Risk Areas, every three years or as required.	+	+	+	+	+	+	+	+	Reviewing this action plan will continue to grow knowledge of the causes of flooding across Monmouthshire and will ensure the continued success of this action plan. Through gaining an understanding of the actions which are working, and which require review, this will promote better flood management in the area over the long-term and have indirect benefits to the SEA objectives.
Mon 21	Maintain and develop MCC's Corporate Flood Response Arrangements plan and procedures	O	O	O	O	O	+	+	O	Maintaining MCC's Corporate Flood Response Arrangements plan will not have any identified direct effects on the SEA objectives. However,

Action Ref.	LFRMS Action	1	2	3	4	5	6	7	8	Comments
										increasing awareness of planned responses will have a positive outcome for population and human health and material assets.
Mon 22	Review and maintain the Flood Risk Management and Emergency Planning web pages on MCC's website, to ensure information on flood risk is up to date and clearly accessible.	O	O	O	O	O	++	+	O	Keeping the public up to date with accessible flood risk and emergency response information will contribute to local wellbeing and the protection of residential receptors and infrastructure. This will not have any identified direct effect on most SEA receptors. However, this action should promote better understanding of flood risk and management in the area and keep the community informed of flooding issues.
Mon 23	Review and update MCC's flood risk advisory leaflets and information in respect of measures to take before, during and after a flood event and publish on MCC's Flood Risk Management webpages.	O	O	O	O	O	++	+	O	Updating advisory information will promote awareness of flood risk and understanding of response plans. This will not have any identified direct effect on most SEA receptors. However, this action should directly promote better understanding of flood risk and management plans in the area and should promote direct engagement of the community in flooding issues.

Action Ref.	LFRMS Action	1	2	3	4	5	6	7	8	Comments
Mon 24	Review MCC's communication practices during severe weather events and establish a Communication Strategy that will ensure MCC delivers clear, consistent and coordinated communication on flood risk; prior to, during and after such events.	O	O	O	O	O	++	+	O	Providing appropriate and immediate flood support will help communities recover after flooding and respond more effectively to future flood events, leaving them less vulnerable to further events in the future.
Mon 25	Maintain existing Site Specific Flood Response Arrangements Plans for high risk areas and develop new plans as required.	O	O	O	O	O	+	+	O	Maintaining exisiting flood response plans will not have any identified direct effect on SEA receptors, however this action should promote better flood management in the high risk sites. This action will ensure areas which have experienced significant flood events are protected and should have direct long-term benefits on population, human health and material assets by decreasing the vulnerability of these areas.
Mon 26	Undertake an assessment of flood risk to caravan parks across Monmouthshire and liaise with owners to ensure suitable plans are in place.	O	O	O	O	O	+	+	O	Liaising with owners will promote awareness of flood risk and understanding of response/risk. This will not have any identified direct effect on most SEA receptors. However, this action should promote better understanding of flood risk in the area and should promote direct engagement of the community in flooding issues.
Mon 27	Work with Welsh Government and other Risk Management Authorities to	+	+	+	+	+	O	O	++	Supporting the implementation of Schedule 3 for the implementation of sustainable drainage

Action Ref.	LFRMS Action	1	2	3	4	5	6	7	8	Comments
	support the implementation of the recommendations of the 'Sustainable Drainage Systems (SuDS) Schedule 3 Post Implementation Review May 2023'.									would indirectly positively impact on several SEA objectives. The implementation of sustainable drainage measures would be beneficial for heritage sites, biodiversity, water quality and amenity improvements along with carbon sequestration and the maintenance of soil quality.
Mon 28	Develop a guidance document for the production of Drainage Statements which will be required for future planning applications subject to the requirement of SAB approval.	+	+	+	+	+	+	+ +	+ +	Developing guidance for pre-applications should result in early consideration of flood risk and drainage in development proposals and should result in benefits to human and material receptors by ensuring that developments appropriately consider flood risk management measures. Implementation of green infrastructure and SUDs would also have direct beneficial impacts on biodiversity and visual amenity (landscape). Use of SUDS may also improve water quality by reducing the transport of pollution to the water environment.
Mon 29	Undertake an annual review of the SAB Pre-Application process to ensure appropriate fees are set and that the service meets the needs of Applicants.	+	+	+	+	+	+	+ +	+ +	Reviewing pre-application arrangements should result in early consideration of flood risk and drainage in development proposals and would result in benefits to human and material receptors by ensuring that developments appropriately consider flood risk management measures. Implementation of green infrastructure and SuDs would also have direct beneficial impacts on biodiversity and visual amenity (landscape), particularly when

Action Ref.	LFRMS Action	1	2	3	4	5	6	7	8	Comments
										implemented in rural areas which have poor access to green space and in line with Monmouthshire's Green Infrastructure strategy (2024). Use of SuDS may also improve water quality by reducing pollution pathways to the water environment.
Mon 30	Support other MCC departments to introduce opportunities for sustainable drainage systems within their own schemes or maintenance works.	+	+	+	+	+	+	+ +	+ +	Embedding SuDS into the Council's schemes will help contribute to reduced flood risk while also improving water quality and green infrastructure. This action has the potential to positively benefit all SEA objectives and indirectly benefit heritage through protection from flooding.
Mon 31	Review MCC's Ordinary Watercourse Consenting procedure and update the 'Application Form Guidance Notes' document to align with best practice.	O	O	O	O	O	O	O	O	Updating procedures and guidance for Ordinary Watercourse Consents will not have any identified direct effect on SEA receptors, however, it may in the long-term positively benefit all the SEA receptors through improving awareness and mitigation of potential flood incidents / drivers during works in ordinary watercourses.

Action Ref.	LFRMS Action	1	2	3	4	5	6	7	8	Comments
Mon 32	Establish an Enforcement Policy encompassing all of MCC's statutory functions and permissive powers under the LDA, including the powers afforded by the Land Drainage Act and Schedule 3 of the FWMA.	?	?	O	O	?	+	+	O	Establishing enforcement policy will not have any identified direct effect on SEA receptors, however, it may benefit the infrastructure and population SEA receptors through faster action to address causes of flood risk. However, it could undermine opportunities for environmental improvements if works are undertaken without appropriate environmental considerations required through the consenting process such as archaeology, biodiversity and landscape (amenity). It is noted that 61B of the LDA puts emphasis on authorities to consider the conservation and enhancement of these topics, and so there is also the potential for positive effects. However, the details of this are unknown at this stage.
Mon 33	Consider formal adoption of the 'Land Drainage (Wales) Byelaws' to provide MCC as Land Drainage Authority additional powers to manage local flood risk.	?	?	O	O	?	+	+	O	Formal adoption of the Bylaws will not have any identified direct effect on SEA receptors; however, it may positively benefit infrastructure and population through faster action to address causes of flood risk. However, it could undermine opportunities for environmental improvements if works are undertaken without appropriate environmental considerations required through the consenting process such as archaeology, biodiversity and landscape (amenity). It is noted that 61B of the LDA puts emphasis on authorities to consider the conservation and enhancement of these topics,

Action Ref.	LFRMS Action	1	2	3	4	5	6	7	8	Comments
										and so there is also the potential for positive effects. However, the details are unknown at this stage.
Mon 34	Develop mobile digital capability to enable use of digital tablets and mobile phones to record inspections, investigations and maintenance works, which can then be uploaded directly into the Highways and Flood Management asset database.	O	O	O	O	O	O	+	O	Upgrading the digital capability for inspections, investigations and maintenance will not have any direct effect on SEA objectives, keeping the asset database as up to date as possible will help direct funding and maintenance work to the most at risk assets, as well as help plan for flood events.
Mon 35	Consider the need for a policy for the designation of structures significant to flood risk under Section 1 of the FWMA.	O	O	O	O	O	O	O	O	Considering new policy will not have any identified direct effect on SEA receptors, however, it may in the long-term positively benefit all the SEA receptors, particularly material assets and heritage.
Mon 36	Undertake a review of coastal erosion and flood risk and record details of coastal flood assets including standard of protection, crest levels, ownership, maintenance responsibility etc. on the Highways and Flood Management asset database.	O	O	O	O	O	O	+	O	Collecting and maintaining coastal flood asset data will not have any identified direct effect on SEA receptors, however increasing knowledge on flood risk and coastal erosion should promote better flood and coastal management, particularly if there is a focus on assets which are not meeting a suitable standard of protection, and direct upgrades to the most at risk areas, which will contribute to achievement of material assets objective.

Table 8-4: Assessment of SFRA Flood Actions against SEA Objectives.

Action Ref.	SFRA Action	1	2	3	4	5	6	7	8	Comments
Honddu Strategic Flood Risk Area										
Honddu 1	Flood Risk Assessment Undertake a catchment wide assessment of flood risk to identify properties, businesses and infrastructure at greatest risk of flooding from local sources and identify mitigation options.	O	O	O	O	O	+	+	O	Undertaking an assessment of flood risk will not have any identified direct effects on the SEA objectives; however, the action should increase understanding of flood risk in the area (particularly flood risk to sensitive receptors) and will contribute towards the achievement of protecting key infrastructure and properties. The results will inform better flood management which may lead to indirect benefits to multiple SEA objectives.
Honddu 2	Pandy Identify and review options to reduce known flood risk from local sources.	?	?	?	?	?	+	+	+	Reviewing options to reduce flood risk will not have any identified direct effects on the SEA objectives; however, the action should increase understanding of flood risk in Pandy (including flood risk to sensitive receptors). The results will inform better flood management which may lead to indirect benefits to multiple SEA objectives. However, the exact project location, physical works to install, manage and maintain flood assets are unknown and may have adverse impacts on designated sites (e.g., SSSIs and ASAs), watercourses and soils in the proximity of the works. There is the potential that works will promote positive impacts for these receptors through managing water within the locality for their benefit and the modelling could

Action Ref.	SFRA Action	1	2	3	4	5	6	7	8	Comments
										result in heritage assets being better protected.
Honddu 3	Cwmyoy Consider culvert replacement / improvements options at the C1.4/C1.6 Junction near Perth y Crwn Farm.	?	?	?	?	?	+	+	+	Culvert replacement/improvements could lead to reduced risk and extent of flooding, contributing to the achievement of the material assets, population and climate SEA objectives. However, the exact project location, physical works to install, manage and maintain flood assets are unknown and may have adverse impacts on designated sites, watercourses and soils in the proximity of the works. There is the potential that works will promote positive impacts for these receptors through managing water within the locality for their benefit and the modelling could result in heritage assets being better protected.
Honddu 4	Llanthony Consider culvert replacement / improvement options on the R1 near New House Farm.	?	?	?	?	?	+	+	+	As above, culvert replacement/improvements could lead to reduced risk and extent of flooding, contributing to the achievement of the material assets, population and climate SEA objectives. However, the physical works to install, manage and maintain flood assets are unknown and may have adverse impacts on designated sites, watercourses and soils in the proximity of the works. There is the potential that works will promote positive impacts for these receptors through managing water within the locality for their benefit and the modelling could result in heritage assets being better protected.

Action Ref.	SFRA Action	1	2	3	4	5	6	7	8	Comments
Honddu 5	Natural Flood Management Develop and implement previously identified Natural Flood Management options across the Afon Honddu, Pandy catchments and discuss with land owners.	+	+ +	+ +	+ +	+	+	+	+ +	Delivering identified natural flood management options will have direct, long-term benefits to ecological receptors and will also likely lead to improvements in water quality, along with sequestering carbon. Implementation of natural flood management may also have indirect positive effects on landscape, cultural assets, amenity, population, human health, and material assets.
Monnow Strategic Flood Risk Area										
Monnow 1	Flood Risk Assessment Undertake a catchment wide assessment of flood risk to identify properties, businesses and infrastructure at greatest risk of flooding from local sources.	O	O	O	O	O	+	+	O	Undertaking an assessment of flood risk will not have any identified direct effects on the SEA objectives; however, the action should increase understanding of flood risk in the area (particularly flood risk to sensitive receptors) and will contribute towards the achievement of protecting key infrastructure and properties. The results will inform better flood management which may lead to indirect benefits to multiple SEA objectives.
Monnow 2	Rockfield Road/Watery Lane Junction, Monmouth - Property Flood Resilience Scheme Installation of PFR measures at properties identified as being at risk of flooding from local sources.	O	O	O	O	O	+	+	O	This measure will ensure that funding is directed towards the protection of the most at risk residential and commercial local receptors. This should help reduce the magnitude and likelihood of flooding and will have direct positive benefits to population and human health and material assets.

Action Ref.	SFRA Action	1	2	3	4	5	6	7	8	Comments
Monnow 3	Skenfrith Flood Alleviation Scheme Work closely with Natural Resources Wales to support their Business Case development and identify opportunities to reduce local flood risk.	?	?	?	?	?	+	+	+	Delivery of flood alleviation scheme in Skenfrith will result in reduced risk to local residents and businesses which have experienced flooding previously, such as the church, village hall, and local pub. This will therefore benefit population, human health, and material assets in the village. It may also be beneficial for sensitive receptors shown in the Environmental Constraints plans in Appendix A.3. However, the exact project details, physical works to install, manage and maintain the flood asset is unknown and may have adverse impacts on designated sites (both ecological and cultural), watercourses and soils in the proximity of the works. There is the potential that works will promote positive impacts for these receptors through managing water within the locality for their benefit.
Monnow 4	Road Closures Consider requirement for signage and/or physical barriers to close local roads during significant flooding, including the B4347 at Rockfield Church.	O	O	O	O	O	+	O	O	Road closures would not have any identified direct effect on the SEA objectives. Although it will not reduce the number of infrastructure assets at risk of flooding, it may reduce the risk of harm to local population by directing them away from flood prone areas.

Action Ref.	SFRA Action	1	2	3	4	5	6	7	8	Comments
Monnow 5	Grosmont Review flood risk at Poorscript Gardens and identify options to mitigate flood risk from local sources.	+ +	+	+	+	+ +	+ +	+	+	Grosmont is an important medieval garden and archaeological sensitive area. As such, actions to reduce flooding here will directly contribute to the achievement on the heritage, as well as the landscape and population objectives through the protection of greenspace. It will indirectly benefit all SEA objectives through reduced flood risk.
Monnow 6	Natural Flood Management Develop previously identified Natural Flood Management options across the Norton Brook, Skenfrith catchment and discuss with landowners.	+	+	+	+	+	+	+	+	Developing identified natural flood management options will have direct, long-term benefits to ecological receptors and will also likely lead to improvements in water quality, along with sequestering carbon. Previous flood events in this area led to significant disruption to the local community and residential properties, and should these be implemented, it will also have indirect positive effects on landscape, cultural assets, amenity, population, human health, and material assets.
Monnow 7	Natural Flood Management Develop and implement previously identified Natural Flood Management scheme at Kingswood, Monmouth and discuss with landowners.	+	+ +	+ +	+ +	+	+	+	+ +	Delivering identified natural flood management options will have direct, long-term benefits to ecological receptors and will also likely lead to improvements in water quality, along with sequestering carbon. Implementation of natural flood management will also have indirect positive effects on landscape, cultural assets, amenity, population, human health, and material assets.

Action Ref.	SFRA Action	1	2	3	4	5	6	7	8	Comments
Trothy Strategic Flood Risk Area										
Trothy 1	Flood Risk Assessment Undertake a catchment wide assessment of flood risk to identify properties, businesses and infrastructure at greatest risk of flooding from local sources.	O	O	O	O	O	+	+	O	Undertaking an assessment of flood risk will not have any identified direct effects on the SEA objectives; however, the action should increase understanding of flood risk in the area (particularly flood risk to sensitive receptors) and will contribute towards the achievement of protecting key infrastructure and properties. The results will inform better flood management which may lead to indirect benefits to multiple SEA objectives.
Trothy 2	Mitchel Troy Undertake an assessment of culvert capacities and flood risk from local sources including at Parc Pentre and along the Garthy Brook.	O	O	O	O	O	+	+	O	As above, undertaking an assessment of flood risk will not have any identified direct effects on the SEA objectives; however, the action should increase understanding of flood risk in Mitchel Troy and will contribute towards the achievement of protecting key infrastructure and properties. The results will inform better flood management which may lead to indirect benefits to multiple SEA objectives.
Trothy 3	Natural Flood Management Develop and implement previously identified Natural Flood Management schemes at Llantilio Crossenny, Dingestow and Mitchel Troy and discuss with landowners. Review potential for additional NFM measures at these locations.	+	+ +	+ +	+ +	+	+	+	+ +	Delivering and maximising opportunities at identified natural flood management locations will have direct, long-term benefits to ecological receptors and will also likely lead to improvements in water quality, along with sequestering carbon. Implementation of natural flood management will have indirect positive effects on landscape, cultural assets, amenity, population, human health, and material assets.

Action Ref.	SFRA Action	1	2	3	4	5	6	7	8	Comments
Wye Strategic Flood Risk Area										
Wye 1	Flood Risk Assessment Undertake a catchment wide assessment of flood risk to identify properties, businesses and infrastructure at greatest risk of flooding from local sources.	O	O	O	O	O	+	+	O	Undertaking an assessment of flood risk will not have any identified direct effects on the SEA objectives; however, the action should increase understanding of flood risk in the area (particularly flood risk to sensitive receptors) and will contribute towards the achievement of protecting key infrastructure and properties. The results will inform better flood management which may lead to indirect benefits to multiple SEA objectives.
Wye 2	Redbrook Road, Monmouth Consider options to reduce flood risk to properties and prevention of water flowing through the old railway embankment.	?	?	?	?	?	+	+	+	Options to reduce flood risk to properties could lead to reduced risk and extent of flooding, contributing to the achievement of the material assets, population and climate SEA objectives. However, the exact scale of physical works to reduce flood risk to properties are unknown and may have adverse impacts on designated sites, watercourses and soils in the proximity of the works. There is the potential that works will promote positive impacts for these receptors. The Railway Bridge is a Grade II Listed Building and therefore any works should be sensitive to its heritage as well as the River Wye SAC shown in the Environmental Constraints plan in Appendix A.9.

Action Ref.	SFRA Action	1	2	3	4	5	6	7	8	Comments
Wye 3	Tudor Road, Wyesham Construction of cut off ditch to prevent overland runoff affecting properties.	?	?	?	?	?	+	+	+	Construction of a cut off ditch could lead to reduced risk and extent of flooding, contributing to the achievement of the material assets, population and climate SEA objectives. However, the exact project location, physical works to install, manage and maintain flood assets are unknown and may have adverse impacts on designated sites (such as the Lower Wye Valley Landscape of Outstanding Historic Interest and River Wye SAC shown in the Environmental Constraints plan in Appendix A.9), watercourses and soils in the proximity of the works. There is the potential that works will promote positive impacts for these receptors through managing water within the locality.
Wye 4	Wye Bridge, Monmouth Consider viability over the provision and installation of a CCTV camera to remotely monitor debris accumulation levels on the Wye Bridge, Monmouth.	O	O	+	O	O	+	+	O	This action will help prevent blockages and ensure continued maintenance of Wye Bridge were needed, in order to avoid exacerbating flooding in high rainfall events, which has the potential to benefit water quality, population and human health, and material assets.
Wye 5	Llandogo Identify and implement options to reduce flood risk from blockages of the culvert inlet opposite the Sloop Inn.	O	O	+	O	O	+	+	O	As above, this action will help prevent blockages in order to avoid exacerbating flooding in high rainfall events, which has the potential to benefit water quality, population and human health, and material assets.
Wye 6	Tintern Property Flood	+	O	O	O	+	+	+	O	This action will help deliver resources to protect

Action Ref.	SFRA Action	1	2	3	4	5	6	7	8	Comments
	Resilience Working with other Risk Management Authorities, review viability of property flood resilience scheme for properties at risk from all sources of flooding.						+			properties. Improved community resilience will reduce the impact of flood events on population and human health, material assets, amenity and heritage, and will allow for faster recovery from floods.
Wye 7	Angidy Valley Catchment Study Undertake a detailed assessment of flood risk and potential mitigation options.	O	O	O	O	O	+	+	O	Undertaking an assessment of flood risk will not have any identified direct effects on the SEA objectives; however, the action should increase understanding of flood risk in the area (particularly flood risk to sensitive receptors) and will contribute towards the achievement of protecting key infrastructure and properties. The results will inform better flood management which may lead to indirect benefits to multiple SEA objectives.
Wye 8	Tintern River Gauge Consider viability of installing a river level gauge at Tintern to monitor tidal levels to aid road closure forecasting.	O	O	O	O	O	+	O	O	Installing a river gauge will not have any identified direct effect on most SEA objectives. However, it will aid in flood preparation and may reduce the risk of harm to local population by being able to warn and direct them away from flood prone areas.

Action Ref.	SFRA Action	1	2	3	4	5	6	7	8	Comments
Wye 9	Tintern Community Flood Plan Support the local community in developing a community flood plan.	O	O	O	O	O	++	+	O	Enhancing community preparedness and resilience to flooding will reduce the impact of flooding on communities and allow them to respond more effectively to flood events. This will lead to increased community health and wellbeing and enable measures to be taken to protect infrastructure.
Wye 10	Tintern Undertake a detailed survey of the Catbrook and consider potential works to reduce flood risk along Trellech Road, the A466 and properties at and adjacent to Fryers Row.	O	O	+	O	+	+	+	O	This action will help understand local flooding and target flood alleviation schemes for the benefit of all SEA objectives. Key receptors which would benefit from flood protection include Tintern ASA/Tintern Abbey, and the water quality of the River Wye as well as the registered historic landscape shown in the Environmental Constraints plan in Appendix A.9.
Wye 11	Natural Flood Management Develop previously identified Natural Flood Management options across the catchment of the Limekiln Brook, Tintern and discuss with landowners.	+	+	+	+	+	+	+	+	Developing identified natural flood management options will have direct, long-term benefits to ecological receptors and will also likely lead to improvements in water quality, along with sequestering carbon. Should these be implemented, it will also have indirect positive effects on landscape, cultural assets, amenity, population, human health, and material assets.

Action Ref.	SFRA Action	1	2	3	4	5	6	7	8	Comments
Olway Strategic Flood Risk Area										
Olway 1	Flood Risk Assessment Undertake a catchment wide assessment of flood risk to identify properties, businesses and infrastructure at greatest risk of flooding from local sources.	O	O	O	O	O	+	+	O	Undertaking an assessment of flood risk will not have any identified direct effects on the SEA objectives; however, the action should increase understanding of flood risk in the area (particularly flood risk to sensitive receptors) and will contribute towards the achievement of protecting key infrastructure and properties. The results will inform better flood management which may lead to indirect benefits to multiple SEA objectives.
Olway 2	Old Monmouth Road, Raglan Review culvert capacity and consider options to improve conveyance of the unnamed watercourse crossing the C28.9.	?	?	?	?	?	+	+	+	Culvert replacement/improvements could lead to reduced risk and extent of flooding, contributing to the achievement of the material assets, population and climate SEA objectives. However, the exact details are unknown and may have adverse impacts on designated sites, watercourses and soils in the proximity of the works. There is the potential that works will promote positive impacts for these receptors through managing water within the locality for their benefit and the modelling could result in heritage assets being better protected.

Action Ref.	SFRA Action	1	2	3	4	5	6	7	8	Comments
Olway 3	Chepstow Road, Usk Catchment Assessment Undertake a catchment assessment and record details of all surface water and land drainage features discharging into the Olway Brook at Chepstow Road, Usk on the Highways and Flood Management Asset Database.	O	O	+	O	O	+	O	O	Undertaking a catchment assessment will not have any identified direct effect on SEA receptors, however increasing knowledge on flood risk from surface water and land drainage features should promote better flood management, particularly if there is a focus on directing improvements to features which are resulting in significant effects, such as reduced water quality in the Usk Catchment, which will long term contribute to the achievement of most SEA objectives.
Olway 4	Natural Flood Management Develop previously identified Natural Flood Management options across the catchment of the Barton Brook, Raglan and discuss with landowners.	+	+	+	+	+	+	+	+	Developing identified natural flood management options will have direct, long-term benefits to ecological receptors and will also likely lead to improvements in water quality, along with sequestering carbon. Should these be implemented, it will also have indirect positive effects on landscape, cultural assets, amenity, population, human health, and material assets.
Olway 5	Natural Flood Management Develop previously identified Natural Flood Management options across the catchment of the Pill Brook east of Llangwm and discuss with landowners.	+	+	+	+	+	+	+	+	Developing identified natural flood management options will have direct, long-term benefits to ecological receptors and will also help maintain Pill Brook's 'Good' ecological status, along with sequestering carbon. Should these be implemented, it will also have indirect positive effects on landscape, cultural assets, amenity, population, human health, and material assets.

Action Ref.	SFRA Action	1	2	3	4	5	6	7	8	Comments
Olway 6	Natural Flood Management Develop previously identified Natural Flood Management options across the catchment of the Pontyrhydan Brook east of Raglan and discuss with landowners.	+	+	+	+	+	+	+	+	Developing identified natural flood management options will have direct, long-term benefits to ecological receptors and will also likely lead to improvements in water quality, along with sequestering carbon. Should these be implemented, it will also have indirect positive effects on landscape, cultural assets, amenity, population, human health, and material assets.
Usk Strategic Flood Risk Area										
Usk 1	Flood Risk Assessment Undertake a catchment wide assessment of flood risk to identify properties, businesses and infrastructure at greatest risk of flooding from local sources.	O	O	O	O	O	+	+	O	Undertaking an assessment of flood risk will not have any identified direct effects on the SEA objectives; however, the action should increase understanding of flood risk in the area (particularly flood risk to sensitive receptors) and will contribute towards the achievement of protecting key infrastructure and properties. The results will inform better flood management which may lead to indirect benefits to multiple SEA objectives.

Action Ref.	SFRA Action	1	2	3	4	5	6	7	8	Comments
Usk 2	Woodside, Llanbadoc, Usk Flood Alleviation Scheme Undertake detailed design and produce a Full Business Case for the preferred option identified in the completed Outline Business Case for managing flood risk from local sources.	?	?	?	?	?	+	+	+	Delivery of flood allevation scheme in Woodside will result in reduced risk to local residents and businesses for the benefit of population, human health, and material assets in the village. It may also be beneficial for sensitive receptors shown in the Environmental Constraints plans in Appendix A.8. However, the exact project details, physical works to install, manage and maintain the flood asset is unknown and may have adverse impacts on designated sites (both ecological and cultural), watercourses and soils in the proximity of the works. There is the potential that works will promote positive impacts for these receptors through managing water within the locality for their benefit.
Usk 3	Woodside, Llanbadoc, Usk Flood Alleviation Scheme Construction of the preferred option following completion of the Full Business Case and Detailed Design.	?	?	?	?	?	+	+	+	As above.

Action Ref.	SFRA Action	1	2	3	4	5	6	7	8	Comments
Usk 4	Usk Town Bridge Undertake a structural assessment of Usk Town Bridge parapet wall opposite Woodside Cottages.	O	O	O	O	+	O	+	O	This action will not have any identified direct effects on the SEA objectives; however, the action should increase understanding of impact of flood risk on a key infrastructure and heritage asset and will contribute towards the achievement of protecting key infrastructure and designated assets. The results may lead to indirect benefits to multiple SEA objectives.
Usk 5	Abergavenny Flood Risk Area Undertake an assessment of flood risk within the Flood Risk Area by Natural Resources Wales Preliminary Flood Risk Assessment.	O	O	O	O	O	O	O	O	Undertaking a flood risk assessment will not have any identified direct effect on the SEA objectives, however, it will help increase local flood risk knowledge.
Usk 6	Llanwenarth Community Flood Plan Support the local community in developing a community and/or individual flood plans.	O	O	O	O	O	++	+	O	Enhancing community preparedness and resilience to flooding will reduce the impact of flooding on communities and allow them to respond more effectively to flood events. This will lead to increased community health and wellbeing and enable measures to be taken to protect infrastructure.
Usk 7	Abergavenny Culverted Watercourses Investigate culverted watercourses through Abergavenny town, to identify and record location, construction detail, structural condition, ownership and maintenance	O	O	O	O	O	+	+	O	Investigating culverted watercourses will not have any identified direct effect on SEA receptors, however it should direct work towards assets more likely to increase flood risk and aid in the preparation for flood events for the benefit for infrastructure and local wellbeing. This action will long term help to contribute to the achievement of most SEA

Action Ref.	SFRA Action	1	2	3	4	5	6	7	8	Comments
	responsibility and record on the Highways and Flood Management Asset Database.									objectives. The River Usk through Abergavenny is a SAC containing Annex II species and any works would need to consider impacts on this habitat and species.
Usk 8	Monmouthshire and Brecon Canal Consider undertaking an assessment of overtopping and breach risk from the Monmouthshire and Brecon Canal.	O	+	O	O	O	+	+	+	Investigating overtopping will not have any identified direct effect on SEA receptors, however it should aid in the preparation for flood events, particularly if there is a focus on sections which have a significant effect upon local flood risk This action will long term help to contribute to the achievement of most SEA objectives, such as biodiversity as a key receptor adjacent to the canal which will benefit from reduced overtopping/breaching is Coed-y-person SSSI.
Usk 9	Road Closures Consider requirement for signage and/or physical barriers to close local roads during significant flooding, including the R64/R41 Llanarth junction, B4598 at Usk and Llanfihangel Gobion and the R110 Newbridge on Usk.	O	O	O	O	O	+	O	O	Road closures would not have any identified direct effect on the SEA objectives. Although it will not reduce the number of infrastructure assets at risk of flooding, it may reduce the risk of harm to local population by directing them away from flood prone areas.

Action Ref.	SFRA Action	1	2	3	4	5	6	7	8	Comments
Usk 11	Nant Iago, Llanwenarth Assess options to reduce flood risk from the Nant Iago upstream of the A40 crossing.	+	+	+	+	+	+	+	+	Reviewing options to reduce flood risk will not have any identified direct effects on the SEA objectives; however, the action should increase understanding of flood risk in Llanwenarth. The results will inform better flood management which may lead to indirect benefits to multiple SEA objectives.
Usk 12	Llanfair Kilgeddin Review previously identified options to reduce flood risk from local sources and consider viability of implementing a flood scheme.	?	?	?	?	?	+	+	+	Reviewing options to reduce flood risk will not have any identified direct effects on the SEA objectives; however, the action should increase understanding of flood risk in Llanfair Kilgeddin. The results will inform better flood management which may lead to indirect benefits to multiple SEA objectives. However, the exact project location, physical works to install, manage and maintain flood assets are unknown and may have adverse impacts on designated sites (such as the River Usk / Afon Wysg SSSI and SAC), watercourses and soils in the proximity of the works. There is the potential that works will promote positive impacts for these receptors through managing water within the locality for their benefit and the modelling could result in heritage assets being better protected.

Action Ref.	SFRA Action	1	2	3	4	5	6	7	8	Comments
Usk 13	Natural Flood Management Develop previously identified Natural Flood Management options across the catchment of the unnamed ordinary watercourse that runs along the western edge of Llanfair Kilgeddin.	+	+	+	+	+	+	+	+	Developing identified natural flood management options will have direct, long-term benefits to ecological receptors and will also likely lead to improvements in water quality, along with sequestering carbon. Should these be implemented, it will also have indirect positive effects on landscape, cultural assets, amenity, population, human health, and material assets.
Usk 14	Natural Flood Management Develop previously identified Natural Flood Management options across the Cibi Brook, Abergavenny catchment and discuss with landowners.	+	+	+	+	+	+	+	+	Developing identified natural flood management options will have direct, long-term benefits to ecological receptors and will also likely lead to improvements in water quality, along with sequestering carbon. Should these be implemented, it will also have indirect positive effects on landscape, cultural assets, amenity, population, human health, and material assets.
Usk 15	Natural Flood Management Develop previously identified Natural Flood Management options across the River Gavenny, Abergavenny catchment and discuss with landowners.	+	+	+	+	+	+	+	+	Developing identified natural flood management options will have direct, long-term benefits to ecological receptors and will also likely lead to improvements in water quality, along with sequestering carbon. Should these be implemented, it will also have indirect positive effects on landscape, cultural assets, amenity, population, human health, and material assets.
Usk 16	Natural Flood Management Develop previously identified	+	+	+	+	+	+	+	+	Developing identified natural flood management options will have direct, long-term

Action Ref.	SFRA Action	1	2	3	4	5	6	7	8	Comments
	Natural Flood Management options across the catchment of the unnamed ordinary watercourse upstream and to the west of Llanbadoc.									benefits to ecological receptors and will also likely lead to improvements in water quality, along with sequestering carbon. Should these be implemented, it will also have indirect positive effects on landscape, cultural assets, amenity, population, human health, and material assets.
Mounton Brook Strategic Flood Risk Area										
Mounton Brook 1	Flood Risk Assessment Undertake a catchment wide assessment of flood risk to identify properties, businesses and infrastructure at greatest risk of flooding from local sources.	O	O	O	O	O	+	+	O	Undertaking an assessment of flood risk will not have any identified direct effects on the SEA objectives; however, the action should increase understanding of flood risk in the area (particularly flood risk to sensitive receptors) and will contribute towards the achievement of protecting key infrastructure and properties. The results will inform better flood management which may lead to indirect benefits to multiple SEA objectives.

Action Ref.	SFRA Action	1	2	3	4	5	6	7	8	Comments
Mounton Brook 2	Mounton Identify and review options to reduce known flood risk from local sources.	?	?	?	?	?	+	+	+	Reviewing options to reduce flood risk will not have any identified direct effects on the SEA objectives; however, the action should increase understanding of flood risk in Mounton (including flood risk to sensitive receptors such as Mounton House Registered Park and Garden). The results will inform better flood management which may lead to indirect benefits to multiple SEA objectives. However, the exact project location, physical works to install, manage and maintain flood assets are unknown and may have adverse impacts on the Mounton House Listed Buildings, watercourses (e.g., Mounton Brook) and soils in the proximity of the works. There is the potential that works will promote positive impacts for these receptors through managing water within the locality for their benefit and the modelling could result in heritage assets being better protected.
Mounton Brook 3	Mathern Identify and review options to reduce known flood risk from local sources.	?	?	?	?	?	+	+	+	Reviewing options to reduce flood risk will not have any identified direct effects on the SEA objectives; however, the action should increase understanding of flood risk in Mathern (including flood risk to sensitive receptors such as local properties and Listed Buildings). The results will inform better flood management which may lead to indirect benefits to multiple SEA objectives. However, the exact project location, physical

Action Ref.	SFRA Action	1	2	3	4	5	6	7	8	Comments
										works to install, manage and maintain flood assets are unknown and may have adverse impacts on designated sites, watercourses and soils in the proximity of the works. There is the potential that works will promote positive impacts for these receptors through managing water within the locality for their benefit and the modelling could result in heritage assets being better protected.
Nedern Brook and West Pill Reen Strategic Flood Risk Area										
Nedern Brook & West Pill Reen 1	Flood Risk Assessment Undertake a catchment wide assessment of flood risk to identify properties, businesses and infrastructure at greatest risk of flooding from local sources.	O	O	O	O	O	+	+	O	Undertaking an assessment of flood risk will not have any identified direct effects on the SEA objectives; however, the action should increase understanding of flood risk in the area (particularly flood risk to sensitive receptors) and will contribute towards the achievement of protecting key infrastructure and properties. The results will inform better flood management which may lead to indirect benefits to multiple SEA objectives.
Nedern Brook & West Pill Reen 2	Caldicot Community Flood Plan Support the local community in developing a community flood plan.	O	O	O	O	O	+ +	+	O	Enhancing community preparedness and resilience to flooding will reduce the impact of flooding on communities and allow them to respond more effectively to flood events. This will lead to increased community health and wellbeing and enable measures to be taken to protect infrastructure.
Nedern Brook &	Caldicot Country Park Develop and implement a	+	+	+	+	+	+	+	+	Developing and implementing a Catchment Management Plan at Caldicot Castle Country

Action Ref.	SFRA Action	1	2	3	4	5	6	7	8	Comments
West Pill Reen 3	Catchment Management Plan for the reach of the Nedern Brook running through the Caldicot Castle Country Park to ensure flood risk is suitably considered in the management practices of the watercourse.									Park will contribute towards the achievement of all SEA objectives. Notably, it will contribute to the achievement of protecting the designated heritage assets at in the Country Park, including the Caldicot Castle Scheduled Monument, protecting species and habitat, such as the nationally rare habitat at Nedern Brook Wetlands SSSI, and improve water quality through implementation of management and monitoring structures for flood risk at Nedern Brook.
Nedern Brook & West Pill Reen 4	Caldicot Work with other Risk Management Authorities in the consideration and mitigation of flood risk at Castle Lea, Castle Lodge Crescent and Castle Lodge Close.	+	+	+ +	+	+	+ +	+ +	+	Ensuring coordinated consideration with RMAs regarding flood risk will help identify suitable mitigation and opportunities to decrease flood risk in Caldicot. Flooding at Castle Lea has occurred previously from backing up of surface water systems including a sewer which led to properties and road infrastructure flooding. Action here will contribute to significant improvements to these objectives.
Nedern Brook & West Pill Reen 5	Portskewett Identify and review options to reduce known flood risk from local sources.	?	?	?	?	?	+	+	+	Reviewing options to reduce flood risk will not have any identified direct effects on the SEA objectives; however, the action should increase understanding of flood risk in Portskewett (including flood risk to sensitive receptors). The results will inform better flood management which may lead to indirect benefits to multiple SEA objectives. However, the exact project location, physical

Action Ref.	SFRA Action	1	2	3	4	5	6	7	8	Comments
										works to install, manage and maintain flood assets are unknown and may have adverse impacts on designated sites (e.g., St Mary's Churchyard), watercourses and soils in the proximity of the works. There is the potential that works will promote positive impacts for these receptors through managing water within the locality for their benefit and the modelling could result in heritage assets being better protected.
Nedern Brook & West Pill Reen 6	Rogiet Identify and review options to reduce known flood risk from local sources.	?	?	?	?	?	+	+	+	Reviewing options to reduce flood risk will not have any identified direct effects on the SEA objectives; however, the action should increase understanding of flood risk in Rogiet (including flood risk to sensitive receptors such as …). The results will inform better flood management which may lead to indirect benefits to multiple SEA objectives. However, the exact project location, physical works to install, manage and maintain flood assets are unknown and may have adverse impacts on designated sites (e.g., SSSIs and ASAs), watercourses and soils in the proximity of the works. There is the potential that works will promote positive impacts for these receptors through managing water within the locality for their benefit and the modelling could result in heritage assets being better protected.
Mill Reed Strategic Flood Risk Area										

Action Ref.	SFRA Action	1	2	3	4	5	6	7	8	Comments
Mill Reen 1	Flood Risk Assessment Undertake a catchment wide assessment of flood risk to identify properties, businesses and infrastructure at greatest risk of flooding from local sources.	O	O	O	O	O	+	+	O	Undertaking an assessment of flood risk will not have any identified direct effects on the SEA objectives; however, the action should increase understanding of flood risk in the area (particularly flood risk to sensitive receptors) and will contribute towards the achievement of protecting key infrastructure and properties. The results will inform better flood management which may lead to indirect benefits to multiple SEA objectives.
Mill Reen 2	Magor Community Flood Plan Support the local community in developing a community flood plan.	O	O	O	O	O	++	+	O	Enhancing local community preparedness and resilience to flooding will reduce the impact of flooding on communities and allow them to respond more effectively to flood events. This will lead to increased community health and wellbeing and enable measures to be taken to protect infrastructure.

Action Ref.	SFRA Action	1	2	3	4	5	6	7	8	Comments
Mill Reen 3	Magor Identify and review options to reduce known flood risk from local sources.	?	?	?	?	?	+	+	+	Reviewing options to reduce flood risk will not have any identified direct effects on the SEA objectives; however, the action should increase understanding of flood risk in Magor (including flood risk to sensitive receptors such as The Levels which is an Archaeological Sensitive Area). Magor and Undy are the most easterly of the Gwent Levels SSSI sites supporting nationally rare and notable invertebrate species as identified in Appendix C: Statutory Designated Sites. There is the potential that works can promote positive impacts for these receptors through managing water within the locality for their benefit and the modelling could result in heritage assets being better protected. However, the exact project location, physical works to install, manage and maintain flood assets are unknown and may have adverse impacts on designated sites (e.g., SSSIs and ASAs), watercourses and soils in the proximity of the works.
Mill Reen 4	Undy Identify and review options to reduce known flood risk from local sources.	?	?	?	?	?	+	+	+	As above.

8.6 Summary of Assessment

A summary of effects of LFRMS Actions on SEA Objectives is outlined in Table 8-5 below.

Table 8-5: Cumulative effects of LFRMS Actions against SEA Objectives.

Receptor	SEA Objective	Overall Score	Justification
Landscape and visual amenity	Protect the integrity of local urban and rural landscapes in the area.	O	The majority of LFRMS measures will not have any direct impacts upon this objective, although objectives will have broad positive impacts upon landscape and visual receptors through reduced flood risk and associated reduction in the scale of visual impacts from flood events. The LFRMS has potential for landscape enhancements through the implementation of SuDS and nature based solutions, which may enable enhancement of green spaces, particularly when implemented in rural areas which have poor access to green space and in line with Monmouthshire's Green Infrastructure strategy (2024). These can also enhance visitor experience and provide recreational amenity. There is the potential for adverse impacts to visual receptors through the construction of new defence schemes. New schemes should be designed to avoid the potential for significant landscape impacts, minimising hard engineering and encouraging nature-based solutions, and where impacts are identified, they should be mitigated appropriately.

Receptor	SEA Objective	Overall Score	Justification
Biodiversity, Flora, and Fauna	Maintain, enhance, and extend biodiversity, wildlife, and habitat connectivity.	O	The LFRMS actions contribute both directly and indirectly to ecological objectives. Promoting better flood management and reducing flood risk to key ecological receptors, including designated sites, will enhance biodiversity whilst safeguarding habitat connectivity corridors. The LFRMS provides opportunities for ecological enhancements through the implementation of natural flood management schemes, which would help deliver policy objectives for the natural environment including habitat enhancements, improved ecological connectivity and increased biodiversity resilience to flood risk and climate change. SuDS, as required for new developments in Wales, can make a significant contribution to the biodiversity value of an area. There is the potential for adverse impacts to ecological receptors through the implementation of hard flood defence schemes. Impacts may arise from disruption of species and habitats from construction activities. New schemes should be designed to avoid the potential for significant ecological impacts, and where impacts are identified, they should be mitigated appropriately.
Water environment	Protect and enhance the quality of water features and resources.	O	The actions will mostly have a neutral impact upon this objective due to their nature; however, better flood management and reducing flood risk will help to improve water quality and WFD status across the council area. A reduction in the magnitude of flood events and better management of flood assets (such as culverts) will help prevent sewage spillage incidents and entry of litter into watercourses. The LFRMS provides opportunities for enhancement to the water environment through the implementation of natural flood management and SuDS schemes. Such

Receptor	SEA Objective	Overall Score	Justification
			schemes may provide water quality improvements by reducing sediment and contaminant runoff. Additionally, the utilisation of nature based solutions may aid in reducing the frequency and intensity of flash flooding events - including water quality improvements. There is the potential for adverse impacts to the water environment through the construction of flood defence schemes. Impacts may arise from spillages and dust pollution during construction activities. New schemes should be constructed in line with industry best practice guidance in order to avoid the potential for significant impacts, and where impacts are identified, they should be mitigated appropriately.
Geology and soils	Maintain soil quality and conserve geological designations.	O	Most of the measures and actions will have a neutral impact upon this objective due to their nature; however, reduction in the frequency and magnitude of flooding events will help prevent soil contamination incidents, soil erosion, and help conserve the condition of geological designated sites. There are opportunities for enhancement of soil quality through natural flood management and SuDS schemes which may improve the quality of infiltrating water and hence provide improvements to the soil. There are uncertainties around the measures / actions relating to the delivery of flood alleviation schemes. Without specific details of these projects, adverse impacts to geology and soils cannot be ruled out. Impacts may arise from contamination and disturbance of soils during construction activities.
Historic environment	Preserve and where possible enhance important historic and	O	Most of the measures and actions will have a neutral impact upon this objective due to their nature; however the LFRMS has the potential to benefit historic environment assets due to better flood management and reduced flood risk. Reduction in flood

Receptor	SEA Objective	Overall Score	Justification
	cultural sites.		frequency and magnitude will help prevent damage to cultural heritage receptors, including listed buildings and scheduled monuments, which are prone to loss of stability, collapse, biodegradation, and moisture-induced damage following flooding. LFRMS actions will also help to improve the setting of heritage assets. There is the potential for adverse impacts to the water environment through the construction of flood defence schemes. Impacts may arise from damage to heritage assets and their setting during construction activities. New schemes should be constructed in line with industry best practice guidance in order to avoid the potential for significant impacts.
Population and human health	Protect and enhance human health and wellbeing.	+	The LFRMS measures will directly benefit population and human health receptors through reduced flood risk. A reduction in the frequency and magnitude of flood events will reduce flooding impacts to residential and commercial properties, and key infrastructure such as educational and healthcare facilities. Community engagement and production of guidance in preparing for flood events as well as actions which will improve the response time to flood events will help to decrease the cost and stress of living in high flood risk areas and dealing with flooding consequences. The construction of new flood defence schemes will improve infrastructure resilience to climate change.
Material assets	Minimise the impacts of flooding on the transport network and key critical infrastructure.	+	Overall, the LFRMS objectives are likely to have a positive impact in relation to this SEA objective as the LFRMS includes several measures that seek to improve the resilience of material assets in the county, as well as managing flood preparation through road closures, surveillance of drainage asset, and digitising flood and

Receptor	SEA Objective	Overall Score	Justification
			drainage asset inspections. Reduction in flood risk will reduce impacts to key infrastructure such as road, rail and the power grid.
Climate change	Minimise local and national contribution to climate change.	+	The majority of LFRMS measures have a positive impact on climate change objectives as they focus on SuDs and natural flood management within each catchment which will improve local carbon sequestration. In addition, further reductions in flood risk may indirectly reduce emissions by reducing the requirement for rebuilding / redevelopment after large flood events.

8.7 Mitigation

There were no significant negative effects identified in the assessment, and, on this basis, no specific mitigation measures are required.

Potential areas of improvement and consideration for refining the LFRMS objectives and actions are included below. This is in accordance with Schedule 2 of the SEA Regulations (7), which states that the Environmental Report should include "the measures envisaged to prevents, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme".

It should be ensured that any flood risk improvement schemes be designed to avoid impacts to SEA receptors and take steps to actively enhance them. This may be completed through an Environmental Impact Assessment (EIA) methodology.

Consideration should be given to Objectives Mon 32 and Mon 33, which place emphasis on works under statutory functions, could undermine opportunities for environmental improvements if works are implemented without the same level of environmental considerations required through the consenting process such as archaeology, biodiversity and landscape (amenity). It is noted that 61B of the Land Drainage Act places a duty on authorities to further the conservation and enhancement of these environmental topics, and so there is potential for positive effects.

9 Conclusion and Recommendations

9.1 Summary

The key aim of the LFRMS is to manage local flood risk by technically, economically, socially, and environmentally appropriate options. The intention of the strategy is to set out the roles and responsibilities and to improve local flood risk management to minimise the impact of flooding on infrastructure, businesses, and properties.

The SEA has been undertaken to identify the likely significant environmental effects of the implementation of the LFRMS. A proportionate approach was adopted towards establishing the scope of the SEA, reflecting the high-level nature of the LFRMS.

A range of different strategy options for delivering the LFRMS have been assessed at a strategic level against the SEA objectives. These alternatives include the ‘do nothing’ scenario, where no action is taken and existing assets and ordinary watercourses are abandoned, and the ‘maintain current Local Flood Risk Management Strategy (2012)’ scenario, where existing assets and watercourses are maintained as present in line with current levels of flood risk.

The 'Do Nothing' approach would promote an overall negative effect on the SEA objectives because of abandoning current management practices, increasing the risk of local flooding. This impact would be likely to increase over time as responsible bodies will be unable to incorporate precautionary measures in existing or new developments in a response to climate change pressures. The mid-way option of 'Maintain Current Flood Risk Strategy' is unlikely to worsen the current impacts on SEA receptors or have significant change on baseline levels. However, by not fully considering the adaptation to climate change pressures, the current level of flood risk management may be insufficient to prevent detrimental impacts on the environment, socially and ecologically, in the future. The only realistic approach to be employed by Monmouthshire Council is the 'Manage and reduce flood risk' option, which offers more beneficial environmental outcomes and a pro-active approach to flooding pressures.

Many of the proposed measures detailed in the LFRMS have the potential for direct and indirect benefits. Many of the LFRMS objectives are likely to have indirect beneficial effects upon the environment as they relate to enhanced understanding and awareness of flood risk along with high-level flood risk management measures rather than individual actions.

Overall, the assessment of the LFRMS objectives, measures and actions against the SEA objectives highlights positive impacts, especially on SEA objectives 6, 7 and 8. By actively managing the flood risk, there will be obvious benefits to the population, human health, material assets, and climate change resilience. Through promoting a greater understanding of flood risk, improving baseline data collection and knowledge of flood risk per catchment, and ensuring information on flood risk assets and infrastructure is kept up to date, communities and responsible parties will be better placed to effectively minimise the risk of flooding in the Monmouthshire Council area.

The LRFMS provides opportunities for environmental enhancements through the implementation of natural flood management and SuDS schemes. Such schemes reduce flood risk whilst also allowing for sensitive consideration of ecological, visual, water, and heritage assets.

There is some uncertainty regarding the scale of some of these positive effects. Sometimes this is because for some measures, the scale, location and/or process of implementation is currently unclear. It should also be considered that the type of flood management measures that may be implemented through the LFRMS may have the potential to contribute to greenhouse gas emissions and therefore further climate change using building materials and construction methods which may generate emissions. Consideration should be given to the likely emissions associated with each of the potential flood management measures. Also, some indirect positive effects may be outside of the control of the organisations delivering measures. However, positive effects are generally likely across the implementation of the strategy, across a wide range of SEA objectives.

9.2 Recommendations

The assessment of the objectives and actions has identified a couple of areas where the LFRMS could be strengthened to promote a more sustainable approach:

- Fully consider climatic factors in the development of both existing and new infrastructure, to ensure appropriate and adaptable flood risk management in the future.
- Ensure that low-carbon approaches (e.g., SuDS and nature based solutions) to flood alleviation are prioritised to limit local contribution to climate change.
- Make sure that works to drainage infrastructure under statutory functions consider the authority's duty to further the conservation and enhancement of natural beauty and the conservation of flora, fauna and geological or physiographical features of special interest.
- Take steps to ensure that all relevant stakeholders, including both statutory and non-statutory entities, are involved in sustainability discussions during new development. This collaborative approach will help to promote effective communication and engagement among stakeholders.

To prevent adverse effects from the LFRMS, it is essential to integrate all strategy actions and ensure that the delivery of individual actions aligns with the wider strategy objectives. This includes flood risk improvement schemes in specific areas. Effective management of the development and implementation of these actions is crucial, including the assessment of proposals for their potential positive and negative environmental effects before implementation. If necessary, appropriate mitigation measures should be incorporated into their delivery.

The LFRMS should aim to maximise the potential environmental benefits of its objectives and measures. This can be best achieved through the integration of LFRMS objectives and

close partnership working, ensuring that appropriate resources and funding are effectively allocated.

9.3 Monitoring

As per the SEA Regulations, MCC is required to monitor the significant environmental effects of implementing the LFRMS. Monitoring should include key indicators and targets based on those used in the SEA framework.

The indicators and targets will facilitate the monitoring of the LFRMS, enabling early identification and remediation of any problems or shortfalls. If any failings are identified, it will be necessary to revise the LFRMS to ensure that the SEA objectives are not compromised. It is important to note that the effects, whether negative or positive, are unlikely to be immediately visible, and the relative timescale for monitoring will vary for each criteria / target.

Possible Monitoring partners are indicated against the SEA objectives in Table 9-1. These will be refined subject to the outcomes of the consultation process.

Table 9-1: Possible monitoring partners for facilitating the indicators and targets of the SEA Objectives.

Receptor	SEA Objective		Monitoring Indicator / Criteria	Target resulting from local flood risk management measures	Possible Management Partners
Landscape and Visual Amenity	1	Protect the integrity of local, urban, and rural landscapes in the area.	Changes in the condition and extent of existing characteristic elements of the landscape. The condition and quality of new landscape features introduced to the environment (i.e., new flood defences).	No adverse impacts on landscape character of the NLCAs or other locally important landscapes/features as a result of implementation of the LFRMS.	Natural Resources Wales SuDS Approval Board (SAB)

Receptor	SEA Objective		Monitoring Indicator / Criteria	Target resulting from local flood risk management measures	Possible Management Partners
Biodiversity, Flora and Fauna	2	Maintain and enhance biodiversity, wildlife, and habitat connectivity.	Recorded numbers of protected habitats and species. Percentage change in area of priority habitats. 'Condition' of designated wildlife, geological sites, and habitats. Deliver measures which also improve the ecological status of WFD waterbodies. NBB and other enhancements achieved in projects delivered through the LFRMS.	No adverse impact on designated nature conservation sites as a result of changes to the current local flooding regime. No deterioration in the conservation status of designated sites as a result of implementation of the LFRMS. No adverse impact on designated nature conservation sites because of local flood risk management measures. Increase in area of good wildlife habitat from the implementation of the LFRMS. No new impediments to fish and eel passage.	Natural Resources Wales
Water Environment	3	Protect and enhance the quality of water features	WFD chemical or ecological status of waterbodies within the catchment.	No deterioration to the WFD status of water bodies within the catchment as a result of implementation of the LFRMS.	Natural Resources Wales Dwr Cymru Welsh Water SAB

Receptor	SEA Objective		Monitoring Indicator / Criteria	Target resulting from local flood risk management measures	Possible Management Partners
Geology and Soils	4	Maintain soil quality and conserve geological designations.	Number of contamination incidents. Risk levels of contamination. Soil quality. 'Condition' of geological designated sites.	No reduction in the condition of geological designated sites as a result of implementation of the LFRMS. No reduction in condition of soils in designated sites within the Council area as a result of implementation of the LFRMS.	Natural Resources Wales
Historic Environment	5	Preserve and where possible enhance important historic and cultural sites.	Number of designated and non-designated heritage sites at risk from flooding. Number of heritage assets, including archaeological sites, adversely impacted upon by flood risk management measures.	No adverse impact on designated heritage sites or their setting as a result of flooding. No adverse impact on the integrity / setting of designated heritage sites as a result of flood risk management measures.	Natural Resources Wales Cadw Heneb

Receptor	SEA Objective		Monitoring Indicator / Criteria	Target resulting from local flood risk management measures	Possible Management Partners
Population and Human Health	6	Protect and enhance human health and wellbeing.	Number of open and natural green spaces. Number and value of PRoW routes. Number of residential properties at risk from flooding. Number of key services at risk from flooding. Health and wellbeing statistics.	No increase in open and natural green spaces at risk from flooding. No increase in number of residential properties at risk from flooding.	Natural Resources Wales National Health Service Wales
Material Assets	7	Minimise the impacts of flooding to the transport network and key critical infrastructure.	Length of road and rail infrastructure at risk from flooding. Number of key infrastructure assets at risk from flooding. Number of Green Infrastructure assets at risk from flooding / created or enhanced through implementation of the LFRMS.	No increase in length of road and rail infrastructure at risk from flooding. No increase in number of infrastructure assets at risk from flooding. An enhancement of current Green Infrastructure Assets in the Council area.	Natural Resources Wales Transport for Wales Network Rail Traffic Wales SAB

Receptor	SEA Objective		Monitoring Indicator / Criteria	Target resulting from local flood risk management measures	Possible Management Partners
Climate Change	8	Minimise local and national contribution to climate change.	Carbon dioxide equivalent emissions (CO_2e) associated with flood management schemes.	Reduction in carbon dioxide equivalent emissions (CO_2e). Number of flood management measures implemented that will also sequester carbon.	Natural Resources Wales

10 Next Steps

10.1 Consultation

The next stage of the SEA process (Stage D) will involve consultation on the draft SEA Environmental Report and the draft LFRMS with statutory consultees, stakeholders, and the public. This consultation aims to identify any necessary amendments and updates to the documents.

All consultation responses received will be reviewed and considered for the next stage of the SEA process, which involves preparing a Post-Adoption Statement. The statement will outline how the Environmental Report's findings and the views expressed during the consultation have been considered while finalising and formally approving the LFRMS. The Post-Adoption Statement will also identify any additional monitoring requirements necessary to track the significant environmental effects of the strategy.

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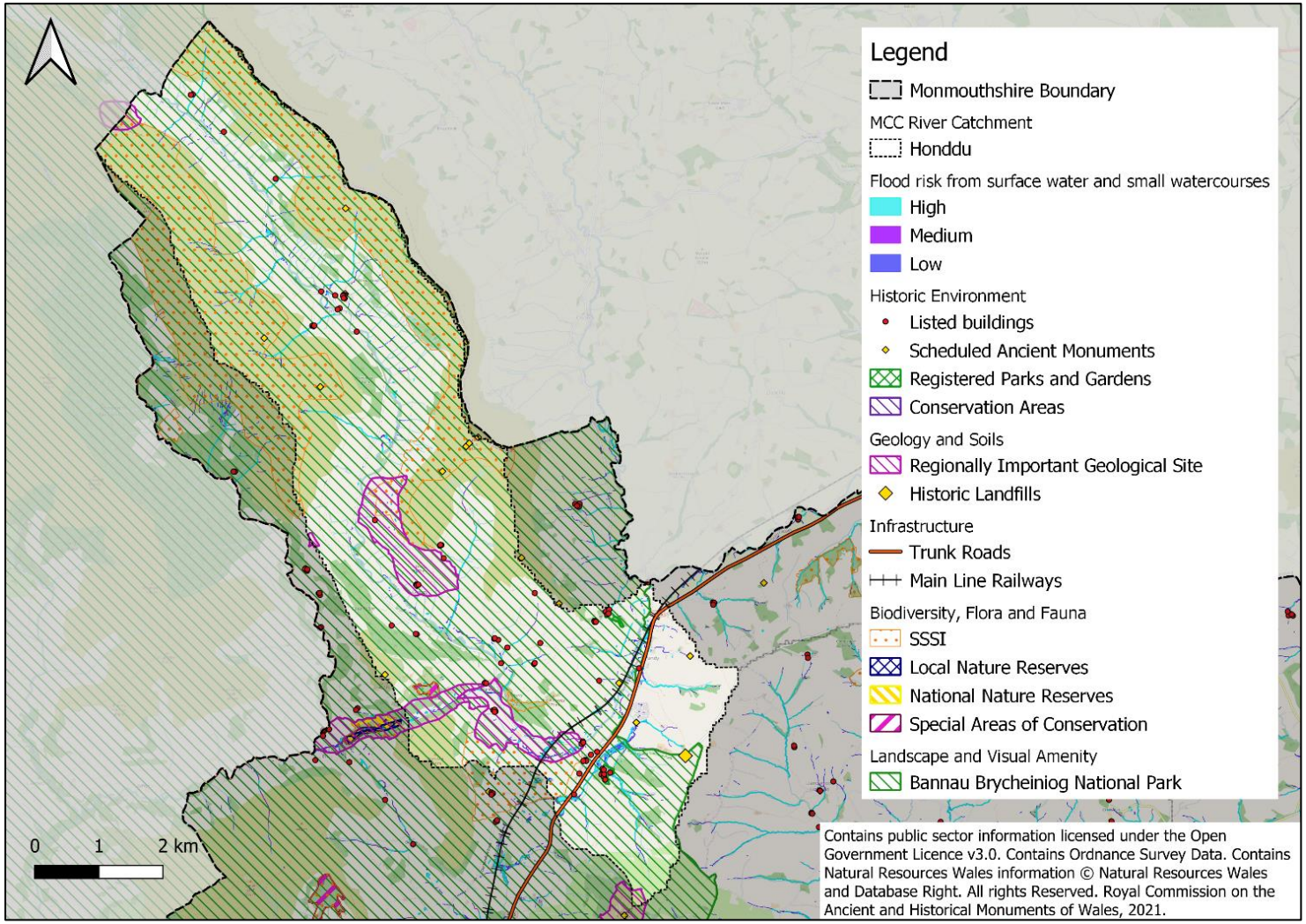
A Appendix A: Environmental Constraints Plans

A.1 Honddu


Legend
Monmouthshire Boundary
MCC River Catchment
Honddu
Flood risk from surface water and small watercourses
High
Medium
Low
Historic Environment
Listed buildings
Scheduled Ancient Monuments
Registered Parks and Gardens
Conservation Areas
Geology and Soils
Regionally Important Geological Site
Historic Landfills
Infrastructure
Trunk Roads
Main Line Railways
Biodiversity, Flora and Fauna
SSSI
Local Nature Reserves
National Nature Reserves
Special Areas of Conservation
Landscape and Visual Amenity
Bannau Brycheiniog National Park
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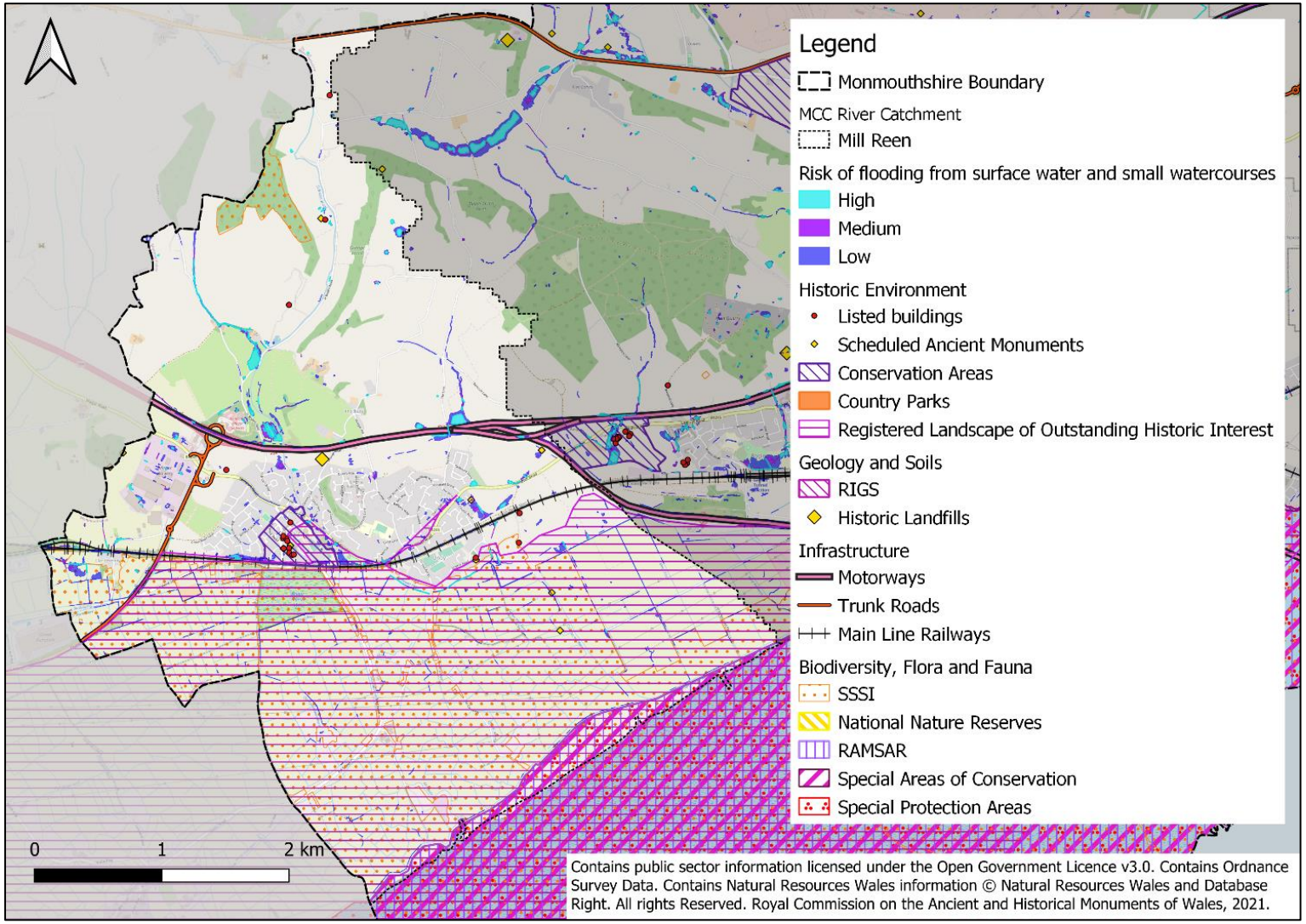
A.2 Mill Reen


Legend
Monmouthshire Boundary
MCC River Catchment
Mill Reen
Risk of flooding from surface water and small watercourses
High
Medium
Low
Historic Environment
Listed buildings
Scheduled Ancient Monuments
Conservation Areas
Country Parks
Registered Landscape of Outstanding Historic Interest
Geology and Soils
RIGS
Historic Landfills
Infrastructure
Motorways
Trunk Roads
Main Line Railways
Biodiversity, Flora and Fauna
SSSI
National Nature Reserves
RAMSAR
Special Areas of Conservation
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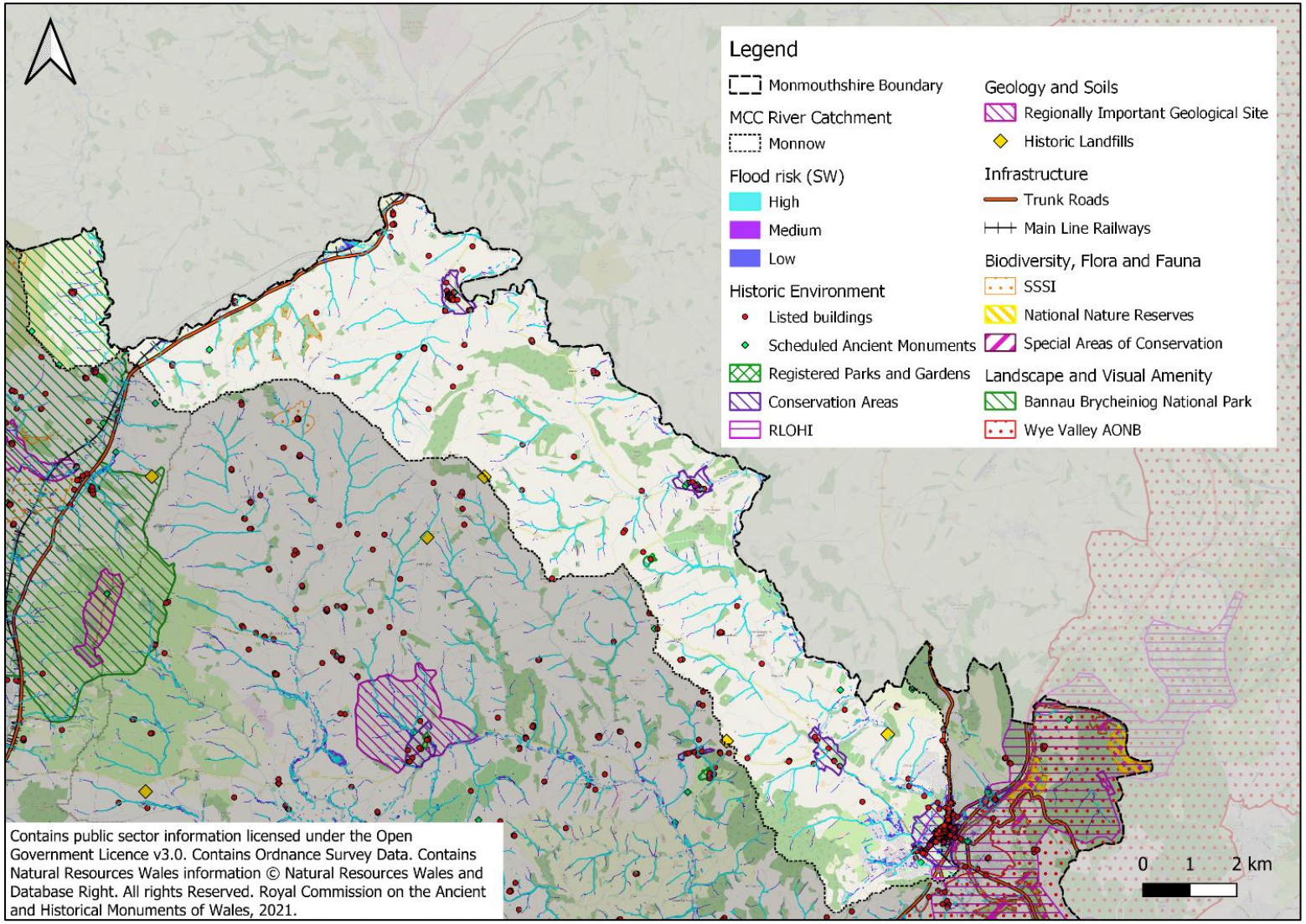
Legend
Monmouthshire Boundary
MCC River Catchment
Monnow
Flood risk (SW)
High
Medium
Low
Historic Environment
Listed buildings
Scheduled Ancient Monuments
Registered Parks and Gardens
Conservation Areas
RLOHI
Geology and Soils
Regionally Important Geological Site
Historic Landfills
Infrastructure
Trunk Roads
Main Line Railways
Biodiversity, Flora and Fauna
SSSI
National Nature Reserves
Special Areas of Conservation
Landscape and Visual Amenity
Bannau Brycheiniog National Park
Wye Valley AONB
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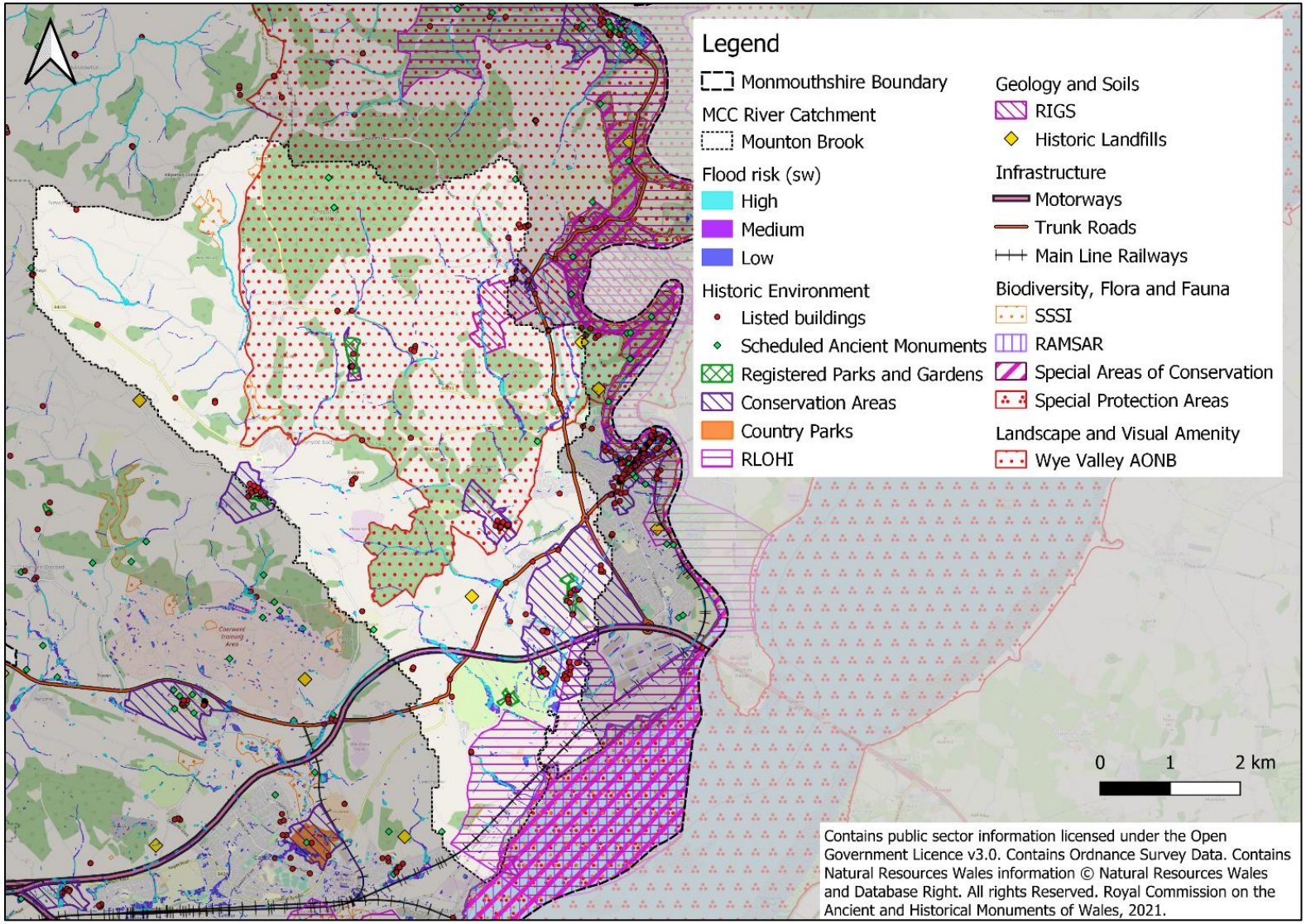
A.4 Mounton Brook



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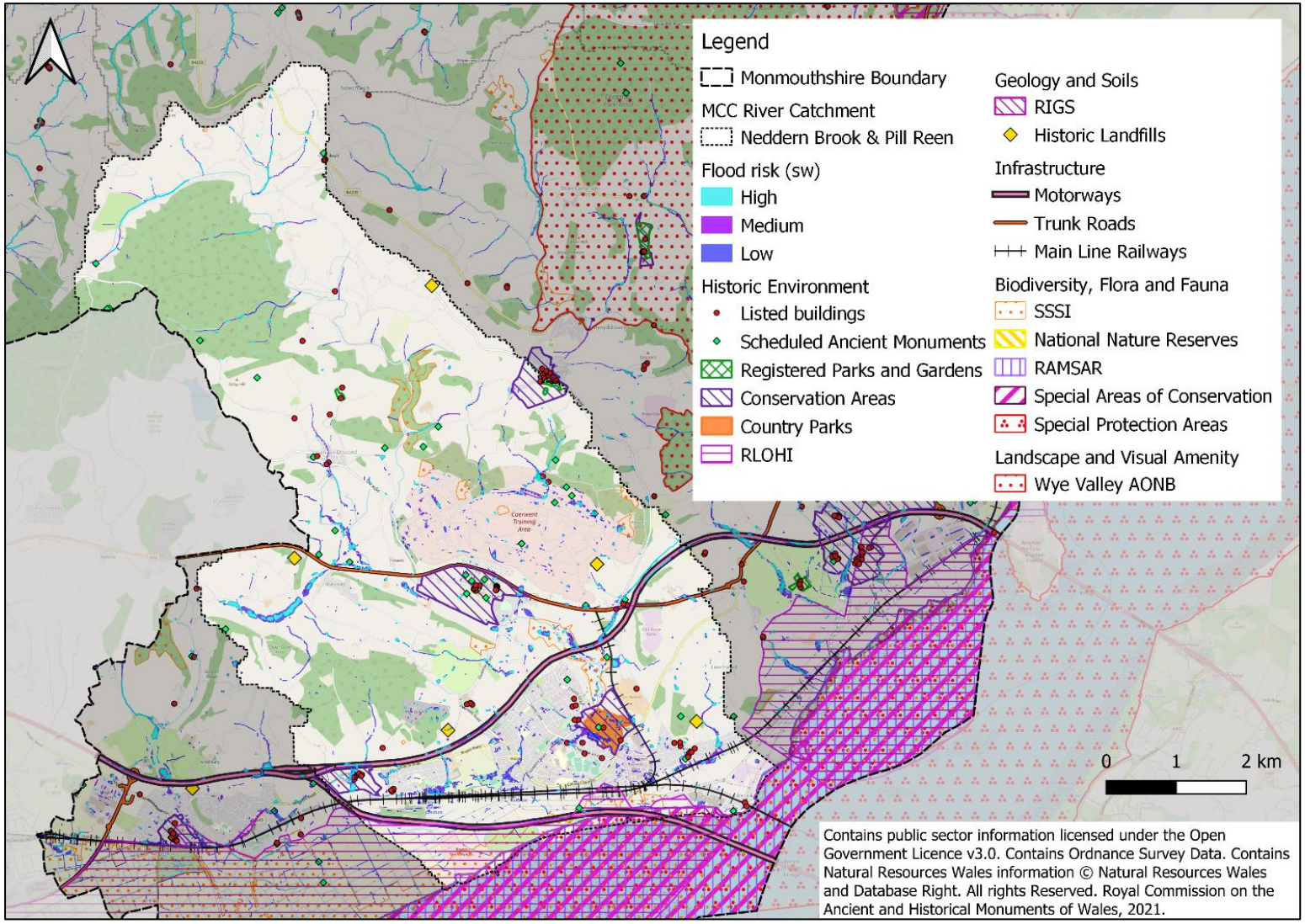

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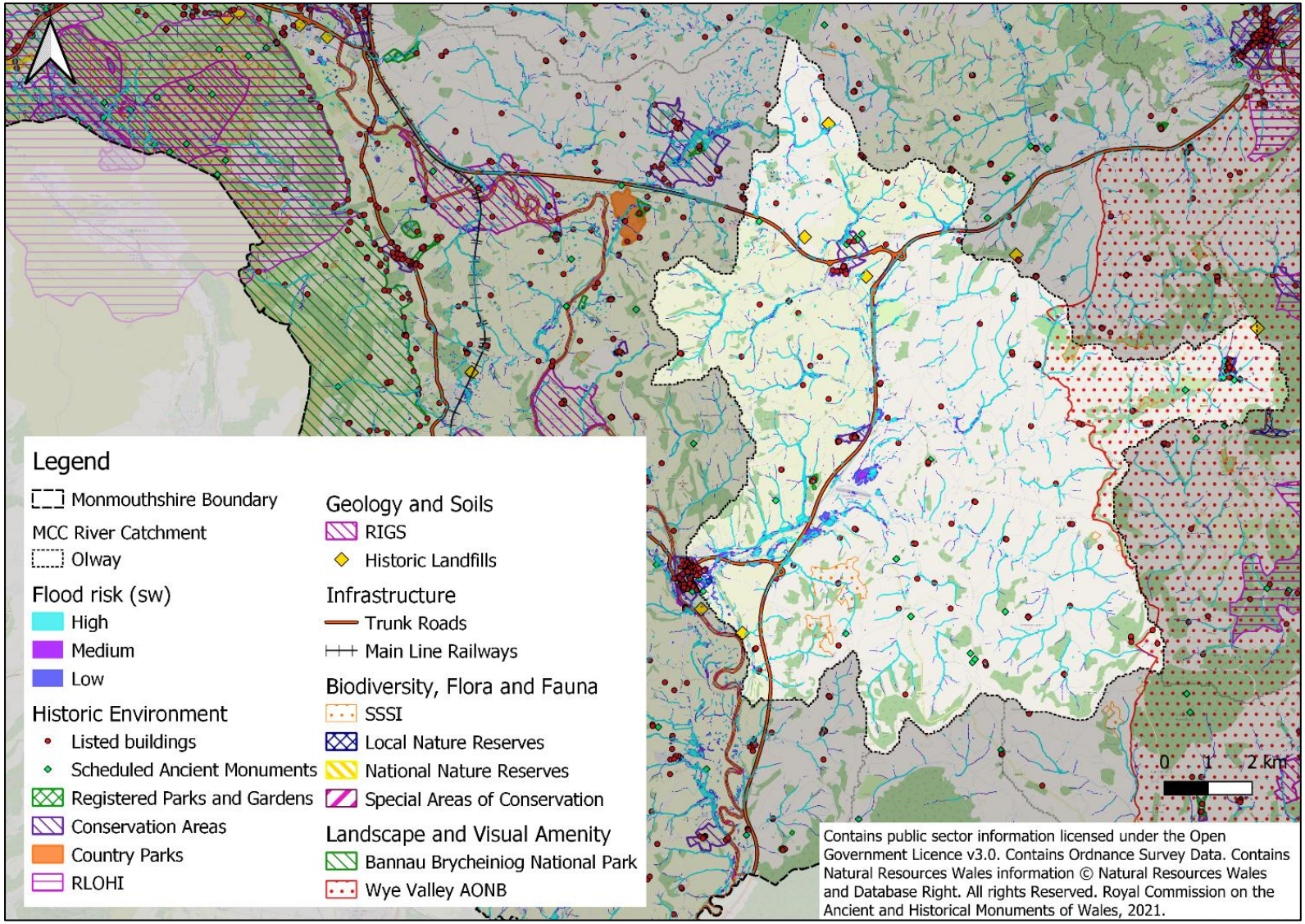
Legend
Monmouthshire Boundary
MCC River Catchment
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Flood risk (sw)
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Historic Environment
Listed buildings
Scheduled Ancient Monuments
Registered Parks and Gardens
Conservation Areas
Country Parks
RLOHI
Geology and Soils
RIGS
Historic Landfills
Infrastructure
Trunk Roads
Main Line Railways
Biodiversity, Flora and Fauna
SSSI
Local Nature Reserves
National Nature Reserves
Special Areas of Conservation
Landscape and Visual Amenity
Bannau Brycheiniog National Park
Wye Valley AONB
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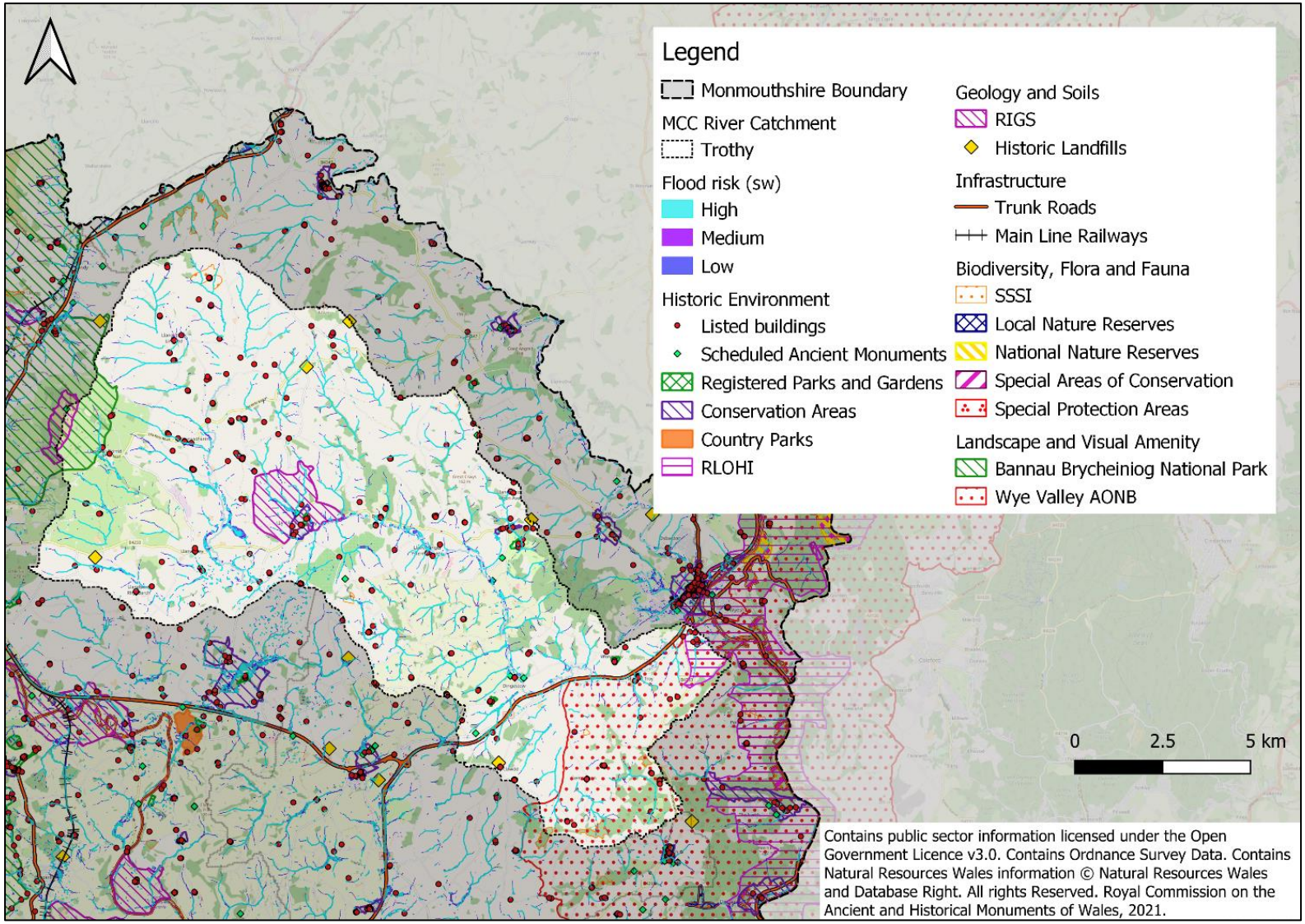
A.7 Trothy


Legend
Monmouthshire Boundary
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Flood risk (sw)
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Historic Environment
Listed buildings
Scheduled Ancient Monuments
Registered Parks and Gardens
Conservation Areas
Country Parks
RLOHI
Geology and Soils
RIGS
Historic Landfills
Infrastructure
Trunk Roads
Main Line Railways
Biodiversity, Flora and Fauna
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Wye Valley AONB
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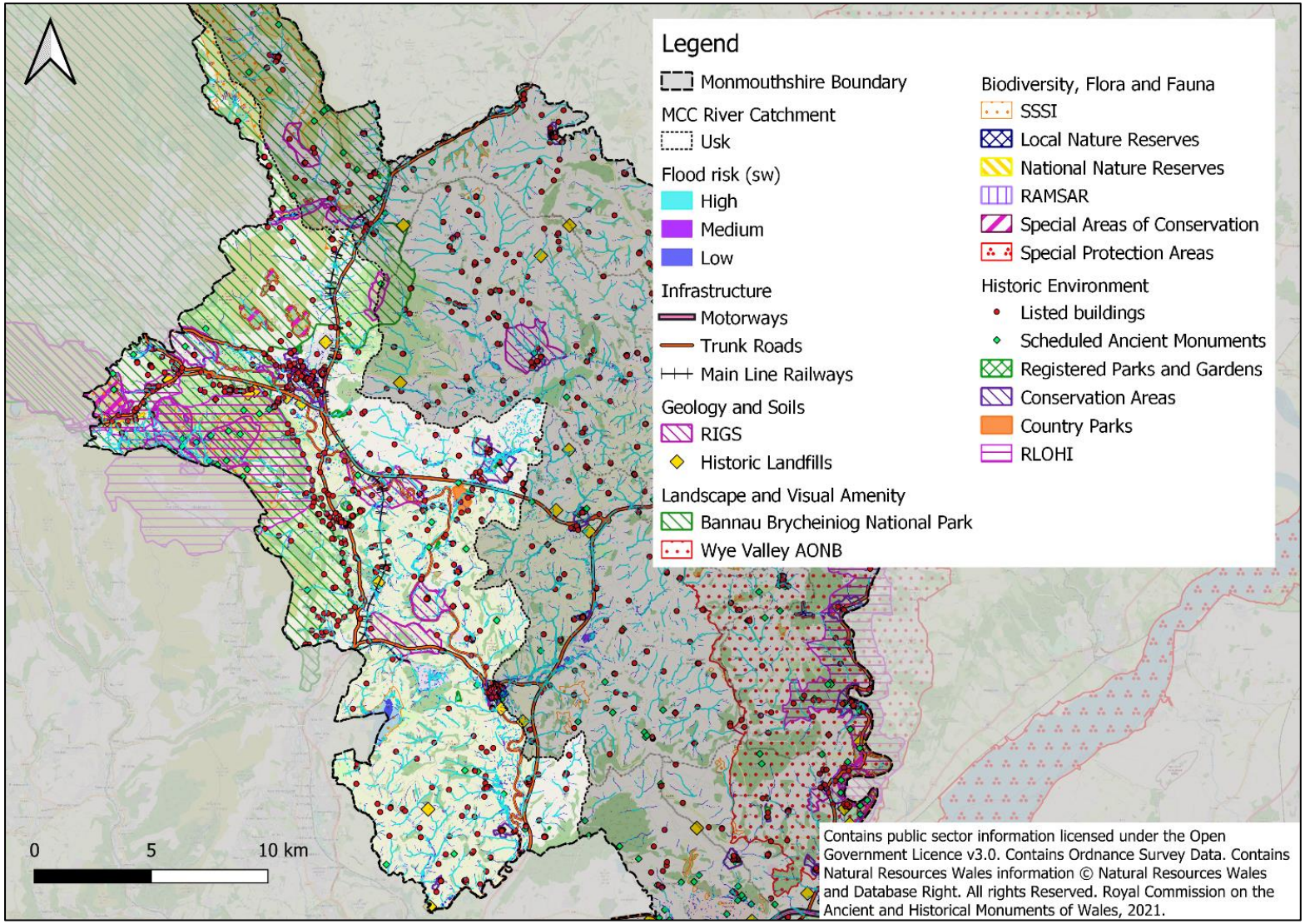
A.8 Usk


Legend
Monmouthshire Boundary
MCC River Catchment
Usk
Flood risk (sw)
High
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Infrastructure
Motorways
Trunk Roads
Main Line Railways
Geology and Soils
RIGS
Historic Landfills
Landscape and Visual Amenity
Bannau Brycheiniog National Park
Wye Valley AONB
Biodiversity, Flora and Fauna
SSSI
Local Nature Reserves
National Nature Reserves
RAMSAR
Special Areas of Conservation
Special Protection Areas
Historic Environment
Listed buildings
Scheduled Ancient Monuments
Registered Parks and Gardens
Conservation Areas
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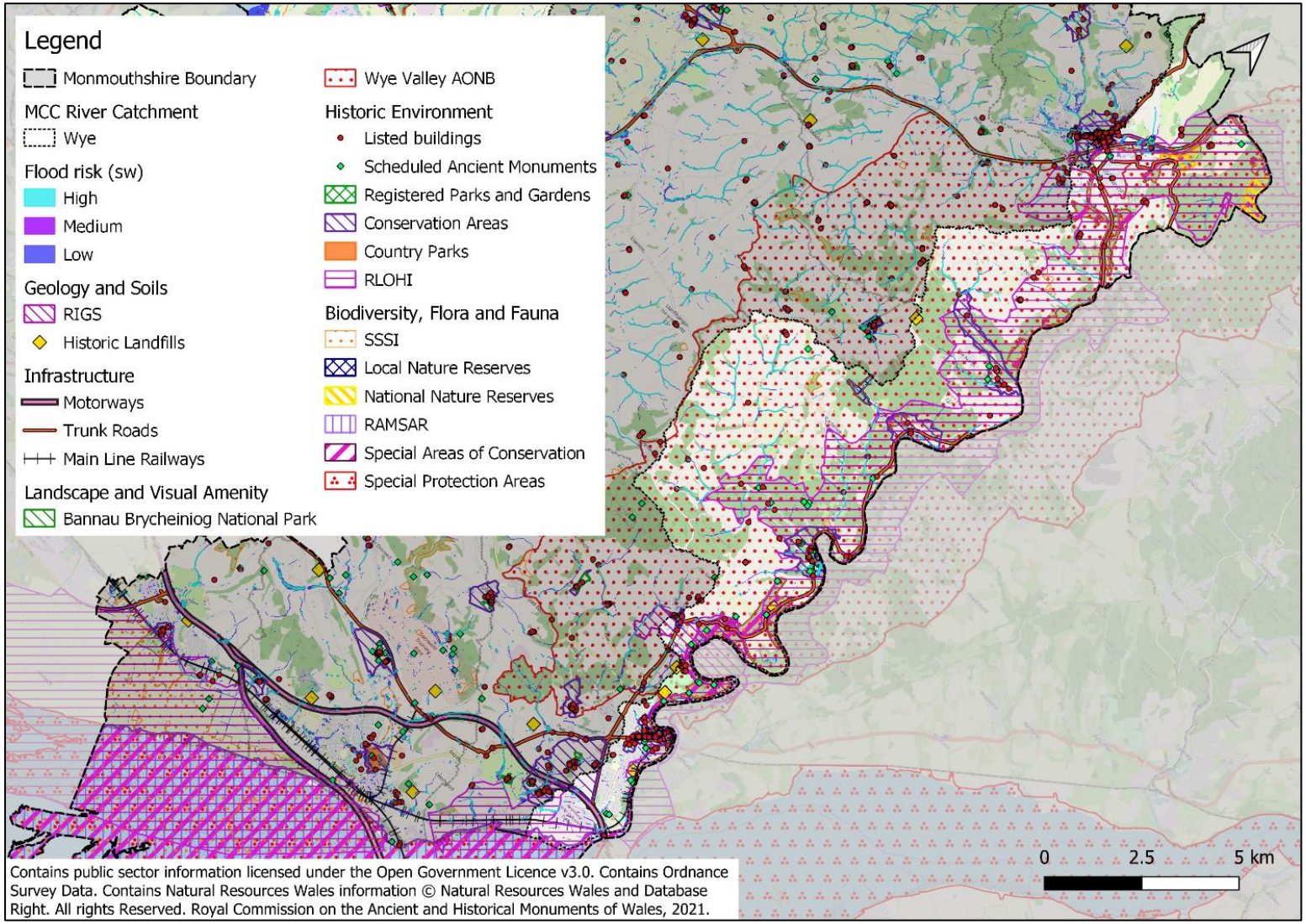
A.9 Wye


Legend
Monmouthshire Boundary
MCC River Catchment
Wye
Flood risk (sw)
High
Medium
Low
Geology and Soils
RIGS
Historic Landfills
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B Plans, Policies and Programmes

Source	Key objectives or requirements relevant to the SEA / LFRMS	Implications for the SEA / LFRMS
International		
EU Groundwater Directive - Directive 2006/118/EC	This Directive establishes specific measures as provided for in Article 17(1) and (2) of Directive 2000/60/EC (Water Framework Directive) in order to prevent and control groundwater pollution. This Directive is designed to prevent and combat groundwater pollution.	The SEA should take account of the need to maintain, protect and improve water quality across the LFRMS area.
EU Water Framework Directive - Directive 2000/60/EC	This Directive establishes a framework for the protection of inland surface waters, transitional waters, coastal water, and groundwater. It also encourages the sustainable use of water resources. Key objectives are general protection of the aquatic ecology, specific protection of unique and valuable habitats, protection of drinking water resources, and protection of bathing water.	The SEA should seek to promote the protection and enhancement of all water resources.
European Commission, Nitrates Directive 91/676/EEC, 1991 (transposed into UK legislation through the Nitrate Pollution Prevention Regulations 2015).	The Nitrates Directive is designed to reduce water pollution caused by nitrate from agriculture. The directive requires Defra and the Welsh Assembly Government to identify surface or groundwaters that are, or could be, high in nitrate from agricultural sources. Once a water body is identified as being high in nitrate all land draining to that water is designated a Nitrate Vulnerable Zone. Within these zones, farmers must observe an action programme of measures which include restricting the timing and application of fertilisers and manure and keeping accurate records.	The SEA assessment framework should include water quality.

Source	Key objectives or requirements relevant to the SEA / LFRMS	Implications for the SEA / LFRMS
National		
Ancient Monuments and Archaeological Areas Act (1979)	Under this legislation schedules monuments are protected based on their archaeological or historical interest.	The SEA should consider how the proposed works could negatively impact Schedules Monuments and seek to mitigate or minimise these impacts.
Environment (Wales) Act 2016	The Act provides a framework for managing natural resources in Wales and highlights the need to adopt a new and integrated approach to manage natural resources to achieve long-term sustainability.	The acts aim of halting nature decline is particularly relevant to the Plan which has the potential to impact upon nature either positively or negatively depending upon the options chosen. The integration of 'softer' solutions that look to work with nature where possible could see the study contribute towards nature recovery, such as providing insight as to the potential of natural flood management, green/blue infrastructure SuDS and nature-based solutions.
A Sustainable Wales Better Choices for a Better Future White Paper 2012	This White Paper sets out the Welsh Government's proposals to bring forward legislation to make sustainable development the central organising principle of the Welsh Government and Welsh public service organisations in Wales; and to create an independent sustainable development body for Wales.	The SEA should consider the contents of this paper.
Air Quality Standards (Wales) Regulations 2010 as amended by the Air Quality	The aim of this regulation is to designated zones in which ambient air will be protected by limiting the concentrations of pollutants within them.	The SEA should seek to ensure that the region's air quality is maintained or enhanced, and that emissions of air

Source	Key objectives or requirements relevant to the SEA / LFRMS	Implications for the SEA / LFRMS
Standards (Wales) (Amendment) (EU Exit) Regulations 2019		pollutants are kept to a minimum.
Active Travel (Wales) Act 2013	The Act places duties on local authorities to upkeep and continually improve the facilities and routes for walkers and cyclists in Wales. Local authorities must also produce maps identifying current and future active travel routes in their area, and that new road schemes must make provision for walking and cycling.	The LFRMS should consider the active travel routes and future plans for active travel in the region.
Capacity of the network (drainage and wastewater management plan): action plan (2022)	Plan setting out the Welsh Government's objectives for assessing and improving the capacity of the drainage and sewerage networks in Wales over the long term.	The LFRMS should consider the government's drainage and sewerage objectives and actions.
Clean Air Plan for Wales: Healthy Air, Healthy Wales (2020) (updated 2024)	A ten-year plan which sets out the actions for reducing air quality around four core themes: people, environment, prosperity, and place. A progress report for the Plan was published in 2023 which provided an update on the advancement of each action.	The SEA should consider the impact it may have on air quality.
Climate Change Act (2008)	The Act outlines a five-year cycle of requirements which the UK must adhere to, relating to both climate mitigation and adaptation. These requirements include setting a series of legally binding five-year carbon budgets (restrictions on greenhouse gas emissions) designed to help steer progress towards achievement of the overall net zero target.	To comply with UK legislation, the Strategy's SEA objectives should consider how to minimise greenhouse gas emissions.

Source	Key objectives or requirements relevant to the SEA / LFRMS	Implications for the SEA / LFRMS
Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019	To ensure the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended) were operable after the end of the EU transition period, changes were made by the Conservation (Natural Habitats, etc.)	The impacts on biodiversity and protected species and sites must be considered as part of the SEA.
Contaminated Land (Wales) Regulations 2006	These Regulations, which apply to Wales only, also set out provisions relating to the identification and remediation of contaminated land under Part 2A of the Environmental Protection Act 1990.	The SEA should include objectives relating to the identification of possible sources, pathways, and receptors of contamination.
Countryside and Rights of Way Act 2000 (Commencement in Wales 2005)	The Act regulates public rights of way (PRoW) and open access land and ensures access to them.	The plan should consider open access land as well as the routes and use patterns of the rights of way network in Monmouthshire.
Water Act (2014)	The aim of the Act was to reform the water industry to make it more innovative and responsive to customers and to increase the resilience of water supplies to natural hazards such as droughts and floods. The Act was intended to introduce competition into the market and bring benefits to businesses and the economy.	The SEA should take account of emerging neighbouring plans where appropriate.
UK Post-2010 Biodiversity Framework (2012)	Government strategy presenting five goals for conserving biodiversity during climate change. The precautionary principle underlies all the principles.	The SEA must consider the impact on biodiversity whilst also considering the potential for future climate change.
Environment Act (1995)	The Environment Act 1995 led to the creation of several government agencies, including: The Environment Agency, The Scottish Environment Protection Agency (SEPA) and The National Park authorities. The Act also brought in requirements for the government to	The SEA must promote the sustainable management of natural resources.

Source	Key objectives or requirements relevant to the SEA / LFRMS	Implications for the SEA / LFRMS
	prepare strategies on air quality, national waste, and hedgerow protection.	
Environment Act (2021)	The Environment Act has been implemented with the intention of protecting and enhancing the environment for future generations.	The acts aim of halting nature decline is particularly relevant to the Plan which has the potential to impact upon nature either positively or negatively depending upon the options chosen. The integration of 'softer' solutions that look to work with nature where possible could see the study contribute towards nature recovery, such as providing insight as to the potential of natural flood management, green/blue infrastructure SuDS and nature-based solutions.
Equality Act 2010 (Wales) Regulations 2011	The Equality Act established equality duties for all public sector bodies which aim to integrate consideration of the advancement of equality into the day-to-day business of all bodies subject to the duty.	The SEA should ensure equality is considered.

Source	Key objectives or requirements relevant to the SEA / LFRMS	Implications for the SEA / LFRMS
Floods and Water (Amendments) (England and Wales) (EU Exit) Regulations 2019	These regulations aim to ensure that, following the withdrawal of the UK from the EU, legislation concerning floods and water continues to operate correctly. The Flood and Water Management Act 2010 (Schedule 3) came into effect in Wales in January 2019 and requires new developments in Wales to include SuDS which comply with Welsh National Statutory SuDS Standards. This means new developments must get approval for their drainage from a SuDS Approval Body (SAB) prior to construction. Although these predominately apply to new developments, SuDS are encouraged in existing developments to address local flood risk and sewer capacity issues.	The SEA should seek to ensure that flood risk in the region is not adversely affected. The LFRMS should include measures to encourage SuDS in their exisiting assets as well as provide SuDS guidance for the planning authority.
Flood Risk Regulations (2009)	The Flood Risk Regulations 2009 implement the EU Flood Directive in Wales. They provide a framework for managing flood risk over a 6-year cycle, and require: production of a Preliminary Flood Risk Assessment (PFRA); identification of potential significant risk, referred to flood risk areas (FRAs); mapping of flood hazard and risk; and Flood Risk Management Plans, setting out measures and actions to reduce the risk. The Regulations require that each of the four elements above to be reviewed and updated where necessary, at minimum every six years.	The LFRMS needs to take local flood management strategy and the production of flood materials into consideration.

Source	Key objectives or requirements relevant to the SEA / LFRMS	Implications for the SEA / LFRMS
Future Wales: The National Plan 2040	A national framework for the development plan to address key national priorities such as climate resilience, sustaining the economy, improving health and well-being, and developing strong ecosystems.	The SEA must seek to ensure that objectives relating to sustainable development, sustainable resource use and protecting the natural environment, are considered when assessing the potential impacts of the LFRMS.
Health and Social Care (Quality and Engagement) (Wales) Act 2020	The Act makes provision for improving the duty of care and quality of the health service in Wales for current and future generations.	The SEA should consider the health and wellbeing needs of the Monmouthshire residents, and ensure negative impacts are mitigated.
Historic Environment (Wales) Act 2023	The Act makes provision for the protection and sustainable management of the historic environment. It introduced measures which offer more protection to listed buildings, establish historic environment records for local authority areas, and establishes an Advisory Body for the Welsh Historic Environment.	The SEA / LFRMS should consider its impact on the historic environment.
Improving effluent quality and river quality: action plan 2022	The Plan sets out actions, and the relevant lead organisation, for implementing that action in order to deliver evidence-based catchment solutions for improved water quality.	The SEA / LFRMS should seek to ensure that these actions are considered.
Improving our river water quality (2022)	The guidance sets out the plans and goals for Welsh waterbodies achieving good water status under the WFD and the actions needed to reduce the impact of DCWW assets on the environment. For example, removing barriers to fish, such as sewer pipes which cross rivers.	The SEA should consider the priorities for improving river water quality.
Land Drainage Act (1991) (as amended)	The Land Drainage Act 1991 requires that a watercourse be maintained by its owner in such a condition that the free flow of water is not impeded. The riparian owner must accept the natural flow from upstream but need not carry out work to cater for increased flows resulting from some types of works carried out	The SEA / LFRMS should seek to ensure that these legislative principles are reflected.

Source	Key objectives or requirements relevant to the SEA / LFRMS	Implications for the SEA / LFRMS
	upstream, for example a new housing development.	
Local Air Quality Management in Wales (2017)	Guidance produced by the Welsh Government for local authorities to adopt the five ways of working set out in the Well-Being of Future Generations (Wales) Act 2015 when carrying out Local Air Quality Management.	The SEA should consider the impact it may have on air quality.
National Strategy for Flood and Coastal Erosion Risk Management in Wales (2020)	Strategy that sets out the principles for flood risk management, the aims and objectives to reduce the risk of flooding to people, and which organisations are responsible for its implementation	The SEA should seek to ensure that flood risk in the region is not adversely affected. The SEA assessment framework should include flood risk.
Nature Recovery Action Plan 2020-21 (2020)	The NRAP was originally published in 2015 setting out the commitments to reversing Wales' biodiversity loss. The Action Plan was refreshed in 2020-21 and sets out five themes for action to recover and enhance biodiversity and nature in Wales.	The SEA could impact upon the themes of the recovery plan. This impact could be either positive or negative. Important opportunities to create or improve natural spaces should be taken where possible.
Natural Environment and Rural Communities (NERC) Act (2006) (Commencement) (Wales) Order 2006	The Act establishes an independent body – Natural Resources Wales formally The Environment Agency – responsible for conserving, enhancing, and managing Wales's natural environment for the benefit of current and future generations. The Act makes provision in respect of biodiversity, pesticides harmful to wildlife and the protection of birds, and in respect of invasive non-native species. It alters enforcement powers in connection with wildlife protection and extends time limits for prosecuting certain wildlife offences.	The SEA should include objective relating to increased access to rural areas and to the minimisation of impacts to the environment.

Source	Key objectives or requirements relevant to the SEA / LFRMS	Implications for the SEA / LFRMS
Our Manifesto for Rivers in Wales (2023)	Manifesto published by Dŵr Cymru Welsh Water outlining the plans for investing in river water quality improvement and actions for achieving these improvements.	The SEA should consider the impacts on clean and plentiful water, and ensure environmental outcomes are in line with DWCC's actions for improvement.
Planning (Listed Buildings and Conservation Area) Act (1990)	The Act provides protection to buildings and areas of special architectural or historic interest, the designation of conservation areas and the planning roles related to these.	The SEA objectives should seek to mitigate to minimise impacts to listed buildings.
Planning Policy Wales (2018) (Updated 2021) and supporting Technical Advice Notes	Planning Policy Wales (PPW) sets out the land use planning policies of the Welsh Government. It is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters, which together with PPW provide the Development Plan for making planning decisions in Wales.	The LFRMS should ensure any outcomes will accord with the Welsh Government's development plan.
Prosperity for All: A Climate Conscious Wales 2020-2025 (2019)	Sets out the commitments the Welsh Government is making to respond to climate change through a 5-year action plan targeting the area's most at risk from climate change.	To comply with Welsh Government commitments, the Strategy's SEA objectives should consider how to minimise greenhouse gas emissions.
Public Health Wales Act 2017	The Act makes provision for addressing several public health concerns and produce social condition which encourages good health and avoids harm.	To comply with Welsh legislation, the Strategy's SEA objectives should consider how to minimise on public health.
Salmon and Freshwater Fisheries Act 1975 - the Eels (England and Wales) Regs 2009	A law passed by the government to protect salmon and trout from commencing poaching, to protect migration routes, to prevent wilful vandalism and neglect of fisheries, ensure correct licencing and water authority approval.	The policy should consider its potential impact on salmon trout fishers and include mitigation measures where necessary.

Source	Key objectives or requirements relevant to the SEA / LFRMS	Implications for the SEA / LFRMS
Securing the Future - the UK Government Sustainable Development Strategy (2005)	This strategy for sustainable development aims to enable all people to satisfy their basic needs and enjoy a better quality of life without compromising the quality of life of future generations. Also, this strategy places a focus on protecting natural resources and enhancing the environment.	The SEA must seek to ensure that objectives relating to sustainable development, sustainable resource use and protecting the natural environment, are considered when assessing the potential impacts of the LFRMS.
Wales State of Natural Resources Report (2020)	Report which assesses Wales's sustainable management of natural resources and sets out a range of opportunities for action.	The SEA should seek to maintain and enhance the quality of natural resources in the region.
Water Strategy for Wales (2015)	Sets out how water resources are to be managed in Wales, the key challenges faced and the themes for delivering improvements.	The SEA should seek to ensure that the themes included in the strategy are also reflected in the SEA objectives; particularly around water quality in the region, the quality of aquatic ecology, drinking water quality, resource use, energy use and greenhouse gas emissions, and adaptation to climate change.
Wellbeing of Future Generations (Wales) Act 2015	The Act requires public bodies in Wales to consider the long-term impact of their decisions, to work better with people, communities, and each other, and to help prevent recurring problems such as poverty, health inequalities and climate change	The SEA should consider the health and wellbeing needs of the future Monmouthshire residents and population, and ensure they are provided for.
Welsh Government Net Zero Strategic Plan (2022)	Plan sets out how Wales will respond to climate change. It sets out 54 initiatives with associated targets, which will be reviewed in 2025 and 2030, that seek to achieve net zero in Wales by 2030.	The SEA should consider the actions to reduce emissions before the 2030 deadline of net zero and ensure the strategy does not exacerbate air quality.
The Wales Transport Strategy (2021)	The Wales Transport Strategy sets out the Welsh Government's ambitions for the next 20 years and also short-term priorities for	The SEA / LFRMS should seek to ensure the objectives for maintaining the

Source	Key objectives or requirements relevant to the SEA / LFRMS	Implications for the SEA / LFRMS
	the next 5 years to improve transport in Wales, how people move around, and transport infrastructure.	valuable highway assets are considered.
Welsh Water 2050 (2017) (updated 2022)	The plan sets out the long-term strategy for providing a resilient and sustainable water service for future generations through the development of 18 strategic responses to predicted trends and risks to the water industry in Wales. The 5-year review and update highlighted strategic responses which required more focus or acceleration, for example, the challenge of discolouration from deposits accumulating in old cast iron mains pipes, which are then released into drinking water.	The SEA should consider the priorities for managing water resources in Monmouthshire.
Working Together to Reach Net Zero: All Wales Plan (2022)	An all-Wales plan covering the period of 2021 to 2025. It sets out pledges the Welsh Government has made to reduce their carbon footprint and actions to achieve net zero.	The SEA should consider the actions to reduce emissions and ensure the strategy does not increase Wales' net carbon footprint.
Wildlife and Countryside Act 1981 (as amended)	The Act is the principal mechanism for providing legislative protection of wildlife in Great Britain. Species listed in Schedule 5 of the Act are protected from disturbance, injury, intentional destruction or sale. Other provisions outlaw certain methods of taking or killing listed species. This Act is brought up to date regularly to ensure the most endangered animals are on the schedule. The Act also improved protection for the most important wildlife habitats.	Some aspects of the LFRMS may have effects on habitats and species. The SEA should seek to maintain or enhance the quality of habitats and biodiversity and take regard of protected species and habitats.

Source	Key objectives or requirements relevant to the SEA / LFRMS	Implications for the SEA / LFRMS
Regional		
Future Beacons: The Management Plan for the Bannau Brycheiniog National Park 2022 - 2027	Set out how the purposes and duty of the National Park will be met within the geographic area of the Plan. The Plan is produced by the National Park Authority in consultation with a range of stakeholders with the aim of defining a shared vision for the area.	The SEA should consider the vision and actions of the National Park.
Greater Gwent State of Nature Report (2020)	Report which provides a snapshot of the biodiversity trends across Greater Gwent with specific focus on 100 species found within Greater Gwent.	The SEA should consider mitigation strategies to minimise any possible negative impacts on biodiversity, in particular priority habitats and species.
Gwent Wellbeing Plan (2023)	Regional Public Service Board five-year plan outlining how the PSB will work together to tackle the social, economic, environmental, and cultural issues affecting Gwent.	The SEA should seek to consider the wellbeing objectives of the wider Gwent region.
Severn Estuary Shoreline Management Plan 2 (2017)	Plan which sets out the actions for managing the shoreline, who is responsible for the actions and when the actions should be undertaken.	The SEA should consider the priorities for managing the Severn Estuary shoreline.
Severn River Basin District Flood Risk Management Plan (2015)	Plan which promotes a sustainable approach for managing flood risk and describe the scale and extent of flooding and sets policies for managing flood risk within the catchments.	The SEA should consider the priorities for managing the Welsh part of the Severn River basin catchment.
South East Wales Strategic Flood Consequences Assessment (2022)	A desk-based study collating existing information to undertake a broad assessment of potential flood risks across the entire study area from all sources of flooding. The study identifies areas at potential high risk from flooding as well as providing details of historical flood events and any details of any flood risk management structures or procedures present.	The LFRMS should consider historic flood risk and the recommended guidance in relation to flood response mitigation and planning.

Source	Key objectives or requirements relevant to the SEA / LFRMS	Implications for the SEA / LFRMS
Usk Management Catchment Summary (2016)	The management catchment summary provides information on the overall status of waterbodies in the catchment	The SEA should seek to ensure that the aims for improving the catchment are considered when assessing the potential impacts of the LFRMS.
Welsh part of the Severn River Basin Management Plan (2022)	Management plan that outlines the significant water management issues in the river basin district. In descending order, the main reasons for the rivers not achieving good status are physical modifications, pollution from rural areas, pollution from towns, cities and transport, pollution from wastewater and changes to the natural flow and levels of water.	The SEA should consider the priorities for managing the Welsh part of the Severn River basin catchment.
Wye Catchment Partnership Plan (2020)	Plan produced through the bringing together of 50 relevant organisations in order to delivery collaborative improvements in water quality, water quantity and biodiversity throughout the Wye catchment.	The SEA should seek to ensure that the aims for improving the catchment are considered when assessing the potential impacts of the LFRMS.
Wye Valley Area of Outstanding Natural Beauty (AONB) Management Plan	The plan describe show best to conserve and enhance Wye Valley and sets out the threats and pressures on the AONB and the vision for the AONB, as well as the policies and action for management of the AONB to achieve the vision.	The SEA should consider the vision and actions of the National Landscape.
Local		
Monmouthshire Community and Corporate Plan 2022-2028 (2023)	Local government strategy for tackling income inequalities, providing better and accessible services, and identifying opportunities to meet key challenges in the area such as delivering sustainable transport and reducing homelessness.	The LFRMS should ensure it does not conflict with the purpose and objectives of Monmouthshire's Corporate Plan.
Monmouthshire County Council Climate Emergency Strategy and Action Plan (2024)	The plan sets out ten objectives and related actions which the council will take to deliver a net reduction in carbon emissions by 2030.	The SEA should consider the actions to reduce emissions before the 2030 deadline of net zero and ensure the strategy does no exacerbate air quality.

Source	Key objectives or requirements relevant to the SEA / LFRMS	Implications for the SEA / LFRMS
Monmouthshire County Council Contaminated Land Inspection Strategy (2017)	Local government strategy for identifying and removing unacceptable risk to human health and the environment by seeking to ensure contaminated land is made suitable for its current use.	The LFRMS should seek to ensure that contaminated land is maintained in line with statutory guidance.
Monmouthshire Countryside Access Improvement Plan 2020 - 2030 (2020)	The Plan sets out objectives for the county's rights of way network, countryside sites and wider public access for the ten-year period 2020 to 2030.	The plan should consider the routes and use patterns of the rights of way network in Monmouthshire.
Monmouthshire Draft Infrastructure Plan (2013)	Plan which sets out the requirements, phasing, and costs and funding of infrastructure in Monmouthshire. It is the first stage of providing support documents for the local planning policies on infrastructure and developer contributions.	The SEA should seek to ensure that objectives relating to economic growth are considered when assessing the potential impacts of the LFRMS.
Green Infrastructure Strategy (2024)	First published in 2019, the Strategy sets out objectives and priorities with the goal of achieving high quality green spaces and links which benefit both people and wildlife in the county. The 2024 Green Infrastructure Strategy reviews the 2019 strategy to reflect changes in policy and also reflects progress in delivery of green infrastructure projects over the last 5 years.	The LFRMS and SEA should consider green infrastructure planning and access to green space in Monmouthshire.
Green Infrastructure Supplementary Planning Guidance (2015)	Guidance for those involved in the planning process to implement the GI strategy.	The LFRMS and SEA should consider green infrastructure planning and access to green space in Monmouthshire.
Monmouthshire's Local Biodiversity Action Plan	Plan which identifies the wildlife conservation priorities for the county and sets objectives and targets for the conservation, protection, and enhancement of these wildlife priorities. This goes beyond habitats and species to include public awareness and the management of information and data	The SEA should consider mitigation strategies to minimise any possible negative impacts on biodiversity.

Source	Key objectives or requirements relevant to the SEA / LFRMS	Implications for the SEA / LFRMS
Monmouthshire Economy, Employment & Skills Strategy 2023	Sets out the objectives for delivering the key-priority themes in Monmouthshire: • Place: – A vibrant, greener Monmouthshire • People: - A fairer, more successful Monmouthshire • Enterprise: - A thriving, ambitious Monmouthshire • Infrastructure: A well connected Monmouthshire attracting business investment	The SEA and LFRMS should seek to protect key infrastructure and business in the county from risk of flooding.
Monmouthshire's Local Development Plan 2011 - 2021 (adopted 2014)	The LDP sets out the Council's vision and objectives for the development and use of land in Monmouthshire, together with the policies and proposals to implement them over a 10-year period to 2021. The plan area excludes that part of the County contained within the Bannau Brycheiniog National Park. The Replacement Local Development Plan (RLDP) was out for public consultation from December 2022 to January 2023. This is the first statutory consultation stage in the RLDP process which identifies the key issues, challenges, and opportunities for the County, the Vision, and Objectives in response to these, and sets out the Preferred Strategic Site Allocations and Policies to be included in the RLDP.	The LFRMS should ensure it complies with the policies and objectives of MCC's development plan. The LFRMS will ensure it complies with the policies and objectives of the emerging RLDP.
Monmouthshire Our Local Transport Plan 2024 - 2029	The updated LTP sets out the strategic framework for developing the future transport network in Monmouthshire, which considers the local context, supports a healthy and balanced economy, social inclusion and equality and aims reduce the environmental impact of the transport system. It identifies the opportunities and constraints associated with the transport network and policy ambitions to deliver its vision. A key performance indicator of the LTP is the 'Percentage of transport infrastructure at risk of	The LFRMS should not result in increased risk of flooding of highways. The SEA should seek to ensure the objectives for managing Monmouthshire's transport assets are considered.

Source	Key objectives or requirements relevant to the SEA / LFRMS	Implications for the SEA / LFRMS
	flooding' (S22).	
Monmouthshire Motion for Rivers and Ocean Action Plan (2022)	Local government action plan that aims to pull together the work that is going on across many different council services in a co-ordinated way and address areas where the council could be doing more to protect rivers and coast. The plan informs local decision making and sets out actions for managing the council's estuaries, coasts, river catchments, nature recovery, litter, and education and awareness of communities.	The SEA should consider mitigation strategies to minimise any possible negative impacts on rivers and oceans relative to the council area.
Monmouthshire Public Rights of Way BAP (2011)	Plan for managing wildlife and biodiversity when carrying out maintenance and making decisions in relation to the public rights of way network in Monmouthshire.	The SEA should consider mitigation strategies to minimise any possible negative impacts on biodiversity, in particular priority habitats and species.
Monmouthshire Wellbeing Assessment (2022)	The Assessment provides the current wellbeing baseline in Monmouthshire.	The SEA should consider the health and wellbeing needs of the Monmouthshire residents, and ensure negative impacts are mitigated.
Monmouthshire Wellbeing Plan (2018)	The Plan sets out how the public services will work together to address the challenges which are important to local communities in the area. This set out wellbeing goals for the many environmental factors which contribute to wellbeing, such as air quality.	The SEA should consider the health and wellbeing needs of the Monmouthshire residents, and ensure negative impacts are mitigated.

C Statutory Designated Sites in Monmouthshire

Site name	Desi.	Catchment(s)	Qualifying features
Cwm Clydach Woodlands / Coedydd Cwm Clydach	NNR, SSSI, SAC	Usk	Cwm Clydach is of special interest for its stands of beech woodland, intergrading with more open habitats, which together support several rare and scarce vascular plants including whitebeams and soft-leaved sedge and important fungal assemblages containing rare species. The site is of special interest in supporting two localities of national geological importance. The best available sections of the Clydach Beds and the Gilwern Oolite of the Oolite Group occur here. The site is of additional importance for the presence of well-preserved plant remains. It is a key palaeogeographic and stratigraphic locality. Cwm Clydach Woodlands is an example of Asperulo-Fagetum beech forests close to the northern-western limit of the habitat's UK and European range and at relatively high altitude. The main wood is on a steep valley side, comprising a mature canopy of large trees with abundant dead wood. Transitions occur to more acidic beech woodland. Rare and characteristic plant species at the site include the whitebeam, mountain sedge, yellow bird's-nest and bird's-nest orchid.
Gilwern Hill (Gilwern and Pwll Du Quarries Part I)	SSSI	Usk	An area of limestone grassland and old quarries supporting a characteristic limestone grassland community. There are several species that are rare in the county, e.g., autumn gentian Gentianella amarella and brittle bladder fern Cystopteris fragilis. The steeper slopes support ash Fraxinus excelsior woodland over a rich ground flora.
Mynydd Llangatwg (Mynydd Llangattock)	SSSI	Usk	Mynydd Llangatwg straddles the Powys / Blaenau Gwent county boundary to the north of the Heads of the Valleys Road between Brynmawr and Ebbw Vale. Most of the site lies on a broad gently sloping Millstone Grit plateau, at an altitude of 500m. Steeper slopes are mostly associated with the Carboniferous Limestone outcrops which form extensive escarpments along the north-east margins. The variety of soils reflect geology and topography. The cave system is one of the five most important hibernation sites in the UK for lesser horseshoe bat Rhinolophus hipposideros, a species which is threatened in a European context. The Agen Allwedd part of the cave system appears to be the most important, with

Site name	Desi.	Catchment(s)	Qualifying features
			over 230 hibernating bats recorded in recent years. Seven other bat species have also been recorded hibernating in the caves.
Siambre Ddu	SSSI	Usk	The site is of special earth science interest as a subsidence doline and is also an important hibernation roost site for lesser horseshoe bat Rhinolophus hipposideros.
Brook Cottage, Llangybi	SSSI	Usk	This site is unique in Britain in that it is the only accessible cave formed at the junction of the Millstone Grit and the Carboniferous Limestone. This site is unique in Britain in that it is the only accessible cave formed at the junction of the Millstone Grit and the Carboniferous Limestone.
Cilwrgi Quarry	SSSI	Usk	Cilwrgi Quarry exposes an important section through the Usk Limestone which has been of great value in helping to reconstruct the sequence of events which occurred during the middle to late Silurian, some 420 million years ago.
Cwm Mill Section, Mardy	SSSI	Usk	Cwm Mill Section is situated on gently undulating land on the edge of the village of Mardy to the North of Abergavenny. The stream flows from the east where it emerges from under the A465, the main road between Abergavenny and Hereford, and the adjacent railway line to join the River Gavenny in the west. The rock outcrops form part of the bed and banks of the stream.
Cwm-Ton, Glascoed	SSSI	Usk	This is an important geological site providing excellent exposures of Silurian rocks, formed about 410 million years ago. The rocks exposed consist mainly of limestones, representing the upper part of the Usk Limestone, overlain by siltstones.
Golden Hill Quarry, Devauden	SSSI	Nedder Brook & Pill Reen	The volcanic neck exposed in Golden Hill Quarry is the most southerly major occurrence of mantle derived xenoliths in Britain. The neck, of probable Lower Carboniferous age, is composed of vent agglomerate and massive monchiquitic basanite. Both rock types contain abundant mantle xenoliths and megacrysts.

Site name	Desi.	Catchment(s)	Qualifying features
Llanfihangel Moraine	SSSI	Usk	A large arcuate moraine at Llanfihangel Crucorney marks the terminus of the Late Devensian ice sheet in South Wales. It runs west from Llanfihangel Crucorney for about 1.5 km and rises up to 20 m high above the valley floor. Over much of South Wales clear evidence for the terminal limits of the Late Devensian ice sheet is lacking, so that the Llanfihangel Crucorney moraine provides important information on this problem.
Llanover Quarry	SSSI	Usk	Llanover Quarry has long been recognised as an important source of fossil plant material, much of which has been the subject of detailed studies on the land plants which flourished some 380 million years ago.
Severn Estuary (Wales)	SPA, SAC, Ramsar	Adjacent to the coastline of catchments Mill Reen, Nedern Brook & West Pill Reen, and Mounton Brook	The Severn Estuary is one of the largest estuaries in Britain and has the second largest tidal range in the world. It supports a number of internationally important wintering bird populations and other migratory species. It contains the Annex I habitats: estuaries, mudflats and sandflats not covered by seawater at low tide, and Atlantic salt meadows. It also supports Sea lamprey, River lamprey and Twaite shad which are important Annex II species.
Cleddon Bog	LNR, SSSI	Wye	The bog is a biologically designated SSSI which is one of the best sites for recording butterflies and moths in eastern Wales. The site's interfaces between boggy heathland and woodland, with patches of bilberry and heather grow under an open canopy of rowan and other deciduous trees, means that it is home to a variety of important lepidoptera species for Wales such as the Bilberry Pug and welsh wave moths. White-line Snout, a UK BAP species, is present at the site.

Site name	Desi.	Catchment(s)	Qualifying features
Coed-y-Cerrig	LNR, NNR, SAC, SSSI	Usk	Coed y Cerrig is a good example of alluvial forest in southern Wales. The valley-bottom woodland has a canopy dominated by alder with ash Fraxinus, and a rich understorey that includes guelder-rose and bird cherry. The ground flora is characterised by abundant large sedges, and a wide diversity of wet woodland species. The woodland is continuous with diverse ash-elm and oak woodland on the valley sides. The Coed-y-Cerrig reserve has a variety of wet and dry woodland habitats, making it rich in wildlife. Its moist valley floor is covered by an unusual type of alder woodland rich in fungi in the autumn.
Penhow Woodlands	NNR, SSSI	Mill Reen	Penhow Woodlands National Nature Reserve covers three areas of ancient semi-natural woodland. Only one of them, at Coed Wen, is open to the public. The woods are dominated by ash, small-leaved lime, wych elm and gean, with an understorey of hazel. The site is coppiced In order to keep a reasonably open canopy allowing plenty of light onto the woodland floor, to benefit plants which grow beneath the trees. The woods grow on the tops and slopes of the limestone hills in the vicinity of Newport. This type of habitat is increasingly rare in the UK, as are the plants which grow within it.
Lady Park Wood	NNR	Wye	The reserve is considered to be one of the most important sites for woodland conservation in the United Kingdom and lies on the southern side of a gorge formed by the winding River Wye. Located halfway between Monmouth and Ross-on-Wye, it is part of the long stretch of woodland which fringes the lower part of the Wye Valley and then joins the Forest of Dean. The nearest community is Symonds Yat. The wood is in the Wye Valley Area of Outstanding Natural Beauty. It is part of the Upper Wye Gorge Site of Special Scientific Interest (SSSI) and the River Wye Special Area of Conservation (SAC).
Fiddler's Elbow	NNR, SSSI	Wye	This woodland nature reserve is designated as a Site of Special Scientific Interest (SSSI) for its biological characteristics, containing a wide variety of flora such as local and rare tree species English Oak, Cornish Oak with small leaved lime, and also bluebell wood. Fauna such as Dormice and Roe Deer are also present.

Site name	Desi.	Catchment(s)	Qualifying features
Wye Valley Woodlands / Coetiroedd Dyffryn Gwy (Wales)	SAC	Wye	The woods of the lower Wye Valley on the border of south Wales and England form one of the most important areas for woodland conservation in the UK. Wye Valley Woodlands contains the Annex 1 habitats: Asperulo-Fagetum beech forests, Tilio-Acerion forests of slopes, screes and ravines, and Taxus baccata woods of the British Isles.
Wye Valley and Forest of Dean Bat Sites / Safleoedd Ystlumod Dyffryn Gwy a Fforest y Ddena (Wales)	SAC	Wye, Olway, Mounton Brook,	This complex of sites on the border between England and Wales contains by far the greatest concentration of lesser horseshoe bat Rhinolophus hipposideros in the UK, totalling about 26% of the national population, and greater horseshoe bat Rhinolophus ferrumequinum in the northern part of its range, with about 6% of the UK population.
Usk Bat Sites / Safleodd Ystlumod Wysg	SAC	Usk, Honddu	The Usk Valley area in south-east Wales contains one of the largest maternity roosts for lesser horseshoe bat Rhinolophus hipposideros as well as several important hibernacula in caves in the area. The area contains up to 5% of the UK population, though counts in hibernation sites suggest this may be an underestimate.
Sugar Loaf Woodlands	SAC, SSSI		Sugar Loaf Woodlands are the largest example of old sessile oak woods near the south-eastern fringe of the habitat's range in the UK and Europe. The relatively dry situation restricts the development of the Atlantic flora associated with the habitat, but the main floristic components of sessile oak Quercus petraea canopy, acidic ground flora (typically of bilberry Vaccinium myrtillus and wavy hair-grass Deschampsia flexuosa) and extensive fern and bryophyte cover are in place. The woodland is grazed, but regenerates within gaps and at the fringes, where transitions to upland grassland and heath communities occur.

Site name	Desi.	Catchment(s)	Qualifying features
River Wye (Wales) / Afon Gwy (Gwy Isaf)	SAC, SSSI	Wye	The Wye, on the border of England and Wales, is a large river representative of Annex 1 habitat: water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation. It has a geologically mixed catchment, including shales and sandstones, and there is a clear transition between the upland reaches, with characteristic bryophyte-dominated vegetation, and the lower reaches, with extensive Ranunculus beds. The river channel is largely unmodified and includes some excellent gorges, as well as significant areas of associated woodland. It also includes several Annex II species.
Cwm Clydach Woodlands / Coedydd Cwm Clydach	SAC	Usk	Cwm Clydach Woodlands is an example of Asperulo-Fagetum beech forests close to the northern-western limit of the habitat's UK and European range and at relatively high altitude. The main wood is on a steep valley side, comprising a mature canopy of large trees with abundant dead wood. Transitions occur to more acidic beech woodland. Rare and characteristic plant species at the site include the whitebeam, mountain sedge, yellow bird's-nest and bird's-nest orchid.
River Usk / Afon Wysg	SAC	Usk	The River Usk is designated for the several Annex II species located there including Sea lamprey, Brook lamprey, River lamprey, Twaite shad, Atlantic salmon, Bullhead, and Otter.
Cwrt y Bela a Springdale	SSSI	Olway	Cwrt y Bela a Springdale is of special interest for its exceptionally large area of speciesrich neutral grassland and for a population of chaffweed Centunculus minimus.
Afon Wysg (Isafonydd) / River Usk (Tributaries)	SSSI	Honddu; Usk	The Usk is of special interest as a fine example of a river running over sandstones and for its associated plant and animal communities. Its character spans a wide range of types from an upland, base-poor stream to a large lowland river with extensive tidal reaches. Its overall diversity is a product of its underlying geology, soil type, adjacent land-use and fluvio-geomorphological regime.
Barbadoes Hill Meadows	SSSI	Wye	Barbadoes Hill Meadows is of special interest for its species-rich neutral grassland. The site also supports a population of the greater butterfly orchid Platanthera chlorantha, an uncommon and declining grassland plant.

Site name	Desi.	Catchment(s)	Qualifying features
Black Mountains	SSSI	Honddu; Usk	An extensive area of upland moorland and associated habitats lying on rocks of the Old Red Sandstone series and rising to over 610 metres (2,000 feet). As such it represents the most south-easterly area of upland habitat in southern Britain and in this context is of particular importance for nature conservation.
Blackcliff - Wyndcliff	SSSI	Wye	The woodlands of the lower Wye valley form one of the most important areas for woodland nature conservation in Britain, comparable with the Caledonian pinewoods, the oceanic oakwoods of western Britain, the New Forest and the mixed coppices of East Anglia. Unlike most other regions, semi-natural woodland is abundant and virtually continuous along the gorge.
Blaentrothy Meadows (Caeau Blaentroddi)	SSSI	Trothy	The site straddles the steep east and west facing slopes of the headwaters of the River Trothy. Soils are clayey brown earths of the Bromyard Association which have developed on the underlying Devonian rocks. The meadows support one of the largest remaining areas of unimproved neutral grassland in Gwent. At least two grassland sub-communities and several plant species with a restricted distribution in Gwent are present.
Blorenge	SSSI	Usk	The southern part of this extensive upland site is comprised of sub-montane heath with large areas of Calluna - Empetrum - Vaccinium vitis-idaea, a community which is of local distribution in South Wales. In the north there are exposures of Carboniferous Limestone bearing a grassland rich in calcicole species including hairy violet Viola hirta, lesser wild thyme Thymus drucei, purging flax Linum catharticum and salad burnet Poterium sanguisorba. Additional habitats include acidic and basic scree and oligotrophic and dystrophic open water bodies.
Brockwells Meadows	SSSI	Nedern Brook & West Pill Reen	The best example in the county of species rich ancient pasture on lime rich soils overlying Carboniferous Limestone and Triassic rocks. The sward includes several herbaceous plant species which are now of limited distribution in the county. These include autumn lady's tresses Spiranthes spiralis, large wild thyme Thymus pulegioides and green winged orchid Orchis morio. An additional interest is the diverse macro-invertebrate fauna which includes the rare robber fly Asilus crabroniformis and the great green bush cricket Tettigonia viridissima.

Site name	Desi.	Catchment(s)	Qualifying features
Bushy Close	SSSI	Mounton Brook	A small relic of a woodland type which is widespread on Jurassic clays in England. Oak Quercus robur standards and hazel Corylus avellana coppice occur over a characteristic ground flora.
Caeau Fferm	SSSI	Usk	Caeau Fferm is of special interest for its extensive stands of dry mesotrophic grassland and its associated mixture of other habitat types. Uncommon species recorded at the site include adder's-tongue Ophioglossum vulgatum, meadow saffron Colchicum autumnale and large thyme, which here, is close to the western limit of its geographical range.
Caer Llan Wood	SSSI	Trothy	The woodlands of the lower Wye Valley form one of the most important areas for woodland nature conservation in Britain, comparable with the Caledonian pinewoods, the oceanic oakwoods of western Britain, the New Forest and the mixed coppices of East Anglia. Unlike most other regions, semi-natural woodland is abundant and virtually continuous along the gorge.
Cleddon Shoots Woodland	SSSI	Wye	The woods are a mixture of many types, some of which are very localised, e.g., the lime-sessile oak stands on limestone; beech stands on both acid and alkaline soils in which lime, elm, oak and other species share dominance. Furthermore, these woods sit in a matrix of unimproved grassland and other semi-natural habitats which, together with the woods, make the Wye Valley one of the most diverse, rich and attractive areas of southern Britain.
Cobbler's Plain Meadows, Devauden	SSSI	Olway	Cobbler's Plain Meadows are situated to the north of the village of Devauden at an altitude of between 120-190 metres. The underlying geology is lower Old Red Sandstone and the soils are classified as brown earths of the Milford and Eardiston 1 associations. The meadows are located on a steep western facing slope and are generally freely drained with local minor flushing. The site supports the largest areas in Gwent of a particular unimproved neutral grassland community type as well as plant species which are becoming scarce in the county and nationally.

Site name	Desi.	Catchment(s)	Qualifying features
Coed-y-Person	SSSI	Usk	A large area of ancient semi-natural woodland on the steep north facing lower slopes of the Blorenge mountain. The lower edge is formed mainly by the Monmouthshire and Brecon canal except that in places the canal passes through the wood cutting off a small area of the lower slopes.
Coombe Valley Woods	SSSI	Nedern Brook & West Pill Reen	This complex of woods lies in a narrow steep-sided valley of the Cas Troggy brook on strongly calcareous soils overlying dolomotized Carboniferous Limestone. The ancient semi-natural high forest and old coppice-with-standards contain important examples of calcareous woodland types with a diversity of canopy trees including beech Fagus sylvatica, small leaved lime Tilia cordata, oak Quercus robur, ash Fraxinus excelsior, field maple Acer campestre and wych elm Ulmus glabra.
Croes Robert Wood	SSSI	Trothy	Croes Robert Wood is an area of relict coppiced woodland with flushed acid soils on moderately steep slopes at the northern edge of the Trellech Plateau. Wych elm Ulmus glabra, ash Fraxinus excelsior, birch Betula pendula and cherry Prunus avium as both coppice and occasional standards predominate the upper slopes with more extensive areas of alder Alnus glutinosa coppice below. The wood also has an interesting bryophyte flora.
Cwm Llanwenarth Meadows	SSSI	Usk	The site is comprised of two unimproved meadows on the flanking slopes of a small mountain stream and associated wetland areas. Soils are slowly permeable fine loamy clays of the Wilcocks Series with a well-developed peaty surface horizon giving way to waterlogged peat in lower lying areas. The underlying geology is comprised of superficial deposits of glacial sand and gravel over Old Red Sandstone. A diverse range of plant communities is represented at this site with mesotrophic grassland on the upper slopes characterised by meadow fescue Festuca pratensis, rough stalked meadow grass Poa trivialis, yorkshire fog Rolcus lanatus and lesser knapweed Centaurea nigra, this gives way to a matrix of species rich acid grassland and fen meadow communities in the valley bottom. T

Site name	Desi.	Catchment(s)	Qualifying features
Dinham Meadows	SSSI	Nedern Brook & West Pill Reen	A series of five grassland areas which are part of the same management unit and have been traditionally managed as hay meadows and pasture since the 1930s. Together they constitute the largest area of unimproved grassland in the county. Four are managed for hay and the fifth, located in an area of very thin soils and rock exposures, supports only a sparse cover. Soil types range from deep coarse loams with slight seasonal waterlogging through fine loams of intermediate depths with a moderate calcareous influence to bare rock of Carboniferous Limestone. These areas are also important for the diverse assemblage of invertebrates characteristic of grassland habitats.
Foxwood	SSSI	Honddu	Foxwood is of special interest for the population of the lesser horseshoe bat Rhinolophus hipposideros that it supports. The site includes a cave system used for roosting as well as wooded foraging habitat.
Gaer House Woods	SSSI	Monnow	The largest area of ancient semi-natural alder Alnus glutinosa woodland of this type in the county, situated alongside tributary streams of the River Monnow. Other abundant canopy species include ash Fraxinus excelsior and elm Ulmus glabra. Understorey species include hawthorn Crataegus monogyna, holly Ilex aquifolium, goat-willow Salix caprea and hazel Corylus avellana which is codominant with alder in some areas. The ground flora is characteristic of this plateau type alder woodland with meadow-sweet Filipendula ulmaria, opposite-leaved golden saxifrage Chrysosplenium oppositifolium and woodsorrel Oxalis acetosella.
Gaer Wood, Llangoven	SSSI	Olway	Gaer Wood is an area of relict mixed woodland with a number of mainly flushed acid woodland types and transitions, several of which are of limited distribution in the county. The dominant tree species are wych elm Ulmus glabra, field maple Acer campestre and ash Fraxinus excelsior with local areas of beech Fagus sylvatica.

Site name	Desi.	Catchment(s)	Qualifying features
Graig Wood	SSSI	Wye	Graig Wood is an area of relict coppice with standards woodland with a range of woodland types some of which are rare in the county. Ash Fraxinus excelsior and wych elm Ulmus glabra dominate much of the wood but there are areas with lime Tilia cordata, beech Fagus sylvatica and alder Alnus glutinosa. There is a rich bryophyte flora associated with flushed areas and streams.
Gwent Levels - Magor and Undy	SSSI	Nedern Brook & West Pill Reen	Gwent Levels are an example of one of the most extensive areas of reclaimed wet pasture in Great Britain which includes the Somerset Levels, Romney Marsh and the Pevensey Levels, and is the largest area of its kind in Wales. Together these Levels systems constitute a national series of sites each with its own special features. The Magor and Undy area are the most easterly of the Gwent Levels sites supporting a total of 43 nationally rare and notable invertebrate species such as the soldier fly, the snail killing fly and the water beetle. This area also supports several rare and notable aquatic plant species
Gwent Levels - Redwick and Llandevenny	SSSI	Mill Reen	The Redwick and Llandevenny area supports rich assemblages of invertebrate species including Chalcis sispes a parasite of the Stratiomys fly larvae, the beetle Scirtes orbicularis and the drone fly Pharhelophilus consimilis. The area also contains a number of nationally rare plant species including the rare Myriophyllum verticillatum located in peaty ditches in the northern part of the site and the brackish water crowfoot associated with the ditches bordering the sea wall.
Harper's Grove-Lord's Grove	SSSI	Wye	Harper's Grove – Lord's Grove is a large area of predominantly relict mixed coppice and mixed coppice with standards of woodland on the steep west - south-west facing slopes of the River Wye gorge south of Monmouth. There are a large number of woodland types with extensive areas of oak Quercus robur and Q petraea, small leaved lime Tilia cordata and beech Fagus sylvatica. The site is notable for a stand of hornbeam Carpinus betulus which appears to be the only truly natural stand in the county and is a considerable distance from its main area of distribution. Large leaved lime Tilia platyphyllos also occurs in Lord's Grove.

Site name	Desi.	Catchment(s)	Qualifying features
Livox Wood	SSSI	Wye	Livox Wood is a relict mixed coppice with occasional standards on very steep north-north west facing slopes of the River Wye gorge. There is a zonation of woodland type with increasing soil depth, moisture and base status down the slope. Sessile oak Quercus patraea and hybrids dominate the top of the slope with alder Alnus glutinosa, ash Fraxinus excelsior and wych elm Ulmus glabra on the lower slopes. There is an interesting ground flora particularly on the flushed lower slopes including species that are rare or local in the county such as giant bellflower Campanula latifolia, toothwort Lathraea squamaria and broad leaved sedge Carex strigosa.
Llandegfedd Reservoir	SSSI	Usk	This reservoir is the largest inland open water habitat in the County and since its formation in 1963 has developed into one of the three regionally important overwintering wildfowl refuges in Wales. The site is particularly important for the overall numbers and variety of wintering wildfowl, with large numbers of wigeon, pochard and mallard. Other notable species include goosander, teal and goldeneye. The area around the reservoir includes grassland, important for feeding and roosting wildfowl, woodland and scrub.
Llangovan Church	SSSI	Olway	Llangovan Church is of special interest as a summer roost for the lesser horseshoe bat Rhinolophus hipposideros. The site comprises a stone-built Norman church and surrounding churchyard, situated on the east facing slope of a valley side in Llangovan, Monmouthshire. The bats roost in the apex of the main church and in a small roof space to the south side of the tower, but also have access to the main body of the church. A purpose built gap in the church porch allows access on a direct flight path. The site regularly supports a breeding roost of at least 100 adults as well as flighted juveniles.
Llwyn y Celyn	SSSI	Mounton Brook	This site, which occurs alongside the Mounton Brook, supports examples of fairly calcareous spring mire and swamp plant communities which are uncommon in Gwent.

Site name	Desi.	Catchment(s)	Qualifying features
Wetland			The underlying geology consists of Brownstones of the Lower Old Red Sandstone. Soils alongside the Mounton Brook are alluvial in origin with peaty surface horizons on the wetter areas. A complex network of springs issuing from the base of the slopes helps to maintain high water levels on land adjoining the stream.
Rectory Meadow - Rogiet	SSSI	Nedern Brook &West Pill Reen	The only extant and recorded native site of Meadow Clary Salvia pratensis in Wales. This rare species is confined principally to a few sites in Oxfordshire and Gloucestershire and is here at the western edge of its range. The site is on deep clay soil overlying Carboniferous Limestone strata and is located close to the existing Burness Castle Quarry Site of Special Scientific Interest.
Lower Ground, Penrhos	SSSI	Trothy	Lower Ground supports a neutral unimproved grassland community and an unimproved mire community. The site supports a number of locally rare species including petty whin Genista anglica, southern marshorchid Dactylorhiza praetermissa and flea sedge Carex pulicaris. Additional diversity is provided by small areas of alder carr, dense and scattered scrub, dense bracken and bank-side vegetation.
Lower Hael Wood	SSSI	Wye	Lower Hael Wood is an excellent example of a diverse and well-structured mixed coppice with standards system including a wide range of woodland types on the steep east – north east facing slope of the River Wye gorge. Beech Fagus sylvatica, lime Tilia cordata, wych elm Ulmus glabra, ash Fraxinus excelsior and oak Quercus robur and Q petraea are the dominant canopy trees with a rich ground flora particularly on the flushed lower slopes.
Lower Nex Meadows, Devauden	SSSI	Mounton Brook	Lower Nex Meadows are situated to the south of the village of Devauden at an altitude of 210 metres. The underlying geology consists of Brownstones of the Old Red Sandstone and the soils are classified as brown earths of the Oglethorpe Association. The meadows slope gently to the south west and are freely drained. The site supports a traditionally managed

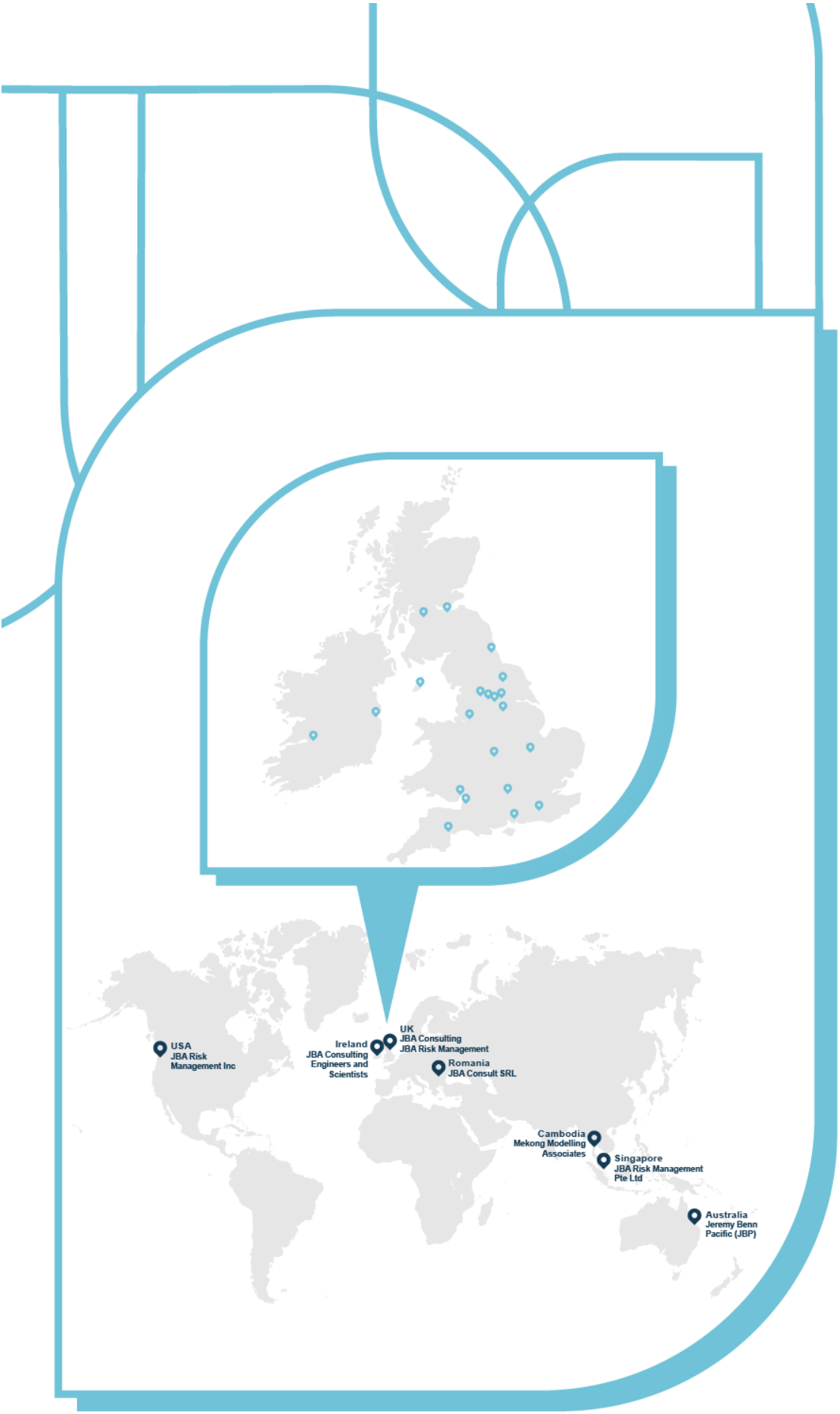
Site name	Desi.	Catchment(s)	Qualifying features
			unimproved neutral grassland community with a restricted distribution in Gwent. The vegetation is uniform and is best described as the Lathyrus pratensis sub-community of the Centaurea nigra – Cynosurus cristatus type of neutral grassland. This site supports the largest area known in Gwent of this vegetation type. A particularly noticeable feature of the meadows is the widespread abundance of oxeye daisy Leucanthemum vulgare, a reliable indicator of nutrient poor soils.
Maes-yr-Uchaf Wood	SSSI	Trothy	Maes-Yr-Uchaf Wood is an area of relict mixed woodland on the Trellech Plateau with an unusual combination of woodland types of local occurrence in the county. The dominant canopy species are field maple Acer campestre, alder Alnus glutinosa and ash Fraxinus excelsior. There are a number of good indicators of ancient woodland in the ground flora, including wood-sorrel Oxalis acetosella, dog's mercury Mercurialis perennis and herb paris Paris quadrifolia. Streams and boundary banks and ditches are additional features of interest.
Magor Marsh	SSSI	Mill Reen	The largest remnant of the formerly extensive fenlands near the Gwent coast. It lies on estuarine alluvium but receives run-off from an area of Carboniferous Limestone. The site supports a variety of reed Phragmites australis, sedge Carex spp. and submerged and emergent aquatic plants. There are areas of wet meadow and both willow Salix spp. and alder Alnus glutinosa carr with an intersecting system of drainage ditches – or reens and ponds. It is an important breeding ground for water and marsh birds.
Mwyngloddfa Mynydd-Bach	SSSI	Mounton Brook	Mwyngloddfa Mynydd-bach is of special interest for its hibernaculum of the lesser horseshoe bat Rhinolophus hipposideros. The site consists of a disused mine adit cut through Old Red Sandstone rocks. The single entrance faces north-east. The entrance is in a narrow strip of woodland to the north of the Carpenter's Arms Public House at Mynydd-bach. The horizontal adit passes under the B4235 Usk to Chepstow Road to the south west and continues into the hillside along a straight line, for a total length of about 70 metres.

Site name	Desi.	Catchment(s)	Qualifying features
Newton Court Stable Block	SSSI	Wye	The Newton Court Stable Block site which is of special interest for its breeding colony of the greater horseshoe bat Rhinolophus ferrumequinum is located on a south-east facing bluff above the town of Monmouth, overlooking the River Wye and immediately adjacent to the Wye Valley Area of Outstanding Natural Beauty.
Nedern Brook Wetlands, Caldicot	SSSI	Nedern Brook & West Pill Reen	The area is subject to seasonal flooding from the Nedern Brook so that as much as a third to half of the total area can be flooded between November and April in most years. Productive meadows which are regularly flooded are now very rare in Wales. This area is an important site for breeding birds, particularly waders, and was identified as a site of regional importance in a national survey of breeding waders of wet meadows carried out in 1982. It is of regional importance for breeding redshank, while other notable breeding species include lapwing, mute swan, shelduck, yellow wagtail and reedbunting. The site is also important for other wintering species of wildfowl and waders.
Park House Wood	SSSI	Wye	Park House Wood is the best example of sessile oak Quercus petraea coppice on acid soils in the county and is the largest area of this type in the Wye Valley. Quartz Conglomerate exposures, seral scrub stages and a rich bryophyte and lichen flora are additional features.
Penarth Brook Woodlands	SSSI	Olway	Penarth Brook Woodland is an area of woodland on the steep valley slopes of Penarth Brook with a wide range of soil types. The beech Fagus sylvatica with pedunculate oak Quercus robur on the acid soils of the upper slopes is a woodland type of restricted distribution in the county. The ash Fraxinus excelsior and wych elm Ulmus glabra dominated lower slopes have strong flushed areas with an interesting ground flora including alternate-leaved golden saxifrage Chrysosplenium alternifolium, narrow-leaved bitter-cress Cardamine impatiens and smooth sedge Carex laevigata. A small stream, cliffs and boulders are additional habitats within the wood.
Penpergwm Pond	SSSI	Usk	A pond situated in the Usk valley with hydrological links with the River Usk. It is the best example of a natural mesotrophic water body in the county with a diverse emergent flora and a number of national and county rarities including orange foxtail Alopercurus aequalis, lesser marshwort Apium inundatum, water purslane Lythrum portula and bladder sedge Carex

Site name	Desi.	Catchment(s)	Qualifying features
			vesicaria.
Pentwyn Farm Grasslands, Penallt	SSSI	Wye	Pentwyn Farm Grasslands are situated on the edge of the Penallt village, 4 km south-east of Monmouth. The grasslands lie at an altitude of 120-200 m and have varying aspects (most of the site slopes moderately to the south but two of the fields face north and south-east respectively). The underlying geology is Lower Red Sandstone, and the soils are classified as brown earths of the Milford and Eardiston I associations. This site supports one of the largest areas of a traditionally managed, unimproved neutral grassland in Gwent, of a community type that is declining in the British Isles.
Pierce, Alcove And Piercefield Woods	SSSI	Wye	Pierce, Alcove and Piercefield Woods is an area of mixed semi-natural woodland mostly of beech Fagus sylvatica /yew Taxus baccata /lime Tilia cordata with a relict coppice structure with some standards on steep slopes facing east. An interesting transition from acid to calcareous woodland types occur in Pierce Woods. There are a number of rare or local species of plants including largeleaved lime Tilia platyphyllos and several species of whitebeam Sorbus spp. Hornbeam Carpinus betulus and Sorbus aria are at the end of their range here. The cliffs support the only heronry in the lower Wye Valley and the caves are an important roost for several bat species.
Plantation Farm and the Gethley	SSSI	Mounton Brook	Plantation Farm and the Gethley SSSI is of special interest for its species-rich neutral grassland vegetation. It supports one of the largest remaining areas of unimproved neutral grassland in Monmouthshire. This grassland is characteristic of traditional low-input management regimes and has become increasingly rare in recent decades due to agricultural intensification.
Priory Wood	SSSI	Usk	The best remaining example of ancient semi-natural woodland on the Silurian rocks of the Usk Inlier. Woodland types range from oak Quercus robur and Q. petraea and birch Betula pendula and B. pubescens in the west to ash Fraxinus excelsior/wych elm Ulmus glabra dominated woodland with a rich ground flora in the east.

Site name	Desi.	Catchment(s)	Qualifying features
River Usk (Lower Usk) / Afon Wysg (Wysg Isaf)	SSSI	Usk	The River Usk (Lower Usk) is a rare example of a large mesotrophic lowland river which has not been subject to significant modification by man. Of particular significance to the river's morphology and biology are the extensive deposits of fluvio-glacial and alluvial material in the Usk valley between Abergavenny and Newport. The Lower Usk has developed a wide floodplain with a complex and active system of meanders, cut-off and back channels which contribute to the biological interest and diversity of the site.
River Usk (Upper Usk) / Afon Wysg (Wysg Uchaf)	SSSI	Usk	The River Usk (Upper Usk) is a fine example of an upland river flowing in part over hard sandstones, creating steeply graded sections with rocks, cascades, boulders and cliff-bound banks. In other areas, on a broad flood plain, it cuts through extensive deposits of fluvio-glacial and alluvial material, creating a complex and active system of meanders, cut-off and back channels which contribute to the biological interest and diversity of the site.
Strawberry Cottage Wood	SSSI	Honddu	Hanging sessile oak Quercus petraea wood over an Old Red Sandstone bluff on the southern edge of the Black Mountains. It has unusually well grown oaks Quercus petraea and some Q robur, locally abundant birch Betula pendula and occasional lime Tilia cordata and beech Fagus sylvatica.
Upper Wye Gorge	SSSI	Wye	The site lies on the banks of the River Wye where it has cut a spectacular meandering gorge through Old Red Sandstone and Carboniferous Limestone in the vicinity of Symonds yat. It consists of one of the most extensive blocks of semi -natural broadleaved woodland in the whole of the Wye Valley. Other habitats represented include woodland streams, small areas of limestone grassland and limestone rock outcrops. The site is also important for' Pleistocene mammal remains. The woodlands have a range of soil types which are generally alkaline in character although in places more acidic surface layers have developed. They variety of rocks and soil types has resulted in a very diverse broadleaved woodland with ten different types of woodland having been identified with a correspondingly varied ground flora. Several caves on the north side of the river contain Pleistocene deposits which are rich in mammal remains. Merlin's Cave, a moderately large cave, has yielded remains of lemmings

Site name	Desi.	Catchment(s)	Qualifying features
			and pika (a lagomorph), whilst King Arthur's Cave is of great importance for its sequence of mammal faunas from successive horizons.
Wye Valley Lesser Horseshoe Bat Site	SSSI	Mounton Brook	This is a composite bat site located in and around the valleys of the lower River Wye and its tributaries, Gwent. The site comprises 4 summer nursery roosts of the lesser horseshoe bat Rhinolophus hipposideros at Penallt Old Church, The Priory, Llandogo, Itton Court Stud and Tregeiriog Farm. Individually, these roosts are important in a national context as nursery sites, and collectively they form part of the most important population centre for the species in the UK. The lesser horseshoe bat is an internationally endangered species listed on Annex II (a) of the EC Directive on the Conservation of Natural Habitats of Wild Fauna and Flora (the Habitats and Species Directive).



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