Monmouthshire County Council

Flood and Water Management Act 2010

Local Flood Risk Management Strategy 2025

DRAFT

monmouthshire
sir fynwy

Version Control

Title	Local Flood Risk Management Strategy
Purpose	
Owner	Highways and Flood Risk Management
Approved by	
Date	
Version Number	Final Draft
Status	Working Document
Review Frequency	-
Next review date	-
Consultation	

Version	Prepared by	Reviewed by	Approved by	Date
Final Draft	Ross Price	Craig O'Connor	Craig O'Connor	June 2025

Contents

Foreword

Foreword from Cabinet Member to be inserted

1. Introduction

1.1 The Need for a Local Strategy

Under the Flood and Water Management Act 2010 (FWMA), Monmouthshire County Council (MCC) has been established as the Lead Local Flood Authority (LLFA) for its administrative area. This Act requires all 22 LLFAs in Wales to produce, develop, maintain, apply and monitor a Local Flood Risk Management Strategy (Local Strategy) for their administrative area.

The Welsh Government's National Strategy for Flood and Coastal Erosion Risk Management (FCERM) in Wales (National Strategy) sets out that over 245,000 properties across Wales are at risk of flooding from rivers, the sea and surface water, with almost 400 properties also at risk from coastal erosion. The National Strategy explains that, as the climate changes, we can expect those risks to increase, with more frequent and severe floods, rising sea levels and faster rates of erosion of the coast.

Storm events such as those of October 2019, February & December 2020 and November 2024 demonstrated how vulnerable some communities within Monmouthshire are to flooding, with that risk likely to increase with the onset of climate change. Storm Dennis (February 2020) alone resulted in flooding to almost 200 homes and 50 businesses across Monmouthshire, with a further 75 homes and 22 businesses reported to have flooded during Storm Bert (November 2024). These events emphasise the need for MCC to have in place robust strategic priorities for managing local flood risk to help improve community resilience and adaptation to climate change.

Different Risk Management Authorities (RMAs) in Wales are responsible for different sources of flood risk. As a LLFA, MCC are responsible for managing "local flood risk" which is defined as flood risk from:

- Surface water runoff
- Groundwater, and
- Ordinary watercourses (generally smaller watercourses).

This Local Strategy focuses on these local sources of flood risk within Monmouthshire but acknowledges and considers other sources of flood risk (including main rivers, sea, and sewers) and associated responsible RMAs.

The National Strategy sets out the legislative context to FCERM activities in Wales. In certain cases, Local Authorities are also required to produce Flood Risk Management Plans (FRMP), under the 2009 Flood Risk Regulations (revoked as part of the Retained EU Legislation Action on 31st December 2023). A summary of the legislative context to FCERM activities in Wales is provided in Appendix B.

1.2 The Purpose of this Local Strategy

MCC published our first Local Strategy in 2013, setting out our overarching approach to managing local flood risk. Alongside our Local Strategy, MCC published a FRMP in 2016. Our FRMP developed the objectives and high-level measures outlined in our Local Strategy into a more detailed plan for managing flooding in our communities.

This document is our second Local Strategy. Whilst we previously published our Local Strategy and FRMP separately, this new Local Strategy integrates the two documents into one. This reduces complexity and enables us to communicate and manage local flood risk more effectively. The FRMP is referred to as the Flood Action Plan within this Local Strategy.

This Local Strategy will explain how flooding from local sources will be managed across Monmouthshire, consistent with the objectives, measures and related policies and legislation set out in the National Strategy. This Local Strategy will be reviewed within 2 years of the publication of the next National Strategy, approximately every 6 years. The Flood Action Plan (Appendix A) will be reviewed and updated every 3 years or as required.

1.3 Structure of this Local Strategy

This document is structured as follows:

Chapter 1 Introduction
Introduces the background, need and purpose of the Local Strategy.

Chapter 2 Coordination of Flood Risk Management
Summarises how this Local Strategy aligns with other Council strategic plans, national policies and coordination with other stakeholders and their plans.

Chapter 3 Flood Risk in Monmouthshire
Provides an overview of the different sources and risk of flooding across Monmouthshire.

Chapter 4 How this Strategy Responds to Climate Change
Provides an overview of climate change in the context of flood risk and outlines how this Local Strategy seeks to address these risks in Monmouthshire.

Chapter 5 Roles and Responsibilities for Managing Flood Risk in Monmouthshire
Sets out the roles and responsibilities for managing flood risk in Monmouthshire. It also highlights some of the key policies we have in place for managing local flood risk.

Chapter 6 Strategic Objectives
Describes the strategic objectives for managing local flood risk in the coming years, and how these align with the objectives set out in the National Strategy.

Chapter 7 Flood Measures
Sets out the flood risk management measures. These are broad activities and ways of working which help us to meet our strategic objectives.

Chapter 8 Flood Actions
Introduces the Flood Action Plan. This is a focused plan, detailing specific deliverable actions required to meet the measures. The Flood Action Plan is included in Appendix A.

Chapter 9 Funding and Prioritisation
Summarises the different ways in which flood risk management activities can be funded as well as how MCC prioritise these activities.

Chapter 10 Environmental Assessments
Outlines how this Local Strategy will contribute to wider environmental objectives.

Chapter 11 Monitoring Progress

Describes how MCC will measure and monitor progress in delivering the objectives, measures and actions set out in this Local Strategy.

1.4 Targets within this Local Strategy – Objectives, Measures and Actions

This Local Strategy sets out our flood risk management Objectives, Measures and Actions. These three groupings, which provide different levels of detail on how flood risk will be managed, are summarised in Figure 1 below.

Figure 1: Definitions of the Objectives, Measures and Actions for Delivering MCC's Local Strategy

Objectives

- Overarching targets or outcomes of flood risk management during, or beyond, the Local Strategy cycle.
- Statements of Local Authority ambition for flood risk management.
- Specific to the Local Authority but linked to the National Strategy Objectives.

Measures

- Broad activities and ways of working to meet the Objectives.
- Typically apply to the Local Authority area rather than specific communities/locations within it.
- Are loosely time-bound and are measurable at a high-level, with indicative costs and benefits.

Actions

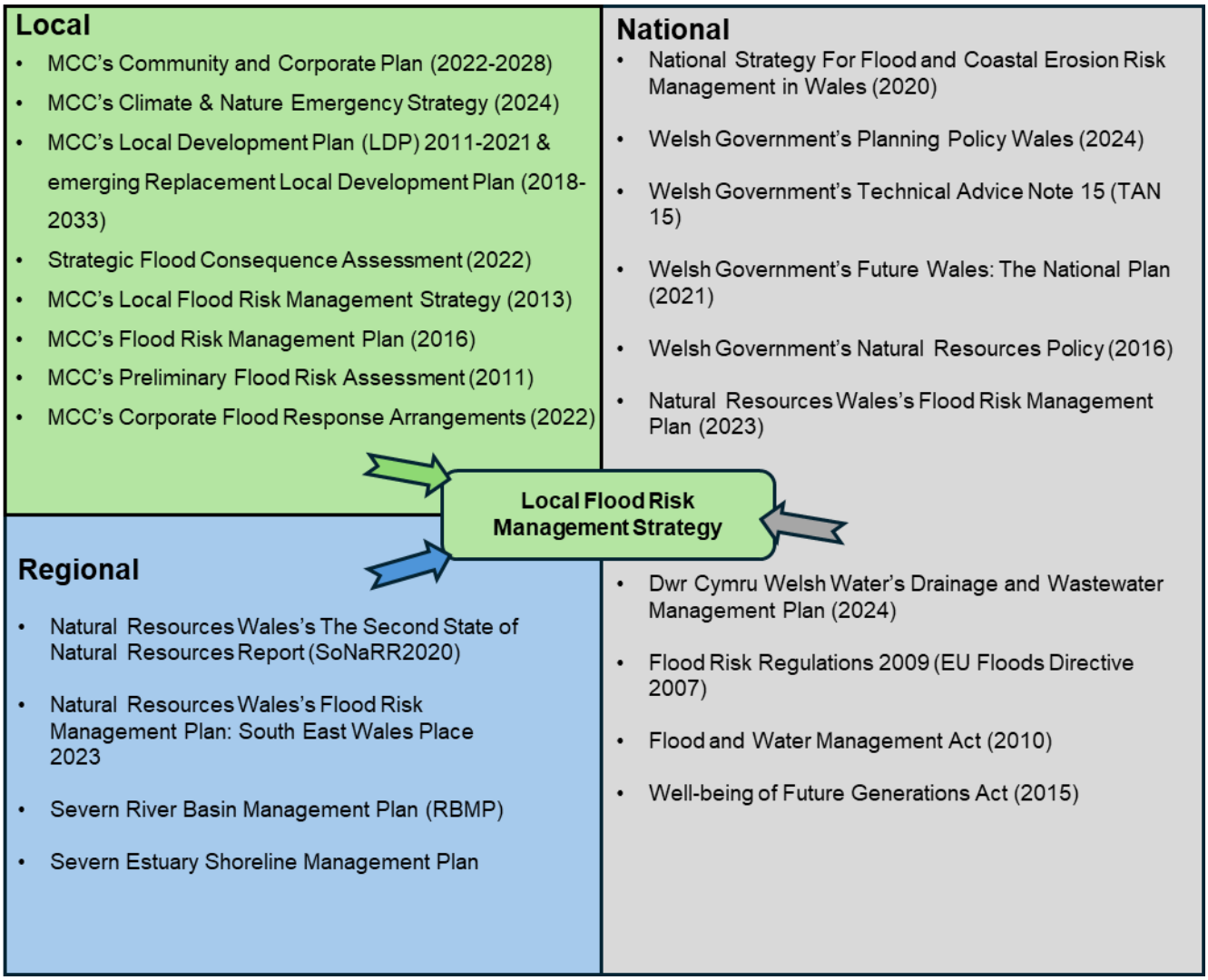
- Specific tasks, activities or initiatives, planned and tracked, to meet the Measures.
- Reviewed and updated on a regular basis, reporting on progress every 3 years.
- Short, medium and long term with clearly defined outputs/outcomes.
- Typically location-specific within the local authority area.

2. Coordination of Flood Risk Management

2.1 How this Strategy Aligns with our other Strategic Plans

This Local Strategy sits alongside several other key pieces of legislation and strategic plans that cover local, regional, and national policy relative to flood risk management. The relationship between these is shown in Figure 2 below.

Figure 2: Interaction of Strategic Plans, Policies and Legislation



Each of the plans, policies and pieces of legislation listed in Figure 2 are summarised in Table 1 below.

Table 1: Key Policies, Plans and Legislation

Local Plans & Policies
MCC's Community and Corporate Plan (2022-2028): This plan includes actions for MCC to reduce the risk of flooding by working with partners to promote natural flood alleviation, to maintain support mechanisms for communities vulnerable to flooding and pressing for sustainable natural solutions where possible and engineered solutions where necessary.
MCC's Climate & Nature Emergency Strategy (2024): In 2019 Monmouthshire County Council declared a climate emergency which includes actions for the Council to reduce our contribution to climate change. In addition, MCC has declared a Motion for the Rivers and Ocean which includes an Action Plan focusing on environmental protection and enhancement, improving water quality and reducing flood risk.
MCC's Local Development Plan: This Plan manages flood risks in relation to new developments, whilst providing a sustainable framework for the future. It sets out planning policies and allocates sites for different types of development. It operates a development management system to process planning applications, and to ensure that proposed developments meet the requirements of the local and strategic plans.
Strategic Flood Consequences Assessment (2022): Allows the consequences of flooding from all sources to inform the location of new development in the LDP. It identifies areas at potential high risk from flooding as well as providing details of historical flood events and details of any flood risk management structures or procedures present. Monmouthshire is included in the South East Wales Stage 1 SFCA which was produced in November 2022. The Stage 2 SFCA was pending at the time of writing of this Local Strategy.
MCC's Local Flood Risk Management Strategy (2013): First published in 2013 the first Local Strategy has been reviewed and updated and will be superseded by this new Local Strategy giving strategic direction to the management of local sources of flood risk for the next 6 years.
MCC's Flood Risk Management Plan (2016): Published in 2016 this plan allowed MCC to develop a better understanding of flood risk from all sources of flooding and to agree priorities to manage that risk in accordance with the objectives set out in Welsh Government's National Flood and Coastal Erosion Risk Management Strategy. The Plan highlighted the areas most at risk from surface water flooding and ordinary watercourses in Monmouthshire and set out measures to mitigate those risks over a 6 year period. This Plan has been updated and replaced by Flood Action Plan contained within this Local Strategy.
MCC's Preliminary Flood Risk Assessment (2011): This assessment covers local flood risk (focusing on ordinary watercourses, surface water and groundwater flooding) in Monmouthshire. Where significant Flood Risk Areas are identified using a national approach (and locally reviewed), the LLFA are then required to undertake flood risk hazard mapping and Flood Risk Management Plans (FRMPs).
MCC's Corporate Flood Response Arrangements (2022): These arrangements focus on the roles and responsibilities of the council to a flooding incident within Monmouthshire.

Regional Policies & Plans
Natural Resources Wales's The Second State of Natural Resources Report (2020): This report states in Aim 3 that 'Wales has healthy places for people, protected from environmental risks. Under this aim the report highlights that 245,000 properties in Wales are at risk of flooding. The report highlights that there are opportunities for action to address the flooding issue by use of natural interventions, catchment wide approaches, maintaining sustainable flood defences and improving awareness and understanding of flood risk. This report was published by Natural Resources Wales.
Natural Resources Wales's Flood Risk Management Plan: South East Wales Place (2023): This plan provides information about the level of flood risk at a local scale and describes what NRW have planned for the communities that they are most concerned about. In line with Welsh Government's National Flood and Coastal Erosion Risk Management Strategy Objectives, NRW prioritise their work and direct their efforts on a prioritised flood risk basis to communities at greatest risk of flooding. They do this using their Communities at Risk Register (CaRR) that considers a number of factors to identify the locations (communities) at greatest risk of flooding across the South East Wales area. The CaRR is used to inform, plan and prioritise their investment programme to target investment in the most at risk communities.
Severn River Basin Management Plan (2022): Produced by the Environment Agency and Natural Resources Wales, the purpose of a river basin management plan (RBMP) is to provide a framework for protecting and enhancing the benefits provided by the water environment; it also informs decisions on land use planning. Monmouthshire falls into the South East Wales Area Statement within the RBMP. MCC have considered how the local strategy can support the RBMP in achieving its objectives, by setting objectives related to preventing deterioration in water quality for rivers within the county boundary.
Severn Estuary Shoreline Management Plan: Produced by the Severn Estuary Coastal Group, this plan provides a large-scale assessment of the risks associated with coastal processes and present a long-term policy framework to reduce these risks to people and the developed, historic, and natural environment in a sustainable manner. SMPs are non-statutory plans and are produced by Coastal Groups made up of maritime Local Authorities and other bodies with coastal defence responsibilities or interests.
National Legislation & Policies
Welsh Government's National Strategy for Flood and Coastal Erosion Risk Management in Wales (2020): Published in October 2020 this strategy sets out how the Welsh Government intends to manage flood and coastal erosion risks in Wales over the next ten years. The Strategy has been drafted with a longer-term, strategic view, recognising the nature of flood and coastal erosion risk with respect to the challenges of climate change. It will work alongside other strategic plans for shoreline management, infrastructure, and development planning.
Welsh Government's Planning Policy Wales (2024): This policy addresses a wide range of issues including the placemaking of sustainable settlements, the location of new development, the commitment to the re-use of land and promoting sustainability through good design.

Welsh Government's Technical Advice Note 15 (TAN 15): This key document, updated on 31st March 2025, provides technical guidance which supplements the policies set out in Planning Policy Wales and Future Wales in relation to flooding and coastal erosion. It provides a framework within which the flood risks arising from rivers, the sea and surface water, and the risk of coastal erosion can be assessed. It is supported by the Flood Map for Planning (which replaced the previous Development Advice Map (DAM)) which represents the best available information on flood risk and is the framework for assessing risks to and from new development. The Flood Map for Planning uses flood zones to indicate the degree to which land is at risk of flooding, so that informed decisions can be made when considering the location of new development.
Welsh Government's Future Wales: The National Plan (2021): This plan highlights in Policy 8 that flood risk is a constraining factor to development, especially because of many Welsh towns and cities being located on the coast or located alongside major rivers. It identifies that the likelihood of rising sea levels and increased rainfall caused by climate change means the risk of flooding is projected to increase over the lifetime of the development and sustainable solutions will be required.
Welsh Government's National Resources Policy (2016): This policy highlights how careful management of ecosystems can play a crucial role in building resilience to the impacts of climate change such as flooding. It also highlights that there are opportunities to manage flooding by using natural flood risk management techniques across Wales with NRW aiming to increase the role of nature-based solutions in flood and water management.
Natural Resources Wales's Flood Risk Management Plan (2023): This plan covers all of Wales and provides information on the scale of flood risk, as well as NRW's priorities for managing the risk of flooding and measures that they propose to take over the coming years. This Plan covers flooding from rivers, reservoirs and the sea. It does not include flooding from surface water and smaller watercourses, for which Lead Local Flood Authorities (LLFAs) have powers and take the lead.
Dŵr Cymru Welsh Water's Drainage and Wastewater Management Plan (2024): This is a long-term strategic plan which looks at drainage and sewerage needs over the next 25 years. DCWW embed an approach of working together with others, including MCC as the LLFA, to investigate options for sustainable management of DCWW's wastewater services, giving consideration to reducing the risk of sewer flooding to communities.
Flood Risk Regulations (2009): Developed in accordance with the EU Floods Directive 2007 these regulations required all LLFAs to prepare a Preliminary Flood Risk Assessment for local sources of flooding. This was then used as an evidence base to identify flood risk areas. Flood Risk Management Plans were required to be developed for these flood risk areas with the aim of reducing the probability and consequences of flooding. These Regulations were revoked as part of the Retained EU Legislation Act on 31st December 2023.
Flood and Water Management Act (2010): This act created clearer roles and responsibilities and instils a more risk-based approach. This includes a new lead role for Local Authorities in managing local flood risk (from surface water, groundwater, and ordinary watercourses) and a strategic overview role of all flood risk for Natural Resources Wales.

Well-being of Future Generations Act (2015): This act places a duty on all public bodies to safeguard the well-being of future generations. The duty is based on the principle of sustainable development and requires public bodies to think about the long-term impact of their decisions, whilst collaborating with others, communities, and each other.

2.2 Coordination with Others

Collaborative working and coordination between RMAs and other stakeholders is essential to deliver the shared goal of reducing flood risk in our communities. MCC will continue to work with partners, including local communities, to achieve the flood risk objectives, measures and actions within this Local Strategy.

Through this Local Strategy, MCC has adopted a catchment-based approach to managing flood risk in the county. This helps to promote collaboration between MCC, NRW and other key stakeholders to reduce the risk of flooding in Monmouthshire. A catchment-based approach is also encouraged by the National Strategy to ensure close working between RMAs so that natural flood management and hybrid schemes can be developed and appropriately sited.

Throughout the development of this Local Strategy, consideration and coordination has been given to the strategic plans of other RMAs outlined in Chapter 2.1 above.

The Local Strategy will be subject to a 6 week public consultation commencing 1st August 2025. The consultation, which will include an online survey and public drop-in sessions at Community Hubs, will enable residents, businesses and other organisations in Monmouthshire and beyond to give their views on local flood risk and help shape the Local Strategy. Key stakeholders such as neighbouring LLFAs, NRW, Dŵr Cymru Welsh Water and Welsh Government will also be invited to comment on the draft Local Strategy. Details of the consultation responses will be reviewed and if required, the draft Local Strategy will be amended to ensure if reflects the needs and concerns of the communities in Monmouthshire. The final Local Strategy, and accompanying environmental assessments, will be presented to MCC's Cabinet for approval before submitting the final documents to Welsh Government for Ministerial approval.

This consultation follows an online public survey hosted by MCC in 2023, which included sixteen questions regarding people's understanding of flood risk management, their own level of flood risk and specific issues they have experienced or are concerned about. In total 90 responses were received from residents, businesses, elected members/councillors and town and community councils. The results of the survey have informed the content of this Local Strategy.

3. Flood Risk in Monmouthshire

The FWMA defines a "Flood" as *"any case where land not normally covered by water becomes covered by water"*. "Flood risk" is a combination of the probability and the potential consequences of flooding. Areas at risk of flooding are those at risk of flooding from any source, now or in the future.

Many communities across Monmouthshire are at risk of flooding from a variety of sources and experience regular flooding which can have a significant effect on people's lives. Over the past decade we have seen an increasing threat from more intense rainfall events and named storms than ever before. These rainfall events do not just occur during winter months, more localised surface water and flash flooding from smaller ordinary watercourses is becoming more frequent during the summer and autumn, often leading to wetter catchments that can exacerbate early winter flooding. Existing drainage infrastructure is not always able to cope with these intense rainfall events, which regularly results in the highway network, infrastructure and adjacent properties being impacted more frequently and to a greater extent.

Climate change forecasts suggest this more regular flooding will become the norm and with rising sea levels and tides, some communities in Monmouthshire face an increasing risk of flooding.

MCC as a RMA have a responsibility to manage local flood risk across the county. It is not possible to prevent all flooding, however, the activities identified in this strategy aim to ensure the risks from these local sources of flooding (surface water, groundwater and ordinary watercourses) are identified and managed where possible.

Management of flooding from main rivers and tidal sources rests with Natural Resources Wales, whilst flooding from sewers falls under the remit of Dŵr Cymru Welsh Water. These flooding sources are covered in each RMA's own plans for managing flood risk and whilst they have been considered in this report they have not been assessed in detail.

3.1 Sources of Flooding in Monmouthshire

Communities across Monmouthshire are at risk from numerous different sources of flooding. Figure 3 below summarises these and shows the most appropriate RMA to contact.

Figure 3: Sources of Flooding and Who to Contact

	**Surface Water Flooding** Also known as "Pluvial Flooding", can be difficult to forecast and often occurs when intense heavy rainfall exceeds the capacity of the ground or drainage systems, resulting in overland flow and ponding that can affect highways, buildings and low-lying areas.	Contact **MCC** as **Lead Local Flood Authority**
	**Ordinary Watercourse Flooding** Generally smaller watercourses and ditches (not designated as main rivers) are typically prone to flash flooding from heavy localised rainfall that results in the capacity of the watercourse being exceeded and over topped. Flooding can also often occur when these smaller watercourses become 'flood locked' when unable to discharge to larger main rivers when they are in spate.	Contact **MCC** as **Lead Local Flood Authority**
	**Groundwater Flooding** Typically occurs after long periods of sustained heavy rainfall causing the water table to rise to ground level. Areas most at risk are often low-lying where the water table is likely to be at a shallow depth resulting in flooding as water rises up from an underlying aquifer or water flowing from springs.	Contact **MCC** as **Lead Local Flood Authority**
	**Main River Flooding** Occurs when designated main rivers and streams cannot contain the flow of water from their catchments. Such flooding can often result in smaller ordinary watercourses and drainage systems becoming flood locked, leading to them backing up and causing wider flooding. Main rivers in Monmouthshire include the Rivers Monnow, Wye, Usk and Trothy, the Olway, Nedern and Mounton Brooks and the Mill Reen.	Contact **Natural Resources Wales**
	**Sewer Flooding** This occurs when the capacity of the sewer is exceeded by the volume of water entering it or a restriction to flow resulting from debris/blockage or a structural failure. Sewer flooding can be from foul, surface water and combined sewers.	Contact **Dwr Cymru Welsh Water**
	**Highway Flooding** This can be defined as flooding caused by heavy rainfall overflowing from blocked drains and gullies causing water to pond within the highway. This can also occur through inadequate or poorly maintained drainage, or when runoff from adjacent land overwhelms the system. Poor or degraded surfacing can also contribute to highway flooding.	Contact **MCC** for **local adopted roads** and **SWTRA** for **Trunk Roads.**
	**Coastal & Tidal Flooding** Can occur when high tides combine with severe weather, leading to storm surges and large waves.	Contact **Natural Resources Wales**

3.2 How we assess Flood Risk in Monmouthshire

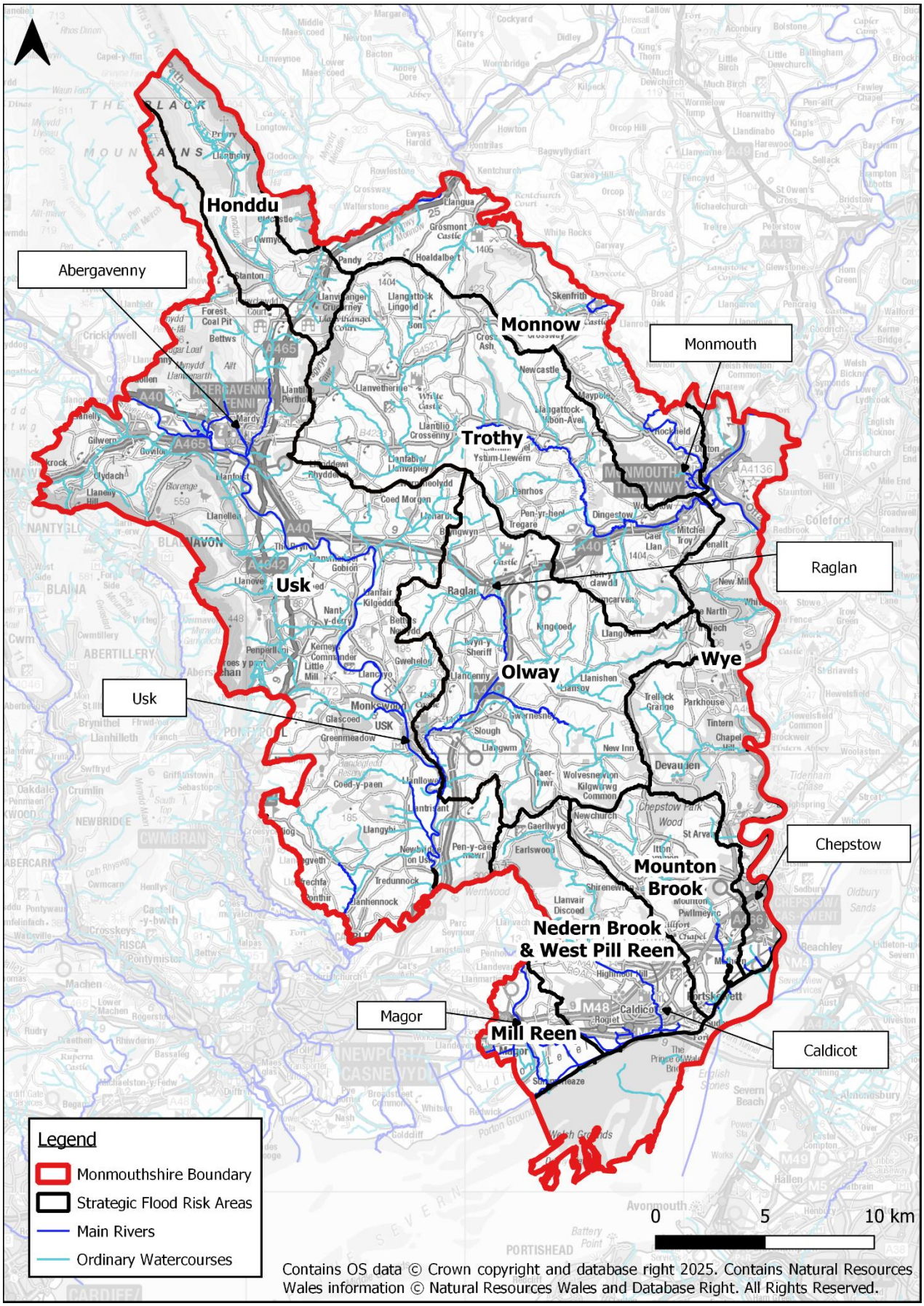
Flood risk across Monmouthshire has been assessed on a catchment basis using identified Strategic Flood Risk Areas (SFRAs). These SFRAs mirror the catchments of larger watercourses and breakdown the county into suitable areas whereby local flood risk can be considered in a holistic way along with all other sources of flooding. This approach also helps to highlight areas at greatest risk and their interconnected potential for mitigation on a catchment basis, whilst also maximising the potential for identifying flood risk management opportunities across a range of LLFA responsibilities and duties.

The largest river catchments of the Usk and Wye cover the majority of the county, therefore, to avoid overly large SFRAs, these catchments have been broken down to include their largest tributaries, using catchment boundaries from DataMapWales. In the south, due to the location of the main settlements and the two catchments being comparatively small in area, the Nedern Brook and West Pill Reen catchments have been combined to form one SFRA. This has resulted in nine SFRAs as shown in Table 2 and Figure 4 below.

Table 2: Main Settlements in each SFRA

Strategic Flood Risk Area (SFRA)	Main Settlements
Usk	Gilwern, Govilon, Llanwenarth, Abergavenny, Llanellen, Llanover, Penperlleni, Little Mill, Monkswood, Usk, Llanllowell, Llantrisant, Llangybi, Treddunock, Newbridge-on-Usk
Olway	Trellech, Raglan, Llanishen, Llandenny, Gwernesney, Usk, Llangwm
Honddu	Llanthony, Cwmyoy, Llanvihangel Crucorney, Pandy, Werngifford
Monnow	Grosmont, Skenfrith, Rockfield, Monmouth
Trothy	Cross Ash, Llanvapley, Llantilio Crossenny, Dingestow, Mitchel Troy
Wye	Monmouth, Penallt, The Narth, Llandogo, Catbrook, Tintern, St Arvans, Chepstow
Mill Reen	Magor, Undy
Nedern Brook & West Pill Reen	Llanvair Discoed, Caerwent, Crick, Rogiet, Caldicot, Portskewett, Sudbrook
Mounton Brook	Itton, St Arvans, Shirenewton, Mynydd-bach, Mounton, Pwllmeyric, Mathern

Figure 4: Strategic Flood Risk Areas (SFRAs) In Monmouthshire



In order to identify and assess flood risk across the SFRA's, four main datasets have been used to assess flood risk in Monmouthshire, these are:

- NRW's Communities at Risk Register (CaRR)
- NRW's Flood Risk Assessment Wales (FRAW) dataset
- JBA's Groundwater flood map (licenced specifically for this Local Strategy)
- Numerous environmental datasets from DataMapWales.

Additional sources of information include MCC's flood and drainage asset database, historic flood and land drainage records, Section 19 Flood Reports, as well as local knowledge from communities and MCC staff.

Details of each of the above four main datasets are outlined below.

Communities at Risk Register (CaRR) Dataset

The CaRR dataset is produced and managed by NRW on behalf of Welsh Government and provides an objective way to identify risk and prioritise flood risk management activities in Wales at a community level. It applies a standard methodology across all flood sources to calculate a theoretical 'danger score' that allows comparative risks to be quantified and ranked (from High to Low). The data can be accessed through the DataMapWales website and was used to undertake counts of properties at risk as detailed in Chapter 3.2.1.

NRW's Flood Risk Assessment Wales (FRAW) Map

The FRAW map shows flood risk from Rivers, the Sea, Surface Water and Small Watercourses, and Reservoirs across Wales. The dataset is developed and managed by Natural Resources Wales and can be viewed on their website and downloaded from the DataMapWales website. Along with the National Receptor Database, the FRAW data has been used to assess key environmental areas and infrastructure within the county at risk of surface water flooding, as well as flood risk counts from other sources of flooding. The dataset is formed of national scale modelling and categorises risk into 3 bands, labelled High, Medium and Low risk. The definition of each risk band is detailed below.

- 'High' risk means that each year, this area has a chance of flooding of greater than 3.3% (1 in 30 year probability).
- 'Medium' risk means that each year, an area has a chance of flooding between 1% and 3.3% AEP (between 1 in 100 and 1 in 30 year probability).
- 'Low' risk means that each year, an area has a chance of flooding of between 0.1% and 1% AEP (between 1 in 1000 and 1 in 100 year probability).

Whilst the focus of this Local Strategy is on local sources of flood risk, for wider context and awareness, additional counts using the FRAW data and National Receptor Database have been undertaken to show the risk from rivers and the sea. The FRAW flood map for Rivers (fluvial) shows flood risk from larger ordinary watercourses (catchments greater than 3km^2) which affect many areas within Monmouthshire, as well as flooding from main rivers. Therefore, as ordinary watercourses are a local source of flood risk which must be considered in this Local Strategy, a high level assessment has included the approximate separation of areas at risk from either ordinary watercourses or main rivers. The fluvial counts for the whole of Monmouthshire can be found in

Chapter 3.3.3, and the counts and maps can for each SFRA can be found in the Flood Action Plan in Appendix A.

JBA Groundwater Flood Map

JBA has developed a range of Groundwater Flood Map products at the national scale. The 5m resolution JBA Groundwater Map has been used within this Local Strategy. The modelling involves simulating groundwater levels for a range of return periods (including 1.33% year, 1%, and 0.5% Annual Exceedance Probability (AEP)). Groundwater levels are then compared to ground surface levels to determine the head difference in meters. The JBA Groundwater Map categorises the head difference (m) into five feature classes based on the 1% AEP model outputs. These are outlined in Table 3.

Table 3: Groundwater Classification

Flood depth range during a 1% AEP flood event	Groundwater flood risk
Groundwater levels are either at or very near (within 0.025m of) the ground surface.	Groundwater may emerge at significant rates and has the capacity to flow overland and/or pond within any topographic low spots.
Groundwater levels are between 0.025m and 0.5m below the ground surface.	There is the possibility of groundwater emerging at the surface locally.
Groundwater levels are between 0.5m and 5m below the ground surface.	Groundwater may emerge into subsurface assets but surface manifestation of groundwater is unlikely.
Groundwater levels are at least 5m below the ground surface.	Flooding from groundwater is not likely.

It is important to note that the modelled groundwater levels are not predictions of typical groundwater levels. Rather they are flood levels i.e. groundwater levels that might be expected after a winter recharge season with 1% AEP and so would represent an extreme scenario. The maps also assess the risk of groundwater emergence and not of resulting groundwater flooding. For groundwater flooding to occur it is often necessary for groundwater to have nowhere to go without ponding and flooding an area first.

It should be noted that as the JBA Groundwater Flood Map is based on national modelling it should only be used for general broad-scale assessment of the groundwater flood hazard in an area and it is not explicitly designed for the assessment of flood hazard at the scale of a single property. In high risk areas a site-specific risk assessment for groundwater flooding is recommended to fully inform the likelihood of flooding, this may include review of historical flood records, historical borehole logs, consultation with the LLFA and groundwater monitoring.

Environmental Datasets

All Environmental datasets listed in Table 6 to Table 8 were sourced from DataMapWales with the exception of ‘Sites of Interest for Nature Conservation’ which is held by MCC.

In addition to the above datasets, local flooding and land drainage records held by the Lead Local Flood Authority, including Section 19 Flood Reports published by MCC, have been used to further inform the assessment of flood risk across the 9 SFRAs.

3.2.1 Identification of Flood Risk Receptors Methodology

Property Counts

The 2024 CaRR dataset and its Address Point Layer has been utilised to count the number of properties at High, Medium and Low risk from surface water flooding. For the purposes of this Local Strategy, properties have been divided into High, Medium and Low risk ratings as per the criteria shown in Table 4.

Table 4: Flood Risk Ratings

Local Strategy Risk Rating	Equivalent CaRR Risk Rating
High	At risk up to the 3.3% AEP (1 in 30 yr) event
Medium	At risk up to the 1% AEP (1 in 100 yr) event
Low	At risk up to the 0.1% AEP (1 in 1000 yr) event

Property counts were then divided into residential, non-residential and key services categories. Non-residential properties include businesses, industrial units and other less vulnerable development types. Key Services include schools/education facilities, health services, transport, and utilities.

NRW guidance advises that whilst the data should not be used to identify which individual properties will flood as it is not at a suitable scale, it does give an indication of risk across an area. These risks for each of the SFRAs within Monmouthshire can be found in the Flood Action Plan in Appendix A.

As described in Chapter 3.2, counts for properties and key services at risk of flooding from rivers (fluvial) have been derived from the FRAW dataset. These include larger ordinary watercourses (catchments greater than 3km²) and designated main rivers, as well as the sea.

Environmental and Infrastructure Counts

The FRAW dataset was used to assess all environmental and infrastructure areas within the county at risk of surface water flooding e.g. nature reserves, SSSI and ancient woodland. Using QGIS the environmental shapefiles were intersected with the FRAW dataset to understand which areas overlapped with high, medium and low risks of flooding on the FRAW data. Area values for the overlapping shapefiles were then totalled to give values for each risk category.

These counts build on the work completed for the Strategic Flood Consequence Assessment (SFCA) in 2022, where surface water and small watercourse flood risk was analysed at a high level in Monmouthshire.

Groundwater review

Using the JBA Groundwater Flood Map the depth of groundwater during a 1% AEP was assessed against the 9 Strategic Flood Risk Areas used in this Strategy. The geology of the area was also considered and how this affects the movement of groundwater within a SFRA. Geology information was sourced from the British Geological Survey GeoIndex mapping. A summary of the findings can be found in Chapter 3.3.2.

3.3 Overview of Flood Risk in Monmouthshire

The nature of flood risk within Monmouthshire is extremely varied and widespread across the county. Monmouthshire has a significant section of coastline and an extensive network of main rivers, ordinary watercourses, sewers and highway drainage systems. These can be found in and around densely populated main towns as well as across a large rural area of differing topography, which can result in areas being at risk from multiple sources of flooding.

Topography varies significantly with higher ground elevations to the north and north-west of the county, where the southern extents of the Black Mountains and the border with the Bannau Brycheiniog National Park are located. The Rivers Usk and Wye flow into Monmouthshire immediately north of Abergavenny and Monmouth respectively. Monmouthshire is located at the downstream end of these very large catchments, resulting in our communities being susceptible to increased runoff entering watercourses and resulting flood risk, brought about by changing land management practises upstream of the county boundary.

The southern extent of Monmouthshire is bounded by the River Severn and the Severn Estuary. Here the topography is much flatter across the area known as the Gwent Levels which stretches from the southwestern county boundary near Magor and Undy, to the southeastern boundary at Chepstow and the River Wye. The intricate network of reens and ditches within the Gwent Levels is managed by Natural Resources Wales as part of the Gwent Internal Drainage District.

Further detail of each of the main catchments and flood risk from all sources across Monmouthshire can be found in the Action Plan for each of the nine Strategic Flood Risk Areas in Appendix A.

Many communities across Monmouthshire were significantly impacted during the events of February 2020, which saw successive named Storms Ciara, Dennis and Jorge bring devastating flooding to over 200 homes, 50 businesses and extensive damage to essential infrastructure. These events resulted in record levels being recorded on the River Usk and River Wye, as well as many ordinary watercourses and drainage systems being overwhelmed.

Storm Bert in November 2024 brought further widespread flooding to the county with approximately 75 homes and 22 businesses flooded and record levels recorded on sections of the Rivers Monnow, Trothy and the Olway Brook. Anecdotal evidence from this event suggested many smaller ordinary watercourses reached levels not seen by neighbouring communities and residents in living memory.

3.3.1 Flooding from Surface Water and Small Watercourses (Pluvial)

Surface water flooding, also known as pluvial flooding or flash flooding, occurs when high intensity rainfall generates runoff which flows over the surface of the ground and ponds in low lying areas. It is usually associated with higher ground that is saturated or when the drainage networks have insufficient capacity to cope with the additional flow. This type of flooding often affects lower land, highways and occasionally property and is often associated with flooding from ordinary watercourses.

Small watercourses, as shown by the FRAW maps, are ordinary watercourses with a catchment of less than 3km². These are typically smaller watercourses and ditches that are not designated as main rivers. There is a significant network of these watercourses across all catchments within Monmouthshire, all with varying characteristics and flood risks. Flooding from a small watercourse occurs when its channel cannot accommodate the volume of water that is flowing into it or when there is significant impedance to the passage of flow within the channel, to the extent that it causes flows to come out of its banks.

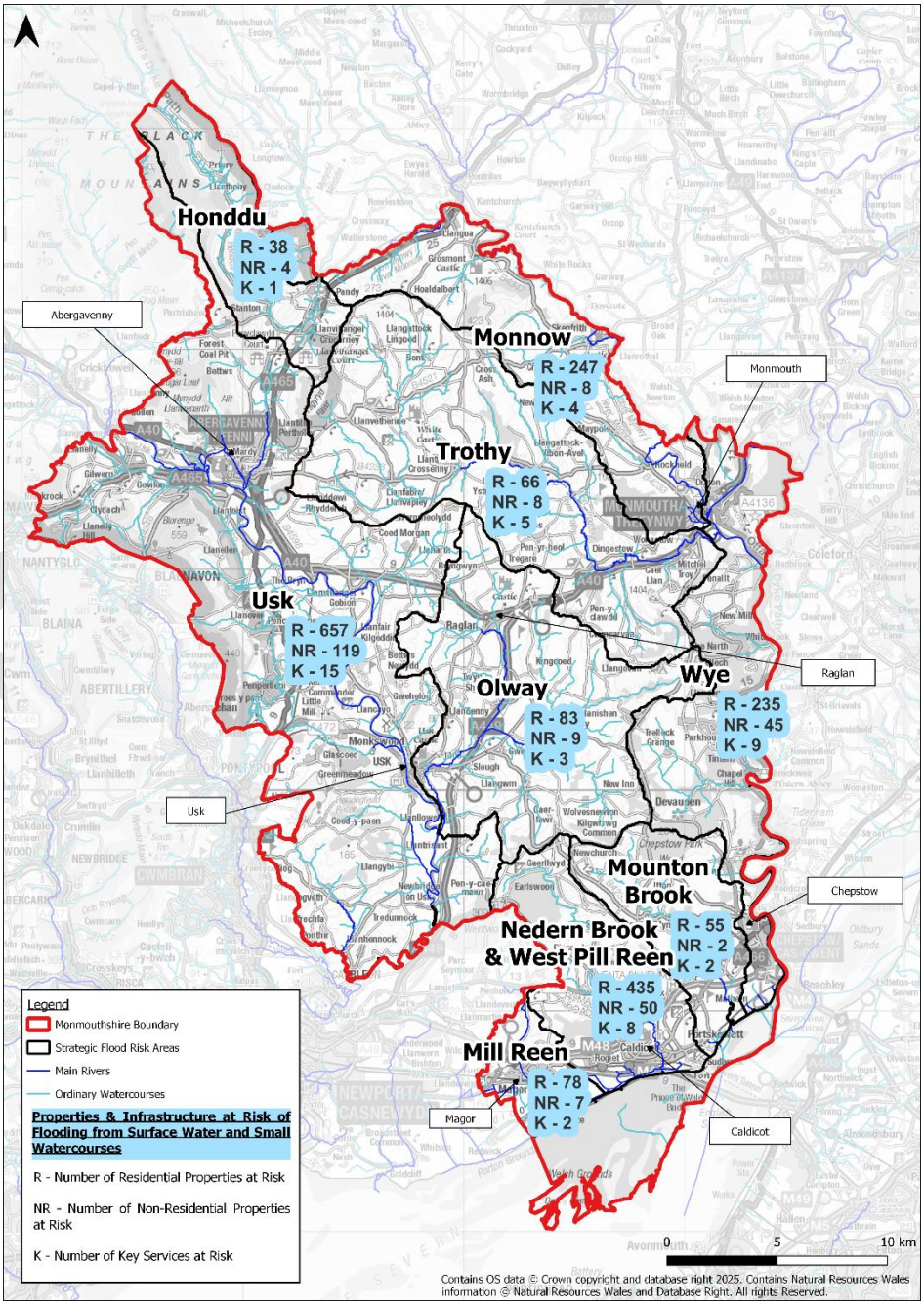
Using the methodology outlined in Chapter 3.2.1, an assessment of flood risk from surface water and small watercourses has been undertaken, which shows the majority of properties at high risk are located in the key settlements. This is partly due to the large areas of impermeable surfaces across the urban extent increasing rainfall runoff and causing a rapid response to rainfall, but is largely due to these urban areas being where flood risk receptors are located. Abergavenny, Monmouth, Usk, and Chepstow are areas that make up a large proportion of the 242 properties at high risk of surface water flooding as shown in Table 5 and Figure 5 below.

Table 5: Receptors at Risk from Surface Water and Small Watercourses

Receptor	High Risk (Chance of flooding greater than 3.3% AEP)	Medium Risk (Chance of flooding between 3.3% and 1% AEP)	Low Risk (Chance of flooding between 1% AEP and 0.1% AEP)
Properties (n)			
Residential Properties (n)	242	209	1443
Non-Residential Properties (n)	27	32	193
Key Services (n)	12	10	27
Listed Buildings (n)	11	5	15
Infrastructure (km)			
Primary/Trunk Roads (km)	1.3	1.1	5.2
Main Line Railways (km)	1.1	0.1	2.7
Environmental (Hectares [ha])			
Agricultural Land - Grades 1, 2 and 3	226.1	93.3	1443
Ancient Woodland	67.6	19.6	193
Country Parks	1	0.5	27
Local Nature Reserves (LNR)	0.2	0.6	15
National Nature Reserves (NNR)	1.2	0.6	5.2
Ramsar Sites	0	0	2.7
Registered Parks and Gardens	31.6	10.3	387

Scheduled Ancient Monuments (SAM)	5.3	1.6	65.4
Sites of Interest for Nature Conservation (SINC)	26.8	7.6	2.8
Sites of Special Scientific Interest (SSSI)	21.4	7.69	2
Special Areas of Conservation (SAC)	3.2	1.8	2
Special Protection Areas (SPA)	0	0	0

Figure 5. Properties and Infrastructure at risk from Surface Water and Small Watercourse per SFRA



An assessment of flooding on environmental sites shows the largest areas of protected sites at high to low risk of surface water and ordinary watercourse flooding (Ancient Woodland, Agricultural land and Registered Parks and Gardens SSSI's and SINC's) cover a relatively small proportion of Monmouthshire, making up less than 1% of the total land area. The remaining sites of significance across Monmouthshire have significantly smaller proportions of their overall areas at risk of flooding.

For a number of environmentally significant sites, occasional flooding is unlikely to have a significant impact (e.g. county parks) or may even form part of natural processes in the area which enhance the natural environment and part of the reason for a site's designation (e.g. SSSI's). Monmouthshire County Council will continue to consider how these areas can support and potentially reduce the impact of flooding from surface water and small watercourses.

A breakdown of properties, infrastructure and areas of environment sites at high to low risk of surface water and small watercourse flooding in each SFRA is shown in Table 6 - 8 below.

Table 6: Total number of Property, Infrastructure and Environmental Risk Receptors at High Risk of Flooding from Surface Water and Small Watercourses within each SFRA

Risk Receptor	Total	Strategic Flod Risk Area								
		Honddu	Monnow	Trothy	Wye	Olway	Usk	Mounton Brook	Nedern Brook and West Pill Reen	Mill Reen
Residential Properties (n)	**242**	7	19	23	9	19	125	8	25	7
Non-residential properties (n)	**27**	1	0	5	0	1	17	0	2	1
Key Services (n)	**12**	1	1	5	1	2	2	0	0	0
Listed Buildings (n)	**11**	0	1	2	0	0	7	1	0	0
Primary/Trunk Roads (km)	**1.3**	0.1	0	0	0	0.1	1	0.1	0	0
Main Line Railways (km)	**1.1**	0.1	0	0	0	0	1	0	0	0
Agricultural Land - Grades 1, 2 and 3 (ha)	**226.1**	6.2	17	41.4	8.1	35.2	90.8	8.6	15.8	3
Ancient Woodland (ha)	**67.6**	1.6	8.5	15	3.5	6.8	29.7	1.6	0.9	0
Country Parks (ha)	**1**	0	0	0	0	0	0.9	0	0.1	0
Local Nature Reserves (ha)	**0.2**	0	0	0	0.1	0	0.1	0	0	0
National Nature Reserves (ha)	**1.2**	0	0	0	0.1	0	1.1	0	0	0
Ramsar Sites (ha)	**0**	0	0	0	0	0	0	0	0	0
Registered Parks and Gardens (ha)	**31.6**	1.2	3.2	6.6	0.2	1	17.1	2.3	0	0
Scheduled Ancient Monuments (ha)	**5.3**	0.1	0.3	0.5	0.5	0.8	2.6	0	0.4	0.1
Sites of Interest for Nature Conservation (ha)	**26.8**	0.2	3	8	2.3	4	8	0.7	0.6	0
Sites of Special Scientific Interest (ha)	**21.4**	0.8	1.4	0.5	0.5	0.7	16.3	0.1	0.8	0.3
Special Areas of Conservation (ha)	**3.2**	0	0	0	0.4	0	2.8	0	0	0
Special Protection Areas (ha)	**0**	0	0	0	0	0	0	0	0	0

Table 7: Total number of Property, Infrastructure and Environmental Risk Receptors at Medium Risk of Flooding from Surface Water and Small Watercourses within each SFRA

Risk Receptor	Total	Strategic Flood Risk Areas								
		Honddu	Monnow	Trothy	Wye	Olway	Usk	Mounton Brook	Nedern Brook and West Pill Reen	Mill Reen
Residential Properties (n)	**209**	9	34	10	17	9	82	5	39	4
Non-residential properties (n)	**32**	1	0	0	6	1	22	0	2	0
Key Services (n)	**10**	0	0	0	3	0	4	0	2	1
Listed Buildings (n)	**5**	0	0	0	1	0	2	2	0	0
Primary/Trunk Roads (km)	**1.1**	0.1	0.1	0	0.1	0	0.7	0.1	0	0
Main Line Railways (km)	**0.1**	0	0	0	0	0	0	0	0.1	0
Agricultural Land - Grades 1, 2 and 3 (ha)	**93.3**	2.2	6.7	16.1	3.7	14.8	32.6	6.1	9.9	1.2
Ancient Woodland (ha)	**19.6**	0.4	1.6	3.2	1.7	1.7	8.7	1.7	0.6	0
Country Parks (ha)	**0.5**	0	0	0	0	0	0.3	0	0.2	0
Local Nature Reserves (ha)	**0.6**	0	0	0	0.1	0	0.5	0	0	0
National Nature Reserves (ha)	**0.6**	0	0	0	0	0	0.6	0	0	0
Ramsar Sites (ha)	**0**	0	0	0	0	0	0	0	0	0
Registered Parks and Gardens (ha)	**10.3**	0.5	0.5	1.2	0.3	0.3	4.3	3.2	0	0
Scheduled Ancient Monuments (ha)	**1.6**	0	0.1	0.3	0.1	0.4	0.4	0	0.3	0
Sites of Interest for Nature Conservation (ha)	**7.6**	0	0.7	1.6	0.9	1.1	2.2	0.5	0.5	0.1
Sites of Special Scientific Interest (ha)	**7.69**	0.3	0.2	0.1	0.69	0.2	5.2	0	0.6	0.4
Special Areas of Conservation (ha)	**1.8**	0	0	0	0.5	0	1.3	0	0	0
Special Protection Areas (ha)	**0**	0	0	0	0	0	0	0	0	0

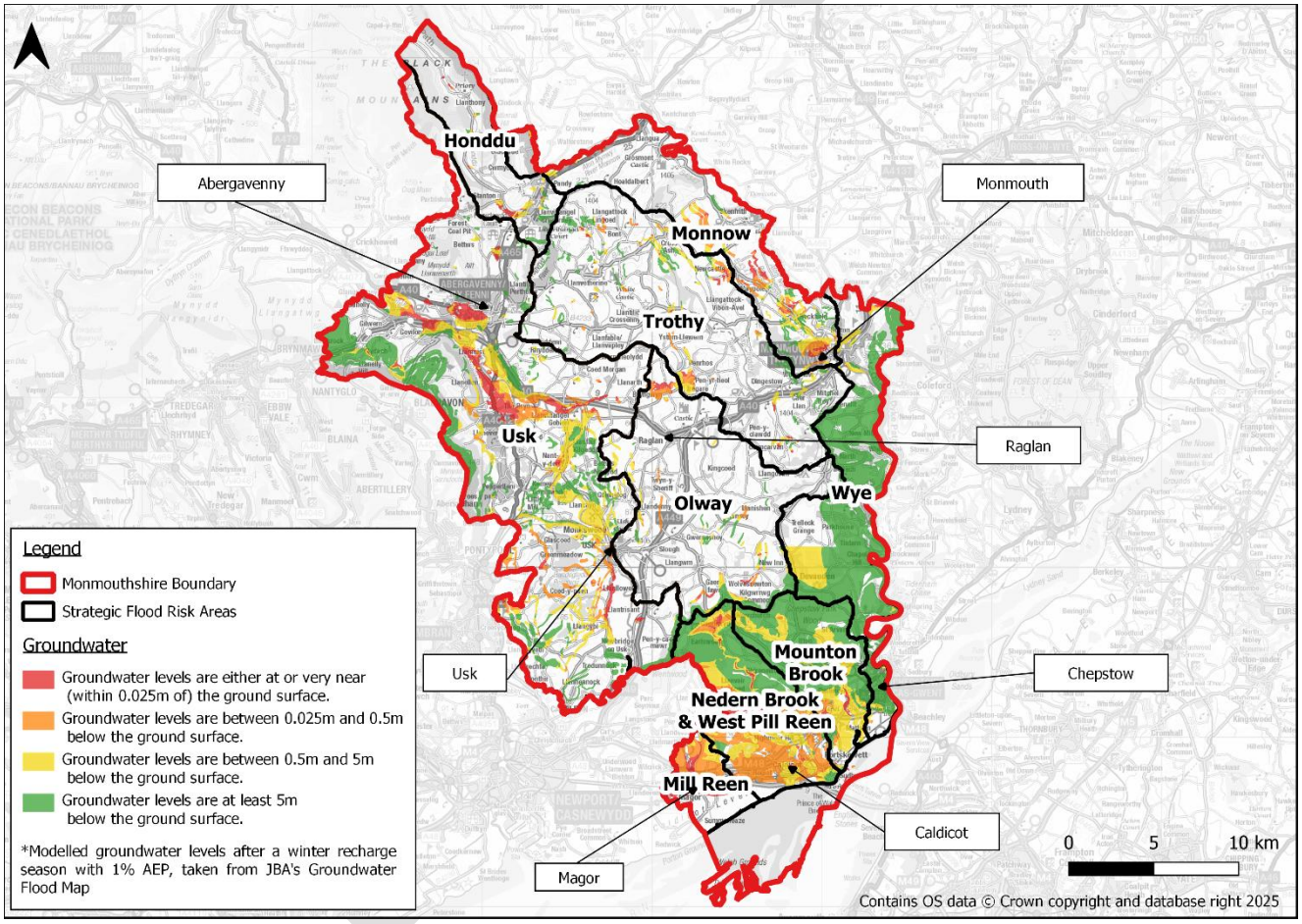
Table 8: Total number of Property, Infrastructure and Environmental Risk Receptors at Low Risk of flooding from Surface Water and Small Watercourses within each SFRA

Risk Receptor	Total	Strategic Flood Risk Areas								
		Honddu	Monnow	Trothy	Wye	Olway	Usk	Mounton Brook	Nedern Brook and West Pill Reen	Mill Reen
Residential Properties (n)	**1443**	22	194	33	209	55	450	42	371	67
Non-residential properties (n)	**193**	2	8	3	39	7	80	2	46	6
Key Services (n)	**27**	0	3	0	5	1	9	2	6	1
Listed Buildings (n)	**15**	0	1	2	5	0	7	0	0	0
Primary/Trunk Roads (km)	**5.2**	0.3	0.3	0	0.3	0.3	3.5	0.2	0.2	0.1
Main Line Railways (km)	**2.7**	0	0	0	0	0	1.7	0	0.8	0.2
Agricultural Land - Grades 1, 2 and 3 (ha)	**387**	9.4	29.8	62.6	16.8	67.3	135.4	24.4	35.8	5.5
Ancient Woodland (ha)	**65.4**	1.5	4.4	9.7	7.7	6	27.7	5.8	2.6	0
Country Parks (ha)	**2.8**	0	0	0	0	0	1.4	0	1.4	0
Local Nature Reserves (ha)	**2**	0	0	0	0.7	0	1.3	0	0	0
National Nature Reserves (ha)	**2**	0	0	0	0.2	0	1.8	0	0	0
Ramsar Sites (ha)	**0**	0	0	0	0	0	0	0	0	0
Registered Parks and Gardens (ha)	**33.4**	1.2	2.2	4.2	1.9	0.8	16.5	6.6	0	0
Scheduled Ancient Monuments (ha)	**6.1**	0.1	0.2	0.9	0.6	1.8	1.3	0	1	0.2
Sites of Interest for Nature Conservation (ha)	**29.3**	0.1	2.8	5.6	3.7	3.5	8.9	2.2	2.1	0.4
Sites of Special Scientific Interest (ha)	**57.01**	2	0.5	0.4	2.61	0.5	41.8	0.1	3.3	5.8
Special Areas of Conservation (ha)	**6.8**	0	0	0	1.8	0	5	0	0	0
Special Protection Areas (ha)	**0**	0	0	0	0	0	0	0	0	0

3.3.2 Flooding from Groundwater

Groundwater flooding typically occurs when water levels in the ground rise above the ground surface. Flooding of this type tends to occur after long periods of sustained heavy rainfall and can last for weeks or even months. The areas at most risk are often low-lying areas where the water table is more likely to be at a shallow depth and flooding can be experienced through water rising up from the underlying aquifer or from water flowing from springs. Flood risk from Groundwater has been considered in this strategy using JBA Consulting's Groundwater Flood map and further information from geological mapping. Modelled groundwater levels in the 1% AEP are shown in Figure 6 below. Details of the assessment of Groundwater flood risk for each of the nine Strategic Flood risk Areas can be found in the Action Plan in Appendix A.

Figure 6: Modelled Groundwater Flood Depths



The bedrock geology across Monmouthshire is varied and predominantly comprises of Mudstone, Siltstone and Sandstone. Mudstone tends to have low porosity and permeability whilst sandstone is regarded as more permeable and allows for the storage and movement of groundwater. As a result, upward percolation of groundwater and subsequent flooding should be considered in these areas. In the southern part of the county, the bedrock is predominantly comprised of limestone and sandstone. These rocks are more permeable and allow for the storage and movement of groundwater.

Areas of superficial deposits in Monmouthshire are limited and are predominantly present around the rivers in the county. The superficial deposits overlaying the bedrock are comprised in some areas

of clay which is predominantly impermeable, and in others of Till which is generally permeable. The variation of superficial deposits throughout Monmouthshire suggests that groundwater flooding could present a localised risk to some areas.

The majority of the county has groundwater that is at least 5m below the ground surface or lower. In the southern part of the county around Magor, Caldicot and Portskewett groundwater levels are within 0.5 and 0.025m of the ground surface; this indicates that there is a greater risk of groundwater flooding in these areas.

Two notable features in the south of the county are the Nedern Brook Wetlands and the Great Spring. The Nedern Brook Wetlands is a SSSI that is subject to seasonal flooding, when in winter water levels rise in the Carboniferous limestone aquifer below the site to form a temporary freshwater lake. Secondly, the Great Spring at Sudbrook was encountered during the construction of the Severn Tunnel in 1879, when a sudden influx of fresh water flooded the tunnel. A permanent pumping station at Sudbrook was needed to pump water from the tunnels directly into the Seven Estuary. Those pumps are now managed by Network Rail.

Towns and villages along the River Usk from Abergavenny to Usk are also identified as areas where groundwater levels are within 0.5 and 0.025m of the ground surface, indicating that groundwater flooding in these areas is more likely.

3.3.3 Flooding from Rivers (Fluvial)

Large areas of Monmouthshire, including some of the most densely populated towns and villages are at risk of flooding from rivers, also known as fluvial flooding. These rivers include larger ordinary watercourses such as the River Honddu (Pandy), River Clydach (Maesygwartha), Angidy River (Tintern) and Barton Brook (Raglan), as well as rivers which have been designated as main rivers by Natural Resources Wales.

Main rivers are usually large watercourses, such as the Rivers Wye, Usk, Monnow, and Trothy, but also include smaller watercourses of strategic drainage importance, for example the Cibi Brook in Abergavenny and the Nedern Brook in Caldicot.

Natural Resources Wales have permissive powers to carry out flood defence works along main rivers, they also manage formal main river flood defence assets such as those in Monmouth, Usk, Chepstow. The way in which Natural Resources Wales manage flood risk from main rivers is detailed in their own Flood Risk Management Plan and is therefore not discussed in detail in this Local Strategy. Their Plan explains their priorities and actions that they propose to manage the risk of flooding at a national and local level, as well as how they consider the need to adapt to mitigate against climate change.

As described in Chapter 3.2, a high level assessment of fluvial flooding has included the approximate separation of areas at risk from either ordinary watercourses or main rivers. Numbers at risk from larger ordinary watercourses are shown in Table 9, which also shows the numbers at risk from main river flooding in brackets.

Table 9: Properties and Key Services at Risk from Ordinary Watercourses (Main river counts in brackets)

Receptor	High Risk	Medium Risk	Low Risk
Flood risk to properties (CaRR Data)			
Residential properties at risk of flooding (n)	71 (231)	51 (387)	120 (1325)
Non-Residential Properties (n)	7 (58)	5 (148)	17 (317)
Key Services (n)	5 (21)	2 (15)	6 (59)

3.3.4 Coastal Flood Risk in Monmouthshire

This usually occurs during storm surges when there is an increased risk of high sea levels causing overtopping or breaching of coastal flood defences leading to inland flooding. The greatest risk of coastal flooding is experienced when there is a combination of high tides and a storm surge, which is when a low pressure system causes a localised rise in sea level and increased wave height. It can also occur when a coastal defence breaches.

The strategic management of coastal erosion and flood risk, including the impacts of climate change, is considered by policies set out in Shoreline Management Plans (SMP's). MCC are a member of the Severn Estuary Coastal Group (SECG), which is a technical group of local authorities and other key organisations that share an interest in the management of the shoreline around the Severn Estuary. The SECG have developed, manage and promote the SMP 19, which encompasses Monmouthshire's stretch of coastline. A copy on the SMP19 is available on the SECG website.

Much Monmouthshire's coastline is protected from flood defences in the form of raised earth embankments that are managed by Natural Resources Wales. These defences protect the Gwent Levels which is at risk of coastal flooding as much of the area behind the defences is low lying. The impact of climate change and rising sea levels exacerbates this risk. Areas such as Tintern and Chepstow are particularly vulnerable to tidal flooding and the ever increasing threat of rising sea levels brought about by climate change.

The threat of coastal flooding in Monmouthshire is not new however, as historical accounts tell us that as far back as 1607, the Severn Estuary was impacted by significant storm surge which is said to have resulted in the loss of thousands of lives. A wood carving depicting this event is shown in Figure 7.

Figure 7: Wood Carving of Flooding to the Gwent Levels in 1607

The impact of flooding to the Gwent Levels includes a large number of residential and non-residential properties, environmentally sensitive sites, and significant infrastructure. This includes the main London to South Wales railway line, M4 and M48, A48, the Severn Tunnel, major electricity transmission lines serving much of South Wales from Newport to Swansea, a major gas distribution facility and gas pipelines serving South Wales, telephone exchanges, water and sewage treatment and pumping stations, schools, electricity sub stations, etc. Flooding from the sea in this area would cause major issues, not just for the local area but for large areas of South Wales, which relies on the services in this area.

Settlements most at risk from coastal flooding include Magor, Rogiet, Caldicot and Chepstow. As shown in Table 10, in total 921 residential properties are shown to be at high risk, with an additional 201 non-residential properties and 21 essential services. To provide conservative values these numbers do not take flood defences into consideration.

Table 10: Properties and Key Services at Risk from Flooding from the Sea

Receptor	High Risk	Medium Risk	Low Risk
Flood risk to properties (CaRR Data)			
Residential properties at risk of flooding (n)	921	116	323
Non-Residential Properties (n)	201	11	59
Key Services (n)	21	1	9

3.3.5 Sewer Flood Risk in Monmouthshire

This occurs when the sewerage network cannot cope with the volume of water that is entering it. It is often experienced during times of heavy rainfall when large amounts of surface water overwhelm the sewer network causing flooding. Temporary problems such as blockages, siltation, collapses and equipment or operational failures can also result in sewer flooding. Dŵr Cymru Welsh Water (DCWW) are the water and sewerage company responsible for the management of flooding from sewers in Monmouthshire.

DCWW provide details relating to historic sewer flooding in Monmouthshire to MCC, through an extract from their sewer flooding register. These records display the number of properties that experience internal and/or external flooding from public foul, combined and surface water sewers.

3.3.6 Reservoir Flood Risk in Monmouthshire

This results from the complete or partial failure of a reservoir structure. It may be caused by erosion due to seepage, overtopping of the dam beyond its design level or through accidental damage to the structure. There are several large reservoirs in Monmouthshire and adjacent areas (Llandegfedd, Talybont-on-Usk and Grwyne Fawr) that could pose risks, in addition to the risk from some smaller water storage areas and old mill ponds such as those at Tintern in the Angidy Valley. Further information on reservoir flooding, including FRAW map can be found on NRW's website[1].

[1] Natural Resources Wales / Flooding from reservoirs

4. How this Strategy Responds to Climate Change

4.1 Climate Change Risk in Monmouthshire

The Senedd was the first Parliament in the world to declare a climate emergency in 2019. Climate change is likely to increase the risk of flooding across Wales, not only through sea level rise but also from more frequent and intense storms, flash flooding and storm surges.

The UK Climate Projections 18 (UKCP18) show that the key findings for Wales are:

1. By 2059 average annual temperatures are projected to increase by 2.8˚C.
2. By 2059 summer mean temperatures are projected to increase by 3.7˚C.
3. By 2059 winter mean temperatures are projected to increase by 2.9˚C.
4. By 2059 rainfall is projected to increase in winter on average by 28 per cent and increase in summer by 12 per cent.
5. Sea levels around Wales are predicted to rise by approximately 50cm by 2050.
6. Storm intensity in summer and winter will increase over the next 100 years, leading to more severe storms and larger waves attacking our shores.

MCC declared a climate emergency in May 2019, with a target date of 2030 for net-zero carbon emissions. Following the declaration of a climate emergency, the Climate and Nature Emergency Strategy and Action Plan was published in November 2021[2], outlining actions and the responsible officer(s) across all sectors, as well as explaining how the public can play their part in reducing emissions. The Action Plan, which includes specific actions relating to Rivers & Ocean and flood risk management, was refreshed in 2021 to better reflect our commitment to tackling the nature emergency, and in 2024 has been completely reviewed to reflect the priorities of Monmouthshire's Community and Corporate Plan.

Across Monmouthshire, the main source of flood risk varies, with communities along the coastline being at risk of flooding from the sea, and the main towns and rural areas predominantly being at risk of flooding from rivers and surface water. Population change has contributed to the heightened risk. Between 2011 and 2021, the population increased by 1.8% in Monmouthshire[3]. It is the eighth least densely populated local authority area in Wales, with a 26% increase in the population aged 65 or over, a 3.5% decrease in people aged 15 to 64 years and an 8.6% decrease in children aged under 15 years. These figures demonstrate an increase across one vulnerable age group. In turn, this has the potential to increase the risks and impacts associated with flooding, with the potential need for additional emergency response requirements related to a more vulnerable population. The widespread nature of the population and risk could also make emergency response more challenging as help could be needed in several areas across the county at once.

Monmouthshire is likely to see a range of impacts associated with an increased risk of flooding due to climate change. A rise in sea level increases the risk of tidal flood defences along the Severn Estuary being overtopped during storm events and increases the risk of tidal flooding along the River Wye Estuary at Chepstow and Tintern. Increased rainfall may also lead to fluvial defences, such as

[2] Climate Emergency - Monmouthshire – Climate and Decarbonisation Strategy

[3] Monmouthshire population change, Census 2021 – ONS

those in Monmouth and Usk, being relied upon more frequently. Similarly, the projected increase in rainfall intensity is likely to result in more flash flooding and surface water flood events, as additional pressure is put on ageing drainage infrastructure not designed to take such flows.

These impacts are already being seen as Monmouthshire has experienced a number of significant storm events in recent years which caused widespread flooding across the county. Between 8th February and 1st March 2020, three named Storms; Ciara, Dennis and Jorge resulted in over 200 properties and 50 businesses being internally flooded, with many more experiencing flooding to outbuildings and adjacent land. These storms, which also had a significant effect on critical infrastructure and agricultural land, affected areas such as Skenfrith, Monmouth, Usk, Caldicot and Abergavenny to name a few.

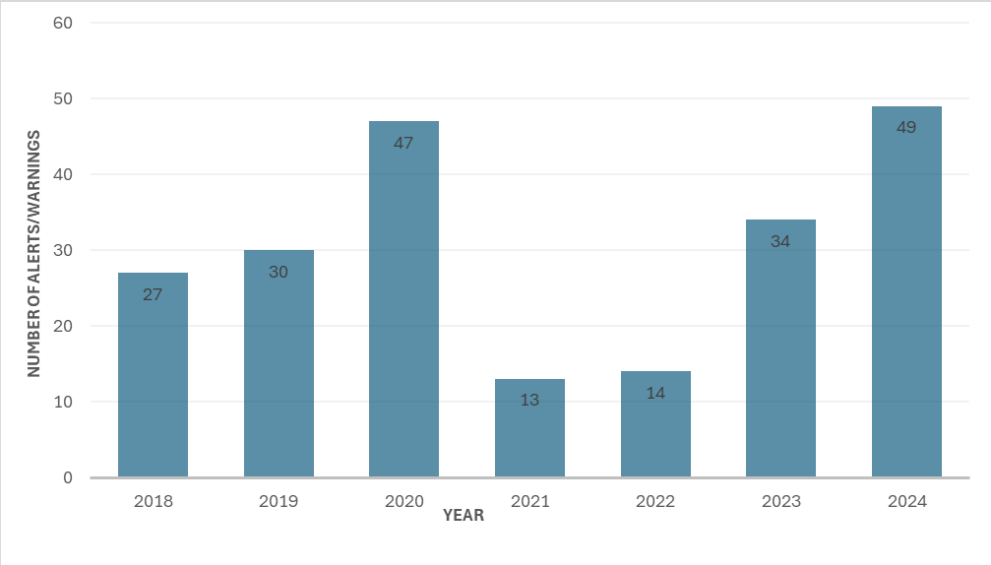
In February 2022, Storm Eunice brought significant winds resulting in a rare 'red warning' being issued for parts of Monmouthshire. Schools were closed as a precaution, people were advised not to travel, and both Severn Bridges were closed for the first time due to strong winds. In another first, the entire Welsh Coastline was highlighted as being at severe risk of flooding, including the Severn Estuary, with concerns defences could be overtopped due to a storm surge.

In November 2024, Storm Bert brought significant rainfall to mid and south Wales resulting in approximately 75 homes and 22 business reporting internal flooding in Monmouthshire. Record levels were recorded on a number of rivers including the Monnow at Skenfrith and the Olway Brook at Usk.

Flood Alerts and Warnings

Whilst not all the above and other notable weather and flood events can be attributed to climate change, evidence suggests that such events and resulting impacts will be more frequent, which will bring significant challenges to our communities. The objectives, measures and actions identified in this Local Strategy aim to reduce the impact of climate change and risk of flooding from local sources where possible and increase preparedness, resilience and recoverability from such events in future. **Error! Reference source not found.** below shows the number of NRW issued Flood Alerts and W arnings in Monmouthshire since 2018, this data is available from DataMapWales.

Figure 8: Number of Flood Alert and Warnings in Monmouthshire between 2018 - 2024



Information on climate change predictions from the Met Office can be found here and reports regarding climate change risks and opportunities for the UK can be found here. Information on actions that the UK government and others will take to adapt to the impacts of climate change from 2023 to 2028 is available here.

The Welsh Government declared a climate emergency in April 2019 and subsequently published Prosperity for All: A Climate Conscious Wales – A climate change adaptation plan for Wales (2020)[4]. Adapting to the risks to people, communities, buildings and infrastructure is a key element of this plan. Sustainable development remains at the core of operations of the Welsh Government, and in line with Section 27 of the Flood and Water Management Act 2010[5], LLFAs, district councils, internal drainage boards and highway authorities must aim to make a contribution towards the achievement of sustainable development.

4.2 How this Strategy Addresses these Risks

This Local Strategy has been developed with climate change in mind and will ensure our activities in relation to flood risk management take account of latest climate projections, related guidance, strategies and plans. We will continue to work with other Risk Management Authorities when considering local flood risk and climate change, as well as working with related groups such as the South East Wales Flood Risk Management Group, Severn Estuary Coastal Group and Welsh Coastal Monitoring Centre when considering wider impacts.

This Local Strategy aligns with the objectives set out in MCC's Corporate Plan, including ensuring Monmouthshire is '*A Green place to live and work, with reduced carbon emissions, and making a positive contribution to addressing the climate and nature emergency'.* The objectives, measures and actions within this Local Strategy will support the actions within the Corporate Plan including the following:

- to reduce the risk of flooding by working with partners to promote natural flood alleviation,
- to maintain support mechanisms for communities vulnerable to flooding and pressing for sustainable natural solutions where possible and engineered solutions where necessary.

MCC has declared a Motion for the Rivers and Ocean which sets out how the Council will contribute to work with other partners to look after and value our rivers and ocean. The Rivers and Ocean Action Plan sets out a number of Aims which are supported by this Local Strategy including:

- Complete a Local Flood Risk Management Strategy.
- Support catchment-wide action, nature-based solutions and natural flood management and seek to develop partnerships and funding to deliver these.
- Use our powers as a Sustainable Drainage System (SuDS) Approving Body to ensure new developments manage on site surface water in a sustainable way in accordance with WG's National SuDS Standards.
- Use our powers as Land Drainage Authority to ensure works undertaken within ordinary watercourses do not have a negative impact on water quality or on the local environment.

[4] Prosperity for All: A Climate Conscious Wales (gov.wales)

[5] Flood and Water Management Act 2010 (legislation.gov.uk)

National and local policy relating to development and climate change have been reviewed and considered throughout the development of this Local Strategy, to ensure all requirements are met to minimise the impact of development on climate change. These include:

- **Welsh Government's Guidance on Adapting to Climate Change**[6]. This provides the information on climate change allowances that are to be considered in the development of business cases and to make sustainable business decisions, as per the Wellbeing of Future Generations Act.

- **TAN 15 / NRW's Flood Map for Planning:** TAN 15 provides technical guidance which supplements the policies set out in Planning Policy Wales and Future Wales in relation to flooding and coastal erosion. The TAN helps local planning authorities manage flood risk and prevents development in high risk areas. Welsh Government released a new version of TAN 15, which came into effect on 1st April 2025. The new Flood Map for Planning, which takes into account climate change, replaces the Development Advice Map (DAM). New development proposals will be determined against this planning policy framework.

- **Welsh Government's Guidance on Climate Change Allowances and Flood Consequence Assessments**[7] Climate change guidance on the appropriate allowances for climate change to be considered for detailed modelling studies across proposed new development sites. This supports the requirements of TAN 15.

- **MCC's Replacement LDP 2018 to 2033** Out to public consultation in November 2024**,** this provides a sustainable framework for the future. It sets out planning policies and allocates sites for different types of development. In terms of flood risk, climate change is considered in the designation of allocated sites against their location in flood risk zones, with allowances for climate change incorporated. The LLFA is a key consultee to the development of the RLDP to ensure new development proposals accord with TAN 15 and national planning policy.

MCC recognises that the impacts of climate change are already being felt by local communities and are taking steps to manage these impacts, as well as developing the community's resilience to increased future flood risk. Property Flood Resilience schemes are already in place in several areas around Monmouthshire with several more under consideration.

This strategy embeds a climate conscious way of thinking. MCC are aware of the increased risk of flooding as a result of climate change, and therefore this awareness is entwined in every objective, measure and action included in this strategy. This awareness is also crucial to ensure that MCC meets the 2030 target of net-zero carbon emissions, in line with MCC Climate Emergency declaration, whilst working to mitigate the increased risk of flooding across the county and building Monmouthshire's resilience to climate change.

[6] https://www.gov.wales/sites/default/files/publications/2022-11/guidance-for-flood-and-coastal-erosion-risk-management-authorities-in-wales_0.pdf

[7] https://www.gov.wales/climate-change-allowances-and-flood-consequence-assessments

5. Roles and Responsibilities for Managing Flood Risk in Monmouthshire

5.1 Risk Management Authorities and their Functions

Risk Management Authorities (RMAs) across Wales include NRW, the 22 Local Authorities, water companies and the Welsh Government. Each RMA has legislative powers concerning flood risk management and is required to fulfil several statutory duties as defined under the FWMA. In addition to these statutory duties, the Act sets out a range of permissive powers for RMAs, enabling them to undertake defined activities if they so wish.

Table 11 below outlines which RMAs are primarily responsible for managing flood risk dependent on the sources of flooding.

Table 11: Risk Management Authorities with Roles for Managing Different Sources of Flood Risk in Monmouthshire

RMA / Flood Source	MCC (LLFA)	Natural Resources Wales	Dŵr Cymru/ Welsh Water	MCC (Highways)	Welsh Government / SWTRA
Surface Water	✓			✓ (Local roads)	✓ (Trunk roads)
Ordinary Watercourses	✓				
Groundwater	✓				
Main River		✓			
Internal Drainage District (Gwent Levels)		✓			
Reservoirs		✓			
Sewers			✓		
Coastal/Tidal	✓	✓			

The basic responsibilities for each RMA and key stakeholder to manage flood risk is described in further detail below.

Welsh Government

Welsh Government and Ministers are responsible for setting the strategic direction and have overall responsibility for flooding and coastal erosion policy in Wales. Their *National Strategy for Flood and Coastal Erosion Risk Management in Wales* was published in October 2020 and sets out how they intend to manage the risks from flooding and coastal erosion across Wales. It sets objectives and measures for all partners to work towards over the life of the document, which will be 10 years unless

significant policy updates are required prior to that time. Welsh Government are responsible for the legislation relating to flood and coastal erosion risk management in Wales and managing the budget allocations to RMAs and the capital programme of flood alleviation schemes and works (see Chapter 9).

Natural Resources Wales (NRW)

NRW have a strategic oversight role for flood and coastal erosion risk management which involves the general supervision and communication of flood and coastal erosion risk management in Wales. They also have powers to manage flooding from main rivers, reservoirs and the sea. The National Strategy for Flood and Coastal Erosion Risk Management in Wales states NRW's role can be split into 3 distinct areas:

- Strategic oversight and general supervision over all FCERM matters.
- Activities they do on behalf of, or in collaboration with, RMAs.
- Activities they deliver in the management of flooding from main rivers and the sea and in managing coastal erosion.

Under the FWMA 2010 NRW have a number of statutory duties which include:

- Cooperating with other risk management authorities including sharing data.
- Reporting to the Minister on flood and coastal erosion risk in Wales including the application of the National Strategy.
- Establishment of Regional Flood and Coastal Committees.

NRW also have a number of duties under the Flood Risk Regulations 2009, these include:

- A duty to identify areas at risk of flooding via a Preliminary Flood Risk Assessment.
- Preparation of flood hazard maps and flood risk maps.
- Identification of flood risk areas.
- Preparation of a Flood Risk Management Plan outlining its intended objectives and measures for managing flood risk identified in the PFRA and flood maps.

NRW's Flood Risk Management Plan (2023) summaries the key activities they carry out in accordance with duties and responsibilities assigned by Welsh Government and by legislation as follows:

- The management of flood risk assets.
- Reservoir management and regulation.
- Flood forecasting and issuing warnings.
- Hydrometry and Telemetry, Hydrology and Geomorphology.
- Community engagement and resilience.
- Understanding and analysing flood risk.
- Flood risk advice, permitting, compliance and enforcement.
- Responding to flood incidents.
- Strategic planning and oversight of investment.

NRW are also recognised as a coastal erosion risk management authority under the Coastal Protection Act 1949.

In Monmouthshire, NRW have permissive powers to manage flood risk on main rivers such as the River Monnow, Wye, Usk, Nedern Brook and Mill Reen. This can be in the form of channel improvement and clearance works as well as maintenance of flood defence assets such as those located in Usk, Monmouth and Chepstow. NRW also manage a significant stretch of coastal defences along the Severn Estuary.

They are also responsible for the management of the Gwent Internal Drainage District (formerly the Lower Wye and Caldicot & Wentlooge Districts) and chair the Gwent IDD Advisory Group. As well as undertaking maintenance works within the IDD, NRW are also the Land Drainage Authority within the IDD with consenting responsibilities and enforcement powers.

Lead Local Flood Authority – MCC

Under the terms of the FWMA 2010, MCC has been established as the Lead Local Flood Authority (LLFA) for its administrative area and is responsible for managing local flood risks which includes the risk of flooding from ordinary watercourses, surface water and groundwater.

The FWMA 2010 places a number of statutory duties on MCC in their role as LLFA including those shown below.

- A duty to comply with the Welsh Government National Strategy for Flood and Coastal Erosion Risk Management.
- A duty to develop, maintain, apply and monitor a strategy for local flood risk management.
- A duty to investigate all flooding within its area, to the extent that it considers it necessary or appropriate. MCC will investigate all reports of flooding to properties and key infrastructure and in accordance with Section 19, publish a Flood Investigation Report where 20 or more residential properties have experienced internal flooding.
- A duty to establish and maintain a register of structures or features likely to have a significant effect on flood risk.
- A duty to co-operate with other authorities in the exercise of flood and coastal erosion risk management functions, including sharing data.
- A duty to contribute to sustainable development in exercising flood and or coastal erosion risk management functions.
- A duty to act as the approving body for Sustainable Drainage Systems (SuDS) where construction works with drainage implications have an area greater than 100m². Where such SuDS serve two or more properties, MCC in its role of the SuDS Approving Body (SAB) will adopt and maintain the SuDS for the lifetime of the development.

Under the Flood Risk Regulations 2009 the LLFA also have duties to contribute to the production of Flood Risk Management Plans. Additionally, MCC as a LLFA have a number of what are called

permissive powers. These are powers that allow LLFA's to do something but do not compel us to do, these include:

- Powers to request a person to provide information in connection with the authorities' flood and coastal erosion risk management functions.
- Powers to designate certain structures or features that in view of the authority could affect flood or coastal erosion risk.
- Powers to cause managed flooding or coastal erosion under certain conditions.
- Powers to undertake certain works to manage or mitigate flooding or flood risk, including on 3rd party land, and to recover costs for such works.

MCC also manage flood risk via the permissive powers bestowed upon all LLFA's under the Land Drainage Act 1991, which allow them to regulate ordinary watercourses (outside of Internal Drainage Districts) to maintain proper flow by:

- Issuing consents for altering, removing, or replacing certain structures or features on ordinary watercourses; and
- Enforcing obligations to maintain flow in a watercourse.

The permissive powers are granted to prevent or address flooding and its associated damages. The enforcement capabilities outlined in the Act support the Council in fulfilling its obligations under the FWMA (2010) and the Land Drainage Act 1991. These powers enable the Council to regulate activities that may increase flood risk near ordinary watercourses in Monmouthshire. This aims at reducing any potential flood risk. The primary responsibility for watercourse maintenance lies with the landowner. Chapter 5.2 provides additional details.

Following the enactment of Schedule 3 of the Flood and Water Management Act 2010 in Wales, since 7th January 2019, MCC have taken on the role of the SuDS Approving Body (SAB) for its administrative area. The SAB is a service delivered by the LLFA to ensure that drainage proposals for all new over 100m² of construction area are fit for purpose, designed and built in accordance with the National Standards for Sustainable Drainage published by Welsh Ministers.

MCC as a Coastal Local Authority are also designated as a Coastal Erosion Risk Management Authority under the Coast Protection Act 1949, which gives powers to protect the land against erosion or encroachment by the sea. Under the Act, councils can do works to protect against coastal erosion and defend against sea flooding where they are best placed to do so and with approval from NRW.

Water and Sewerage Company

Dŵr Cymru Welsh Water (DCWW) are the water and sewerage company covering Monmouthshire and have the responsibility not only for providing water but also for managing foul sewers, surface water sewers, combined surface water and foul sewers, as well as sewage waste treatment. They have an obligation to address floods originating from water and sewerage systems, encompassing issues like sewer flooding, burst supply pipes, water mains, or floods resulting from system failures.

Operational arrangements for water and sewerage companies concerning flood risk remain unchanged. However, the Flood and Water Management Act 2010 imposes specific statutory duties on these companies, including aligning their actions with the National Strategy, considering the content of Local Flood Risk Management Strategies, and cooperating with other Risk Management Authorities, involving the sharing of data.

Water and sewerage companies possess valuable information crucial for understanding flood risks faced by communities in Wales. Additionally, they are required to contribute to the development of Local Flood Risk Management Strategies prepared by the Lead Local Flood Authorities (LLFAs).

All reservoir undertakers, including DCWW with reservoirs exceeding 10,000m³ must register their reservoirs with NRW, as they are subject to regulation. DCWW must also prepare reservoir flood plans and report all incidents at reservoirs. There are several DCWW owned reservoirs that pose a potential risk to areas of Monmouthshire. These reservoirs, which are located outside or partly within Monmouthshire are Talybont Reservoir (Powys), Llandegfedd Reservoir (Torfaen**/**Monmouthshire**)** and Wentwood Reservoir (Newport) and Grwyne Fawr (Powys).

Highway Authority – Local Roads

MCC serves as the Highways Authority for all adopted highways within the county, excluding trunk roads. As outlined in the FWMA 2010, Highways Authorities function as independent Risk Management Authorities, bearing the corresponding responsibilities.

Under the Highways Act 1980, the Highways Authority has a duty to maintain the highway. This includes ensuring highway drainage systems are clear and that blockages on the highway are cleared where reasonably practicable. As part of this duty roads are regularly inspected and maintained, including highway structures which are assessed as part of a cyclic inspection programme.

The management of highway drainage systems is set out in MCC's Highway Asset Management Strategy and Highway Management Plan.

While Highways Authorities have the authority to adopt drainage systems under Section 38 of the Highways Act, there is no mandatory requirement to do so. The Highways Authority can undertake necessary measures to safeguard the highway from flooding, whether on the highway itself or on land acquired for this purpose through highway land acquisition powers.

Additionally, Highways Authorities possess the discretion to redirect segments of watercourses or undertake other relevant works essential for highway construction, improvement, or alteration, as well as providing new access routes from a highway to premises.

Whilst highway drainage is in place to manage surface water falling within the highway boundary, these drainage systems are not designed to convey runoff from adjacent land such as agricultural and private urban runoff. Such additional flows, particularly in rural areas of Monmouthshire, often exceed the capacity of highway drainage systems and result in localised flooding.

Highway Authority – Trunk Roads

The South Wales Trunk Road Agent (SWTRA) is entrusted with the responsibility of overseeing, maintaining, and enhancing the strategic road network in South Wales, acting on behalf of the Welsh Government.

Within Monmouthshire SWTRA manage the M4, M48, A40, A449, A465 and A4042 trunk roads and are responsible for providing and managing highway drainage and roadside ditches under the Highways Act 1980. They have a duty to maintain the highway, which includes a duty to keep the highway clear of flooding, insofar as reasonably possible, and to ensure that road projects do not increase flood risk and that discharges from the highway do not cause pollution to the receiving water environment.

5.2 Other Responsible Partners

Risk Management Authorities are not the only parties responsible for managing flood risk. Other parties who have such responsibilities are outlined below.

Riparian Landowners

Landowners, householders or businesses whose property is adjacent to a watercourse, which include rivers, brooks, streams, ditches, etc. are typically riparian owners who under common law, are responsible for the maintenance of the land up to the centre of the watercourse. This responsibility includes ensuring the free flow of water within the channel and removing any blockages. This does not mean that the owner must remove all debris from the watercourse, but it does require the owner to maintain as far as it does not pose a risk or 'nuisance' to a neighbour.

The responsibility for maintaining roadside ditches under common law often rests with adjacent landowners, even if a ditch is on the road side of a hedgerow. This is commonly known as the 'Hedge and Ditch rule'. Riparian owners have rights and responsibilities relating to any watercourse that passes through or adjacent to the boundaries of their land, these are summarised below:

Responsibilities

- Maintain the bed and banks of the watercourse (including trees and shrubs growing on banks) and clear any debris, natural or otherwise.
- Accept the natural flow from upstream and pass on flow without obstruction, pollution or diversion affecting the rights of others.
- Accept natural flood flows through their land, even if caused by inadequate capacity downstream, as there is no common law duty to improve a watercourse.
- Maintain any approved structures such as flood defences, culverts, trash screen, weirs and mill gates.
- Not cause any obstruction to the free passage of fish.

Rights

- To receive the flow of water in its natural state, without undue interference in quantity or quality.
- To protect your property against flooding from the watercourse and to prevent erosion of the watercourse banks or any nearby structures.

Riparian owners also have a right to protect their property from flooding and erosion but in most cases will need to discuss the method of doing this with MCC or Natural Resources Wales. Many rivers and watercourses have environmental protection, and such works may require an ordinary watercourse consent or Flood Risk Activity Permit (if on a main river). There may also be protected

species present and restrictions on when any work can be carried out, requiring compliance with the Habitats Regulations. In making any arrangements to protect their own property, homeowners cannot divert flows or cause other properties to be flooded by their actions.

NRW's document '*A guide to the rights and responsibilities of riverside ownership in Wales'* provides further information.[8]

Residents, Property & Business Owners

It is the responsibility of residents, property owners and businesses to safeguard their properties from flooding. While residents have the right to protect their properties, it is essential that such efforts do not inadvertently elevate the risk of flooding for neighbouring properties.

It is important that property owners whose homes or businesses are at risk of flooding, take steps to ensure that their property is protected. Information and advice intended for owners of properties at risk of flooding is widely available, including the following sources:

- Monmouthshire County Council website: https://www.monmouthshire.gov.uk/flood-risk-management/
- Natural Resources Wales website: https://naturalresourceswales.gov.uk/flooding/?lang=en
- National Flood Forum Website: https://nationalfloodforum.org.uk/
- Blue pages (directory of flood resilience products) Blue Pages

Network Rail & Transport for Wales

Network Rail & Transport for Wales do not have an official legislative role, however they have an operational responsibility for flooding as a land and asset owner. Network Rail are named within the National Strategy as being part of the Coastal Groups. They are required to carry out regular maintenance of assets and drainage infrastructure which poses flood risk.

Additional Stakeholders

Examples of additional internal and external stakeholders who have responsibilities and interests in flood risk management within Monmouthshire are summarised in Table 12.

Table 12: Additional Stakeholders

Internal	External
Planning: Policy, Development Management & Enforcement	Emergency Services
Neighbourhood Services – Grounds	Utility Providers
Highway Operations, Asset Management, Development Control & Grounds	Bannau Brychieniog National Park Authority
Emergency Planning	Housing Associations

[8] A guide to your rights and responsibilities of riverside ownership in Wales

Building Control	House Builders Federation
Estates	CADW
Countryside & Green Infrastructure	Severn Estuary Coastal Group
Environmental Health	South East Wales Flood Risk Management Group
Communications	SuDS Working Group for Wales
	Local Partnerships, forums, and community groups
	Local Resilience Forum

6 Strategic Objectives

6.1 National Strategy Objectives

Welsh Government published The National Strategy for Flood and Coastal Erosion Risk Management in Wales in October 2020. It sets out an overarching aim to reduce the risk to people and communities from flooding and coastal erosion and identifies 5 objectives for delivering this aim. These are summarised below.

MCC have developed strategic objectives which outline how local flood risk will be managed during the term of this Local Strategy. These local objectives align with the National Strategy objectives and reflect local context and priorities in Monmouthshire.

6.2 Monmouthshire's Strategic Objectives

Table 13 lists the Local Strategy objectives for Monmouthshire. The purpose of the table is to show the inter relationship between the National and Local objectives and the holistic approach taken between MCC and Welsh Government to address flooding in Wales. The objectives below are not listed in priority order.

Table 13: Local Strategy Objectives

Local Strategy Objectives	National Strategy Objectives				
	A	B	C	D	E
1. Reduce the risk and impact of flooding to people and property.	✓	✓	✓	✓	✓
2. Reduce disruption to critical infrastructure and essential services resulting from flooding.	✓	✓	✓	✓	✓
3. Ensure a risk based and sustainable approach to investment and delivery of flood risk management activities.	✓	✓	✓	✓	✓
4. Ensure flood resilience at environmentally significant and sensitive sites of national, regional and local importance is maintained and enhanced where possible.		✓		✓	
5. Support the Water Framework Directive by preventing deterioration of watercourses and improve water quality.*					
6. Continue to improve understanding of flood risk and the impact of climate change within Monmouthshire.	✓	✓	✓	✓	✓
7. Raise awareness of flood risk amongst individuals and communities and support them to prepare for, respond to and recover from flood events.	✓	✓	✓	✓	✓
8. Work collaboratively with other Risk Management Authorities and organisations to effectively manage flood risk.	✓	✓		✓	✓

* Although this local objective is not explicitly listed among the specific objectives in the National Strategy, it has been included in this Local Strategy because it aligns with broader local and national goals outlined in the National Strategy.

7 Flood Measures

7.1 Introduction to Flood Measures

A measure is defined as activity, which will be undertaken to manage risk and achieve the agreed objectives. In order to deliver the objectives outlined in Chapter 6.2 a wide range of measures are proposed.

These measures have been categorised under the six high level themes:

1. Development planning and adaptation (encompassing both new and adaptations to existing developments/landscapes)
2. Flood forecasting, warning and response
3. Land, cultural and environmental management
4. Asset management and maintenance
5. Studies assessments and plans
6. Monitoring (of the local flood risk issues)

The proposed measures have been grouped under the high-level themes as detailed in the following sections. Indicative timescales and costs for delivery of each measure have been provided. Delivery will be subject to available funding and resource. The indicative timescales and costs are shown below:

Timescales

Short Term	Planned to be delivered in the short term (years 1 – 3)
Medium Term	Planned to be delivered in the medium term (years 3 – 6)
Long Term	Planned to be delivered in the long term (years 6+)
Recurring/Ongoing	Continuing elements of work that will remain as ongoing activities throughout the lifetime of this Local Strategy

Costs

Existing Resources	No specific additional funding required, covered by existing budgets.
Low Cost	Additional cost of £1k- £20k
Medium Cost	Additional cost of £20k - £250k
High Cost	Additional cost of £250k - £1M
Very High Cost	Additional cost of £1M and above

Each measure has been categorised on the type of flood management approach using the following headings:

Prevention	Measures to encourage appropriate land use and development policy to manage risk.
Preparedness	Measures that enable communities to be better prepared for flood events in a way that mitigates flood risk.
Protection	Measures designed to mitigate the impact of floods.
Recovery and Review	Measures that support recovery after a flooding event and/or review possible improvements to mitigate future risks.

7.2 Summary of Flood Measures

Table 14: Summary of Flood Measures

Theme	Ref	Measure
Development planning and adaptation	1	Sustainable & Strategic Development Planning
	2	Strategic Flood Consequence Assessment (SFCA)
	3	SuDS Approving Body (SAB)
Flood forecasting, warning and response	4	Flood Awareness
	5	Flood Warning & Forecasting
	6	Emergency Response and Multi-Agency Plans
	7	Community Flood Plans
Land, cultural and environmental management	8	Natural Flood Management & Nature Based Solutions
	9	Environmental Enhancement & Habitat Creation
	10	Partnership Working
Asset management and maintenance	11	Flood and Drainage Asset Database
	12	Asset Management and Maintenance Plans
	13	Designation of Structures
Studies assessments and plans	14	Flood Investigations
	15	Flood Alleviation Schemes
	16	Strategic Flood Risk Area Management
	17	Flood Action Plan
Monitoring	18	Flood Monitoring

7.3 Our Flood Measures

7.3.1 Development, Planning and Adaptation

Key legislation and policies in Wales ensure flood risk is suitably considered for all new development.

Welsh Government's Planning Policy Wales and Technical Advice Note (TAN) 15 Development, flooding and coastal erosion, guide decision makers and direct new development away from those areas which are at high risk of flooding.

In addition, on 7th January 2019 Schedule 3 of the Flood and Water Management Act 2010 was enacted in Wales, requiring all construction work with drainage implications, of 100m² or more, to have Sustainable Drainage Systems (SuDS) to manage on-site surface water. These SuDS must be designed and constructed in accordance with Welsh Government Standards for Sustainable Drainage. Developers must obtain approval from MCC as the SuDS Approving Body prior to the commencement of any construction works.

The following measures will ensure this Local Strategy is compliant with the above policies and legislation to ensure new developments are appropriately located and designed to minimise flood risk.

Measure 1	**Sustainable & Strategic Development Planning**
Description	As Lead Local Flood Authority we will work with the Local Planning Authorities (LPA) (MCC and Bannau Brycheiniog) to develop suitable planning polices to ensure new developments take adequate account of flood risk from local sources. This initiative will facilitate compliance with Planning Policy Wales (PPW), Technical Advice Note 15 (TAN 15), MCC's Local Development Plan and Strategic Flood Consequences Assessment (SFCA). Additionally, this measure will enhance the LLFA's role as a consultant to the LPA on local flood risk in planning applications. Aligning our Local Strategy with planning policy is crucial in making informed decisions regarding development and infrastructure, avoiding placing individuals in high-risk areas, and preventing the accumulation of future challenges that could require costly solutions. This measure will provide clarity to future developers, the public and the LPA regarding permissible development in specific locations, establishing appropriate criteria for surface water flooding consequences and promoting consistency and transparency in development management throughout Monmouthshire.
Benefits incl. multiple/wider benefits	• Reduces inappropriate development in areas at flood risk by offering informed planning advice and guidance on local flood risk and consequences. • Supports the LPA to make clear decisions based upon the best available evidence. • Direct development away from high and medium flood risk areas. • Ensures new development does not increase local flood risk elsewhere. • Ensures development is appropriately flood resilient and resistant. • Identifies opportunities to reduce the causes and impacts of flooding.

Indicative timescale	Recurring/Ongoing
Indicative Cost	Existing Resources
Related Local Strategy Objectives	Objectives 1, 2, 4, 5, 6, and 8.
Link to National Strategy	Objectives B & D
Funding Option(s)	Revenue
Delivery partners	Local Planning Authorities (MCC and Bannau Brycheiniog)
Type(s) of flood management	Prevention, Protection, Preparedness.
Link to other MCC Plans	MCC's Local Development Plan MCC's Climate & Nature Emergency Strategy

Measure 2	**Strategic Flood Consequence Assessment (SFCA)**
Description	Development of an updated Strategic Flood Consequences Assessment (SFCA) to inform future Local Development Plans.
Benefits incl. multiple/wider benefits	The SFCA will assess the sources and consequences of flooding to inform the location of new development as proposed in the Replacement Local Development Plan is appropriate and in accordance with TAN 15 and other related policies.
Indicative timescale	Short Term
Indicative Cost	Existing Resources
Related Local Strategy Objectives	Objectives 1, 2, 4, 5, 6, and 8.
Link to National Strategy	Objectives B & D
Funding Option(s)	Revenue
Delivery partners	Local Planning Authorities (MCC and Bannau Brycheiniog)
Type(s) of flood management	Prevention
Link to other MCC Plans	MCC's Local Development Plan

Measure 3	**SuDS Approving Body (SAB)**
Description	Schedule 3 of the Flood and Water Management Act 2010 was enacted in Wales in 2019 and places statutory duties on MCC as the SuDS Approving Body (SAB). The SAB will ensure that drainage proposals for all new developments of over 100m² of construction area are designed and built in accordance with the statutory National Standards for Sustainable Drainage published by Welsh Ministers

	The SAB's primary roles include: • Technical review of drainage designs for all construction work which has drainage implications to ensure compliance with the National Standards. • Inspection of construction works to ensure compliance with approved plans. • Enforcement action against any non-compliant work. • Adoption, inspection and maintenance of SuDS schemes which serve two or more properties. The SAB also provides a discretionary pre-application and advice service which supports applicants, design consultants and developers, to ensure the requirements of the National Standards are fully understood and met, prior to a full application being submitted. The above functions and services provided by the SAB ensure construction work with drainage implications will adhere to the National Standards. This will support the reduction of surface water flood risk from new developments, promote the use of green infrastructure, improve water quality, and provide wider amenity and biodiversity benefits.
Benefits incl. multiple/wider benefits	• Reduced number of people at risk of flooding by ensuring SuDS on new developments mimic the natural drainage regime and manage surface water at source and at the surface and prevent natural runoff rates being exceeded. • Treat rainwater as a valuable natural resource and harvest that water for reuse where possible. • Improved water quality through the treatment of surface water and filtration of pollutants by green infrastructure. • Biodiversity and amenity benefits provided by greener infrastructure and SuDS features within open spaces and the urban environment. • Ensures SuDS are built in a safe and sustainable manner and that funding for maintenance is in place for the lifetime of the development.
Indicative timescale	Recurring/Ongoing
Indicative Cost	Existing Resources
Related Local Strategy Objectives	Objectives 1, 2, 3, 4, 5, and 8.
Link to National Strategy	Objectives B & D
Funding Option(s)	Revenue
Delivery partners	Local Planning Authorities (MCC and Bannau Brycheiniog)
Type(s) of flood management	Prevention
Link to other MCC Plans	MCC's Local Development Plan MCC's Climate & Nature Emergency Strategy

7.3.2 Flood Forecasting, Warning and Response

It is not always possible to prevent flooding, therefore it is essential that communities and individuals are aware of their current flood risk and potential future risk brought about by climate change.

Communities will be better informed and supported to improve their preparedness and make informed decisions when planning for flooding through the implementation of the following measures.

Measure 4	**Flood Awareness**
Description	Continue to raise awareness of flood risk with local communities and those most at risk to reduce and mitigate the consequences of flooding from all sources. This will include the sharing of information from Natural Resources Wales and Welsh Government, such as details about flood maps, the Flood Line service, flood alerts and warnings and the National Strategy. We will also continue to provide a wealth of useful and supportive information on the MCC website through dedicated pages relating to flood risk management and emergency planning. MCC's information leaflets for residents whose property is at risk of flooding and those who have been flooded, will continue to be reviewed and updated, as will our leaflet on waterside living and riparian ownership. These sources of information will continue to be available on MCC's website and in hard copy. This work will also involve continued collaboration with Natural Resources Wales and other Risk Management Authorities in raising awareness about flood risk. Promotion of community flood plans and individual flood plans will continue through community engagement events and meetings held with individual residents through our day to day role as Lead Local Flood Authority.
Benefits incl. multiple/wider benefits	Raised awareness of flood risk within local communities and those most at risk, to reduce and mitigate the consequences of flooding from all sources and its impact upon communities.
Indicative timescale	Recurring/Ongoing
Indicative Cost	Existing Resources
Related Local Strategy Objectives	Objectives 1, 2, 6, 7 and 8.
Link to National Strategy	Objectives A, B & E
Funding Option(s)	Revenue
Delivery partners	Other RMA's, MCC Emergency Planning
Type(s) of flood management	Prevention, Preparedness, Recovery & Review
Link to other MCC Plans	N/A

Measure 5	**Flood Forecasting & Warning**
Description	MCC is a Category 1 responder under the Civil Contingencies Act (2004) and has a duty to 'warn, inform and advise the public in the event of an emergency'. MCC will continue to make arrangements to receive and disseminate information across relevant service areas, the general public and elected members,

	information relating to severe weather forecasts and warnings from the Met Office, Flood Guidance Statements from the Flood Forecasting Centre and flood warnings from Natural Resources Wales. External communication of relative information will typically be provided through MCC's website and social media channels. We will also continue to forecast and cascade information relating to flooding from local sources when available and to provide details and timings of high tides at Tintern which may affect local infrastructure and properties.
Benefits incl. multiple/wider benefits	To give the Council and local communities as much warning of potential flooding as possible to allow the Council to prepare and residents to take appropriate action.
Indicative timescale	Recurring/Ongoing
Indicative Cost	Existing Resources
Related Local Strategy Objectives	Objectives 1, 2, 3, 4, 6, and 8.
Link to National Strategy	Objectives A, B & E
Funding Option(s)	Revenue
Delivery partners	NRW, Met Office
Type(s) of flood management	Protection, Preparedness
Link to other MCC Plans	MCC's Emergency Management Plan

Measure 6	**Emergency Response and Multi-Agency Plans**
Description	MCC supports the response planning structure as adopted by the Gwent Local Resilience Forum (Gwent LRF) and ensures roles and responsibilities as agreed in joint plans are reflected in local authority emergency plans. In relation to flooding incidents, the Gwent LRF maintains the following documents: • **Gwent Major Emergency Response Arrangements** – which outline how all agencies will respond to a major incident, regardless of the cause. • **Gwent LRF Flood Arrangements** – details the arrangements for responding to a Flood Incident in the Gwent LRF area. • **Gwent Recovery Plan** – sets out the approach to the management of the recovery phase following a major emergency. To meet its obligations MCC has established a series of response arrangements to deal with flooding issues and wider incident response and recovery, these are as follows: • **MCC Emergency Management Plan:** which is just one of a set of integrated plans used by the Council to ensure that staff, managers and

	officers from the Authority and other organisations meet their responsibilities within a co-ordinated overall response. This is the main response plan and is integrated with the following internal documents. • **Directorate Emergency Plans:** developed and maintained by individual directorates with the support of Emergency Planning staff. They contain activation and operational procedures to help staff meet the directorates' emergency responsibilities, as set out in the Emergency Management Plan and specific LRF plans. • **MCC Adverse Weather Arrangements:** highlights how the council will continue to provide priority services during periods of severe weather and, maintain a matrix of where flood warnings and severe weather warnings are distributed internally. • **Emergency Response Arrangements:** which cover out-of-hours procedures for Duty Officers and signpost to directorate and joint agency plans, covering Flood Warning Dissemination, Flood Incidents and specific arrangements for the evacuation of Riverside Park/Old Dixton Road Monmouth, Skenfrith and Forge Road, Monmouth. MCC will continue to review and update these documents and consider the need for any additional specific procedures.
Benefits incl. multiple/wider benefits	To manage the response of MCC and our multi-agency partners to various emergencies including flooding. To give support to the communities before, during and after flooding emergencies.
Indicative timescale	Recurring/Ongoing
Indicative Cost	Existing Resources
Related Local Strategy Objectives	Objectives 1, 2, 6, 7 and 8.
Link to National Strategy	Objectives A, B & E
Funding Option(s)	Revenue
Delivery partners	Category 1 & 2 Responders under the Civil Contingencies Act 2004
Type(s) of flood management	Preparedness, Recovery & Review
Link to other MCC Plans	MCC's Emergency Management Plan MCC's Corporate Flood Response Arrangements

Measure 7	**Community Flood Plans**
Description	Support local communities in the development and upkeep of community flood plans, including individual flood plans for properties most at risk. These plans are typically community led and require detailed information on flood risk and assets from MCC as Lead Local Flood Authority. We will continue to promote such plans to and offer support, guidance and information as required.

	We will also engage with other RMA's to seek further information and guidance if required.
Benefits incl. multiple/wider benefits	To improve awareness of flood risk and to empower communities and individuals to take ownership of their risk and enable them to take informed actions and decisions in a timely manner.
Indicative timescale	Recurring/Ongoing
Indicative Cost	Existing Resources
Related Local Strategy Objectives	Objectives 1, 6, 7 & 8
Link to National Strategy	Objectives A, B & E
Funding Option(s)	Revenue
Delivery partners	Other RMA's, MCC Emergency Planning
Type(s) of flood management	Preparedness, Recovery & Review
Link to other MCC Plans	Site specific Emergency Response Arrangements plans

7.3.3 Land, Cultural and Environmental Management

The effective management of our land and natural environment is essential to managing flood risk in a sustainable way. Through the following measures we will work with partners to ensure the environment is considered through all aspects of flood risk management, by developing a culture of holistic thinking to enhance biodiversity, ecosystems, water quality, amenities etc. whilst improving resilience within our communities.

Measure 8	**Natural Flood Management & Nature Based Solutions**
Description	Natural Flood Management is the process whereby natural processes and nature based solutions are utilised to reduce the risk of flooding. These processes protect, restore and mimic the natural drainage regime and are designed to store, slow and infiltrate water to reduce flood risk. Such measures also provide wider benefits such as improved water quality, amenity & biodiversity enhancements and carbon capture. NFM measures can include: • Soil & land management • River restoration • Wetland creation • Ponds & offline storage • Tree & hedgerow planting • Leaky barriers in channels • Field edge buffer strips • Peatland restoration

	The National Strategy encourages the take up of NFM in Wales and delivery has been supported through specific grant funding from Welsh Government for pilot studies and schemes. Through this funding, MCC has assessed NFM opportunities across the county and delivered a small number of schemes over recent years. We will continue to promote NFM as a tool to reduce flood risk and to consider such interventions at the appraisal stage of all flood alleviation schemes. Where appropriate, we will also continue to work with partners and landowners to identify and seek resources to deliver NFM and nature based solutions to reduce risk to our most vulnerable communities.
Benefits incl. multiple/wider benefits	The promotion and delivery of NFM and nature based solutions will support the goals of the Well Being of Future Generations (Wales) Act and the Environment Act as well as: - Reducing surface water runoff and peak flows - Improving water quality - Ecological enhancement and habitat creation - Improved and more sustainable land management
Indicative timescale	Recurring/Ongoing
Indicative Cost	Medium
Related Local Strategy Objectives	Objectives 1, 2, 3, 4, 5, 6, 7 and 8
Link to National Strategy	Objectives A, B C and D
Funding Option(s)	WG NFM Grant, Revenue
Delivery partners	Other RMAs, Landowners, MCC's Green Infrastructure team
Type(s) of flood management	Prevention, Protection, Preparedness
Link to other MCC Plans	MCC's Green Infrastructure Strategy

Measure 9	**Environmental Enhancement & Habitat Creation**
Description	Environmental enhancements schemes are typically linked to development sites or are publicly funded grants to improve existing, predominantly urban areas. MCC will promote improvements in surface water management in all publicly funded schemes to ensure surface water is effectively managed in accordance with relative legislation and best practice and ensure there is no increase in flood risk. Such measures will also promote environmental betterment through the enhancement of biodiversity and habitats, improving air and water quality and mitigating the impacts of climate change.
Benefits incl. multiple/wider benefits	To support Monmouthshire's Local Nature Recovery Action Plan and to ensure new developments and public realm/redevelopment schemes do not increase flood risk, through the use of sustainable drainage schemes (SuDS) and suitable environmental enhancements.

Indicative timescale	Recurring/Ongoing
Indicative Cost	Medium
Related Local Strategy Objectives	Objectives 1, 2 and 5.
Link to National Strategy	Objectives B, C & D
Funding Option(s)	Capital
Delivery partners	Other RMA's, MCC's Green Infrastructure team
Type(s) of flood management	Prevention, Protection.
Link to other MCC Plans	MCC's Green Infrastructure Strategy

Measure 10	**Partnership Working**
Description	MCC will continue to work collaboratively with partners and other RMA's with a shared goal of reducing flood risk to our communities. This work can cover flood investigations, scheme appraisals and development, community engagement, awareness raising and sharing of knowledge and best practice. As Lead Local Flood Authority, MCC are an active member of the South East Wales Flood Risk Management Group and Severn Estuary Coastal Group which are attended by other RMA's such as NRW and DCWW. We will also aim to work with other RMA's on catchment scale to ensure flood risk is considering holistically across the nine Strategic Flood Risk Areas set out in this strategy, including cross local authority border working where there are benefits in doing so.
Benefits incl. multiple/wider benefits	Improves understanding of flood risk across RMA responsibilities creating a wider network of skilled professionals with a shared goal. Shared expertise to improve efficiency and deliver innovative projects with multiple benefits. Supports communities to better understand roles and responsibilities associated with flood risk management.
Indicative timescale	Recurring/Ongoing
Indicative Cost	Existing Resources
Related Local Strategy Objectives	Objectives 1, 2, 3, 4, 5, 6, 7 and 8
Link to National Strategy	Objectives A, B, C, D & E
Funding Option(s)	Revenue

Delivery partners	Other RMA's
Type(s) of flood management	Prevention, Protection, Preparedness, Recovery & Review
Link to other MCC Plans	N/A

7.3.4 Asset Management and Maintenance

The effective management of drainage infrastructure and flood defences is instrumental to managing flood risk and ensuring safe and sustainable communities.

The following measures will review and develop existing asset management practices, records and inspection and maintenance programmes.

Measure 11	**Flood and Drainage Asset Database**
Description	In accordance with Section 21 of the FWMA 2010, MCC will continue to develop and maintain a register of structures or features, which in the opinion of the Authority, are likely to have a significant effect on flood risk in Monmouthshire. Information will be recorded about each of the structures and features including ownership and the state of repair. MCC will also collect data of its own and third party assets, including other RMA's critical assets that are related to drainage and flooding and which could relate to a flood risk in the future. Inspection and maintenance records for assets such as culverts, trash screens and gullies will also be kept. Asset information of SuDS assets adopted by the SAB will also be maintained within the database which will be used to effectively manage those systems. MCC will continue to identify and record on its database all formal and informal defences, structures, storage and retention facilities etc. over time.
Benefits incl. multiple/wider benefits	• Provide details of existing drainage assets which are likely to affect flood risk. • Give easy and efficient access to available information. • Determine ownership and maintenance responsibility. • Identify previously unrecorded assets. • Provide condition surveys and maintenance records for all appropriate drainage assets. • Maintain records of cleaning and inspection of grids, gullies and other assets where possible & practical.
Indicative timescale	Recurring/Ongoing
Indicative Cost	Existing Resources
Related Local Strategy Objectives	Objectives 1, 2, 3, 4, 6 & 7
Link to National Strategy	Objectives A, C, D & E
Funding Option(s)	Revenue
Delivery partners	N/A

Type(s) of flood management	Prevention, Preparedness, Recovery & Review
Link to other MCC Plans	N/A

Measure 12	**Asset Management and Maintenance Plans**
Description	MCC will use information recorded within its asset database to review its current asset management practices and develop robust management plans on a catchment scale. This will include scheduling cyclic inspection and maintenance programmes for significant assets that can affect flood risk, including: - Formal flood defence assets. - Highway surface water drainage systems. - Culverts owned by MCC and where riparian owner responsibilities apply. - Trash screens. - Watercourses owned by MCC and where riparian owner responsibilities apply. - SuDS adopted by the SAB. In addition, reactive inspection arrangements undertaken upon receipt of weather warnings will also be reviewed and enhanced where required.
Benefits incl. multiple/wider benefits	• Improved asset records and management practices. • Raised awareness of significant assets and critical infrastructure within Monmouthshire. • Greater opportunity to share information with internal departments, other RMA's and the general public. • Reduction in flood risk by ensuring assets are functioning correctly. • Improve preparedness and response to flood events. • Lifetime of flood assets extended through regular inspection and maintenance, potentially reducing long term costs.
Indicative timescale	Recurring/Ongoing
Indicative Cost	Existing Resources
Related Local Strategy Objectives	Objectives 1, 2, 3, 4, 5, 6, 7 & 8
Link to National Strategy	Objectives A, C, D & E
Funding Option(s)	Revenue
Delivery partners	N/A
Type(s) of flood management	Protection, Preparedness, Recovery & Review.
Link to other MCC Plans	MCC's Highway Asset Management Strategy, MCC's Highway Management Plan

Measure 13	Designation of Structures
Description	As a Lead Local Flood Authority, under the FWMA 2010, MCC is a "designating authority" with permissive powers to designate a structure or natural or man-made feature of the environment, if its location or structure affects flood risk or a coastal erosion risk. Designation ensures a person may not alter, remove or replace the structure without the consent of MCC. If unconsented works are undertaken enforcement powers under the Act are available. MCC will review its approach to designating structures and identify any such features for further consideration. A risk-based approach will be considered with highest risk structures or features given priority for consideration for designation.
Benefits incl. multiple/wider benefits	• Identification of private structures which could affect flood risk. • Prevention of works or alterations to such structures or features which have potential to increase flood risk.
Indicative timescale	Recurring/Ongoing
Indicative Cost	Existing Resources
Related Local Strategy Objectives	Objectives 1, 2, 4 & 6
Link to National Strategy	Objectives A, C & D
Funding Option(s)	Revenue
Delivery partners	N/A
Type(s) of flood management	Protection
Link to other MCC Plans	N/A

7.3.5 Studies Assessment and Plans

Whilst flood risk is managed by existing defences and infrastructure in some communities in Monmouthshire, many remain without any form of mitigation to reduce that risk. Whist it is not always economically or physically viable to provide engineered solutions, through the following measures MCC will continue to assess the viability of potential new flood alleviation schemes in areas most at risk.

Measure 14	Flood Investigations
Description	Under the Section 19 of the Flood and Water Management Act 2010 Monmouthshire County Council (MCC) has a duty as Lead Local Flood Authority to investigate flooding within its area, insofar as it considers it necessary or appropriate. The results of the investigation must be published and will include which risk management authorities had relevant flood risk management functions and whether they have exercised those functions appropriately in response to the flood.

	MCC will investigate all reported flooding incidents affecting property and infrastructure and in accordance with Welsh Governments' National Strategy, will publish Section 19 reports where 20 or more homes in one area experience internal flooding.
Benefits incl. multiple/wider benefits	• Captures details of the mechanisms of flooding and impacts to allow RMA's to make informed decisions about potential interventions and investment. • Further knowledge and understanding of flood risk in Monmouthshire. • Hold RMA's to account to ensure the requirements of the National Strategy and statutory duties are being met.
Indicative timescale	Recurring/Ongoing
Indicative Cost	Existing Resources
Related Local Strategy Objectives	Objectives 1, 2, 3, 6, 7 & 8
Link to National Strategy	Objectives A, C & D
Funding Option(s)	Revenue
Delivery partners	Other RMA's
Type(s) of flood management	Recovery & Review
Link to other MCC Plans	N/A

Measure 15	**Flood Alleviation Schemes**
Description	In order to reduce the risk of flooding and enhance resilience within our communities, MCC will maintain and develop a prioritised long-term programme of capital flood alleviation schemes. These schemes can include investment for new defences, replacement/refurbishment of existing defences and structures, property flood resilience measures, natural flood management as well as a combination of these and other interventions. A formal ranking process with be developed to ensure investment is directed to areas most at risk and where economically viable schemes are achievable. Capital schemes will be developed in accordance with Welsh Government FCERM Business Case Guidance to demonstrate viability and support future grant applications.
Benefits incl. multiple/wider benefits	• Reduce flood risk and make communities more resilient. • A ranked long-term programme will help demonstrate investment is targeting those most at risk. • Improved financial planning. • The appraisal of flood schemes will consider wider wellbeing benefits including economic, social and environmental improvements.
Indicative timescale	Recurring/Ongoing

Indicative Cost	Low - High
Related Local Strategy Objectives	Objectives 1, 2, 3, 4, 5, 6, 7 & 8
Link to National Strategy	Objectives A, B, C & D
Funding Option(s)	Revenue (WG Funding), Capital (WG Funding), Third Party funding
Delivery partners	Other RMA's, NGO's, land & property owners
Type(s) of flood management	Protection, Preparedness, Recovery & Review
Link to other MCC Plans	N/A

Measure 16	**Strategic Flood Risk Area Management**
Description	Flood risk across Monmouthshire will be assessed on a catchment basis using identified Strategic Flood Risk Areas (SFRA). These SFRAs mirror the catchments of larger watercourses and breakdown the county into suitable areas whereby local flood risk can be considered in a holistic way along with all other sources of flooding. This approach also helps to highlight areas at greatest risk and their interconnected potential for mitigation on a catchment basis, whilst also maximising the potential for identifying flood risk management opportunities across a range of LLFA responsibilities and duties. This approach is in accordance with the National Strategy which promotes wider catchment approaches to managing risk, cross-border and multi-agency working. MCC will assess and manage flood risk on a catchment scale focusing on the nine SFRA's, further breaking these areas down to sub-catchment level to improve understanding of how water flows through the catchments, local sources of flood risk, key assets and critical infrastructure. In turn, this will allow for improved strategic planning, targeting of interventions, community engagement and cross-border/multiagency working.
Benefits incl. multiple/wider benefits	• Improved understanding of local flood risk and strategic planning • Ensures investment is targeted to areas most at risk • Encourages collaborative working • Promotes partnership working and recording of natural flood management on a catchment scale
Indicative timescale	Recurring/Ongoing
Indicative Cost	Existing Resources
Related Local Strategy Objectives	Objectives 1, 2, 3, 4, 5, 6, 7 & 8
Link to National Strategy	Objectives A, B, C, D & E
Funding Option(s)	Revenue

Delivery partners	Other RMA's, land owners
Type(s) of flood management	Prevention, Protection, Preparedness, Recovery & Review
Link to other MCC Plans	N/A

Measure 17	**Flood Action Plan**
Description	Under the Flood Risk Regulations 2009, LLFA's are responsible for producing Flood Risk Management Plans for flood risk areas identified in the Preliminary Flood Risk Assessment. First published in 2016, MCC has updated their Flood Risk Management Plan into a new Flood Action Plan which is appended to this Strategy. This combines the Strategy and Action Plan into a coherent document, which will improve the wider understanding of flood risk, roles and responsibility and intended actions. The Flood Action Plan sets out specific county wide actions and localised actions within each of the SFRA's. These Action Plans will be reviewed and updated every 2 years to reflect the LLFA's continued delivery against the Local Strategy's objectives and measures.
Benefits incl. multiple/wider benefits	• Clarity of flood risk management • Improved financial and resource management • Focussed Action Plan
Indicative timescale	Long Term
Indicative Cost	Existing Resources
Related Local Strategy Objectives	Objectives 1, 2, 3, 4, 5, 6, 7 & 8
Link to National Strategy	Objectives A, B, C, D & E
Funding Option(s)	Revenue
Delivery partners	Other RMA's
Type(s) of flood management	Prevention, Protection, Preparedness, Recovery & Review
Link to other MCC Plans	N/A

7.3.6 Monitoring

Monitoring local flooding issues, rainfall and water levels is a key component in furthering understanding of flood risk and identifying potential mitigation measures. Measures also include the monitoring of key environmental factors and delivery of wider benefits through flood risk management activities.

Measure 18	**Flood Monitoring**
Description	Monitoring of weather events and the resultant pluvial and fluvial impacts is critical to the preparation and response to flood events. It can also improve knowledge and awareness of the cause and impact of local flood risk issues. This work also involves the monitoring of tides and storm surge events, and the resultant impacts on MCC's coastline and estuaries such as at Tintern and Chepstow. Through the use of internal and external telemetry systems, flood events can be monitored in real time. MCC currently have 7 remote CCTV cameras and 1 river level telemetry system monitoring critical trash screens and culverts which are prone to blockage in high risk areas. Following advances in technology a review of the current monitoring stations will be undertaken and an assessment made to identify possible improvements and/or expansion of the network.
Benefits incl. multiple/wider benefits	• Greater ability to monitor and respond to flood events. • Improved understanding of how catchments respond to varying rainfall events. • Improved awareness of flood risk through sharing data. • Improved maintenance planning and better resource management.
Indicative timescale	Recurring/Ongoing
Indicative Cost	Medium
Related Local Strategy Objectives	Objectives 1, 2, 3, 6, 7 & 8
Link to National Strategy	Objectives A, B, C, D & E
Funding Option(s)	Revenue
Delivery partners	N/A
Type(s) of flood management	Prevention, Protection, Preparedness, Recovery & Review
Link to other MCC Plans	N/A

8 Flood Actions

8.1 Introduction to Flood Actions

Under the Flood Risk Regulations 2009, Lead Local Authorities have a duty to produce a Flood Risk Management Plan for flood risk areas within their administrative boundary that have been identified in the Preliminary Flood Risk Assessment (PFRA). The Severn PFRA which was produced by Natural Resources Wales and the Environment Agency in 2018, identified a surface flood risk area in Monmouthshire, as defined by the CaRR community boundary of Abergavenny. The Flood Action Plan considers this flood risk area as part of the wider Usk SFRA Action Plan.

The new Local Strategy combines the Flood Action Plan and the Local Flood Risk Management Strategy into one document and will therefore supersede MCC's previous Flood Risk Management Plan published in 2016.

MCC's Objectives and Measures for managing local flood risk to our communities are detailed in Chapters 6 & 7 above. In order to deliver these, a range of actions have been developed as detailed in the Flood Action Plan. Actions have been identified on a countywide scale as well as for each of the nine SFRA's to ensure the local sources of flood risk at a community scale are considered. The proposed actions will be delivered over the short (1 - 3 years), medium (4 - 6 years) and long term (6+ years) and will have clearly defined measurable outcomes.

The Flood Action Plan will be regularly reviewed and updated every 3 years or as required. A more comprehensive review will be undertaken as part of future updates to this LFRMS, typically every 6 years.

8.2 MCC's Flood Action Plan

As stated in Chapter 3, MCC have adopted a catchment based approach to assessing flood risk. Nine Strategic Flood Risk Areas (SFRAs) have been identified which mirror the catchments of larger watercourses and breakdown the county into suitable areas whereby local flood risk can be considered in a holistic way along with all other sources of flooding. This approach also helps to highlight areas at greatest risk and their interconnected potential for mitigation on a catchment basis, whilst also maximising the potential for identifying flood risk management opportunities across a range of LLFA responsibilities and duties.

The first part of the Flood Action Plan has identified flood actions which are relevant to the whole of Monmouthshire. Flood Action Plans have then been produced for each of the 9 SFRA's, which include more detailed information of flood risk and actions specific to that area. Figure 4 shows the location of the SFRAs across Monmouthshire and the main settlements are also listed in Table 2.

MCC's Flood Action Plan can be found in Appendix A.

9 Funding and Prioritisation

9.1 Funding Options

Measures to manage local flood risk are funded from a range of sources as outlined in the following sections.

Welsh Government Funding

Welsh Ministers may provide revenue and capital grants in relation to FCERM activities. The Welsh Government has proposed to work with RMAs to develop a 5 to 10 year investment programme of future FCERM capital schemes, justified in accordance with the FCERM Business Case Guidance[9].

The Welsh Government prioritises FCERM schemes which primarily reduce risk to homes. Businesses and public buildings can also benefit from schemes, in particular those which reduce risk to a mix of development types such as homes and shops along a high street or local district centre. Schemes which only reduce risk to businesses remain eligible but should not be prioritised over schemes which reduce risk to homes. Funding is not available to enable new development. RMAs applying for funding are encouraged to identify wider benefits such as regeneration opportunities, improvements to habitats/biodiversity, mental health or recreational benefits. Early consideration of aligning multiple benefits to secure wider funding is encouraged. Where significant benefits are identified to third parties, it is expected RMAs will work both internally and externally (for example with infrastructure providers, utilities, industry and commerce) to identify and secure appropriate partnership funding contributions from those benefitting from a scheme.

Welsh Government Grant funding is typically split into bespoke grants as outlined below.

- **FCERM Capital Grant Funding**
  This supports development of flood schemes from the initial investigation work through to design and construction. Schemes must follow Welsh Government's FCERM Business Case through the development of a Strategic Outline Case (why a scheme is needed); Outline Business Case or Business Justification Case (consideration of various options and identification of an economically viable preferred option); and Full Business Case & Detailed Design (demonstrates deliverability, affordability, contract and procurement routes). Typically for these development phases of projects, Welsh Government provide 100% of the funding needed, with the grant rate for detailed design having been reduced to 85% from 1st April 2025. The construction stage of schemes is typically funded at a grant rate of 85% with the remaining match funding of 15% coming from Local Authority or other contributions.

- **Small Scale Works Grant**
  This supports Local Authorities to carry out smaller schemes where appropriate solutions have already been identified, negating the need for a more detailed business case. Such works can include property flood resilience measures, telemetry, asset improvement works, new infrastructure and natural flood management works that benefits properties. Grants are awarded on an annual basis for design works up to £50,000 and Construction works up to £300,000 (2025/26) at a rate of 100% for design and 85% for construction.

[9] The Welsh Government, June 2019, Flood and coastal erosion risk management (FCERM): business case guidance

- **Natural Flood Management (NFM) Grant**
  First introduced in 2020-2022 and subsequently supported by Welsh Government's NFM Accelerator grant in 2023-2025, this funding is available to RMAs to deliver NFM schemes that benefit people and properties. The funding is provided at a grant rate of 100% and can be used for the initial feasibility stage through to design and construction.

- **Coastal Funding**
  Funding for the delivery of coastal schemes through the Coastal Risk Management Programme (CRMP) is available to Local Authorities and Natural Resources Wales. Such schemes should be delivered in accordance with the policies set out in relevant Shoreline Management Plans.

- **Emergency Flood Recovery Grant Funding**
  Following significant storm events Welsh Government have made additional funding available to Local Authorities to support with the response to such events and the emergency works to make safe and repair flood related damages to key assets and infrastructure.

- **Alternative Welsh Government Grant Funding**
  Other funding streams from Welsh Government can be utilised to deliver works with flood risk management benefits. This can include the *Resilient Road Fund* to improve the resilience of the highway network to future events and climate change; and the *Shared Prosperity Fund* which is also available to private individuals and community groups where wider benefits serving local communities can be achieved.

MCC Capital Funding

The Highways capital budget is used to match fund Welsh Government grant funded flood alleviation schemes (typically 15%). A portion of the same capital budget is also set aside for the delivery of highway drainage schemes, where typically the need has been identified from flood and land drainage investigations.

MCC Revenue Funding

Previously a dedicated grant for Local Authorities for their Flood Risk Management work, this funding now is included within the wider Revenue Support Grant from Welsh Government. This covers the day to day FCERM work of Local Authorities including flood investigations and reporting, asset inspections, surveys and database management, asset management and maintenance, community engagement as well as other statutory duties under the FWMA.

Section 106 Funding Contributions

Local Authorities can potentially require developers to carry out works on sites, including flood alleviation works, under Section 106 of the Town and Country Planning Act 1990.

Community Infrastructure Levy (CIL)

Local Authorities can raise funds from developers through a Community Infrastructure Levy (CIL) to finance the strategic infrastructure necessary for the implementation of the Local Development Plan (LDP). In certain instances, the CIL may be utilised to fund flood mitigation initiatives; however, it is frequently allocated to enhance transportation networks, educational institutions, libraries, and recreational or community facilities.

Other Possible Sources of Funding

Additional sources of funding can come from the private sector, Dŵr Cymru Welsh Water, community groups, non-government organisations and individuals to name a few. Partnership working between RMA's can also be explored to deliver flood alleviation schemes with mutual benefits across administrative boundaries. This can be particularly important when looking to deliver benefits on a catchment scale approach, where intervention such as natural flood management in the upper catchment can have significant benefits on communities downstream.

9.2 How we Prioritise Flood Measures & Actions

To ensure investment is directed to areas where it is required most, Welsh Government have developed a scoring methodology for prioritisation of FCERM funding. This methodology takes account of the following key factors:

- **Communities at Risk Register (CaRR)**
  The CaRR divided Wales into communities separate to any democratic or hydrological boundary. Flood risk from all sources for each community is assessed and ranked, allowing those communities most at risk to be identified through a consistent methodology. The CaRR is one tool that can be used to prioritise investment to those communities at greatest risk and is used by MCC to justify investment within our grant applications to Welsh Government.

- **History of flooding**
  The actual number and frequency of flood events is used to further consider and justify investment in flood alleviation schemes. MCC have developed a detailed database of historic flood events and land drainage inspections which is used to support funding applications and to demonstrate the needs for investment.

- **Number of Properties Benefiting**
  Reducing flood risk to properties is one of the key objectives of the National Strategy for FCERM in Wales. Priority is given to residential properties at risk from internal flooding, however the risk to businesses and public buildings is also taken into consideration.

- **Benefit Cost Ratio**
  The benefits of the schemes in monetary terms compared to the cost of a scheme is a key consideration and schemes must demonstrate a positive benefit cost ratio to be considered for funding. There are a number of tools used to undertake economic assessments the *FCERM Manual for Economic Appraisals* and Welsh Government's *Rapid Assessment of Damages* tool.

- **Potential Opportunities for Wider Benefits**
  Potential for schemes to deliver wider benefits must be taken into account and can support funding applications. Opportunities such as biodiversity or amenity benefits can support the justification for funding.

- **Potential Opportunities for Partnership Funding**
  Additional sources of funding should be considered and sought where appropriate. This can be considered when schemes have potential to provide wider benefits to business, communities, environment or possibly facilitate sustainable development.

In order to ensure alignment with Welsh Government's National Strategy, in our role of Lead Local Flood Authority, MCC will continue to adopt this methodology to ensure funding for flood risk management and alleviation schemes is directed to our communities most at risk.

10 Environmental Assessments

Environmental Assessments have been undertaken alongside the development of this Local Strategy to ensure the Objectives, Measures and Actions presented take into account the environment within Monmouthshire, including important designations. The environmental assessments consider and record how the Local Strategy contributes to the achievement of wider environmental objectives.

10.1 Strategic Environmental Assessment (SEA)

A Strategic Environmental Assessment (SEA) is a way of assessing and monitoring the likely effects (positive and negative) of plans, programmes and strategies on the environment. It applies at the level of the plan or strategy (i.e. Local Strategy) which sets the direction for future development projects.

An SEA is a legal requirement to accompany a Local Strategy. Such assessments help to enable informed and transparent decision-making for the benefit of plan makers and the wider community in Wales.

The SEA was developed alongside this Local Strategy and is contained within a separate report. Table 15 provides an overview of the key environmental issues identified during the SEA process and how these provide both opportunities for the Local Strategy to provide benefits, as well as environmental issues to be considered as the Local Strategy is developed and delivered.

Table 15: SEA Topics

SEA Topic	Considerations for the Local Strategy
Landscape and visual amenity 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 the Wye Valley National Landscape.	To maintain the landscape within the county, the Local Strategy should consider and take account of the key issues relating to the landscape of Monmouthshire.
Biodiversity, Flora and Fauna 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.	The Local Strategy 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. The measures outlined within the Local Strategy should also consider how to prevent the spread of Invasive non-native species, particularly those prevalent within the aquatic environment.
Water environment The key issue relating to the water environment within the study area is summarised below:	To maintain and improve flood management across the council area, the Local Strategy should consider the issues outlined relating to the water environment.

• 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.	
Geology and soils The key issues identified that relate to geology and soils 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 Regionally Important Geological Sites (RIGS).	The Local Strategy must consider the issues outlined relating to geology and soils, which include the prevention of erosion of landfill waste into watercourses, which would threaten human health and the environment.
Historic environment 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 alleviation provided by measures contained within the Local Strategy 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.
Population and human health 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 measures contained within the Local Strategy should consider the potential consequences for the local population, including impacts on those in society who may be more vulnerable to the impacts of flooding. The impact on water quality from new developments should also be taken into consideration.
Material assets Key issues are summarised below: • Critical infrastructure including energy infrastructure, industrial areas, public amenity, and transport routes may be vulnerable to flood risk.	The provision of flood alleviation provided by measures contained within the Local Strategy must consider the potential consequences for established and future material assets.

• Sensitivity of infrastructure to damage/disturbance from flooding and associated socio-economic costs.	
Climate change 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 Monmouthshire is resilient to climate change, the Local Strategy must consider how to implement measures aimed at coping with impacts climate change can bring.

The result of the assessment concluded that the Local Strategy 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.

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.

10.2 Habitats Regulations Assessment (HRA)

A Habitats Regulations Assessment (HRA) considers the possible harm a project or plan could cause to certain specially protected sites, with the aim of ensuring damage to these sites is avoided.

Due to the potential of this Local Strategy to impact the Natura 2000 network of protected sites, namely Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar sites, a HRA needs to be undertaken in parallel with the SEA as soon as possible in the process.

The full HRA is contained within a separate report.

10.3 Water Framework Directive (WFD) Assessment

The Water Framework Directive (WFD) imposes legal requirements to protect and improve the water environment (including our rivers, coasts, estuaries, lakes, ground waters and canals). The key objective of the WFD is to reach 'good' status for water bodies for both chemical and ecological status.

In keeping with the requirements of the WFD and the National Strategy, considering sustainable development and working with natural processes to provide solutions to flood risks, will help to mitigate the effects on biodiversity and help improve water quality. Risk management measures can significantly benefit biodiversity in protecting designated sites and contribute to improving and maintaining these in a favourable condition, as well as maintaining and improving water quality. The National Strategy encourages the provision of biodiversity enhancements and minimising any adverse effects, this must also be considered within Local Strategies. This Local Strategy has identified it will seek to pursue an ecosystems approach in working with others as part of its approach to meet WFD requirements.

Under the WFD, River Basin Management Plans (RBMPs) must be developed for each river basin district and be reviewed and updated every 6 years. RBMPs describe the challenges that threaten

the water environment and how these challenges can be managed and funded. Monmouthshire falls within the Severn RBMP.

Table 16 summarises how this Local Strategy has considered the environmental objectives within the Severn RBMP and the WFD.

Table 16: Local Strategy Objectives that consider the Severn RBMP and WFD Objectives

LFRMS Objective	How the Local Objective considers the Severn RBMP and the WFD
1. Reduce the risk and impact of flooding to people and property.	Flood risk management schemes will consider the environment and mitigate potential impacts, whilst identifying potential enhancements where appropriate. Schemes will consider the use of green infrastructure and nature based solutions which have potential to provide wider environmental benefits and improve water quality.
2. Reduce disruption to critical infrastructure and essential services resulting from flooding.	Measure and actions to deliver this objective will provide greater environmental resilience through the reduction of uncontrolled surface water runoff and pollution entering watercourses.
3. Ensure a risk based and sustainable approach to investment and delivery of flood risk management activities.	The protection and enhancement of the environment and water quality will be considered through all stages of the decision making process associated with flood risk management activities.
4. Ensure flood resilience at environmentally significant and sensitive sites of national, regional and local importance is maintained and enhanced where possible.	This will ensure a sustainable approach to the management of such sites. Appropriate decision making driven by robust planning policy, and the implementation of suitable SuDS and nature based solutions will ensure new developments, as well as flood risk management schemes, consider environmental enhancement and resilience.
5. Support the Water Framework Directive by preventing deterioration of watercourses and improve water quality.	The requirements of the WFD and RBMP will be met in the delivery of all flood risk management activities to ensure water quality and flood risk are considered holistically.
6. Continue to improve understanding of flood risk and the impact of climate change within Monmouthshire.	This will enable greater consideration to be given to the health of our environment and watercourses now and in the future.
7. Raise awareness of flood risk amongst individuals and communities and support them to prepare for, respond to and recover from flood events.	Improved communication and community engagement provides opportunity to raise awareness about the health of our environment and watercourses and promote improved land

	management practices and nature based solutions amongst landowners.
8. Work collaboratively with other Risk Management Authorities and organisations to effectively manage flood risk.	Effective collaboration with other RMAs. Catchment partnerships and environmental groups will help to ensure best practice is adopted in all flood risk management activities.

11 Monitoring Progress

11.1 How we Measure Progress

As Lead Local Flood Authority, MCC is responsible for monitoring the implementation of this Local Strategy. Measuring progress will focus upon the delivery of the Actions set out in the Flood Action Plan in Appendix A. Actions have been derived from the overarching Objectives and Measures, therefore their delivery will provide a means of measuring progress across the Strategy.

11.2 How Regularly we Monitor Progress

The Monmouthshire Flood Action Plan and Action Plans for each of the nine SFRAs will be reviewed regularly and updated every 3 years to reflect the LLFA's continued delivery against the Local Strategy's Objectives and Measures.

The Local Flood Risk Management Strategy as a whole will be reviewed and updated in line with the National Strategy and regulatory requirements, typically every six years.

Appendices

Appendix A - Flood Action Plan

See separate document titled:

"Local Flood Risk Management Strategy 2025 - Flood Action Plan"

Appendix B - Legislative Context

The Pitt Review 2007

Sir Michael Pitt carried out an independent review of national flood risk management practices after the widespread and catastrophic floods during the summer of 2007, in which over 50,000 households were affected and damages exceeded £4billion. The Pitt Review was published in June 2008 and called for urgent and fundamental changes to the way flood risk was being managed. The report contained 92 recommendations for the Government, local authorities, Local Resilience Forums and other stakeholders which were based around the concept of local authorities playing a major role in the management of local flood risk, through coordinating with all relevant authorities.

The Flood and Water Management Act 2010

The Flood & Water Management Act (FWMA) gained royal assent on the 8th April 2010 and provides legislation for the management of risks associated with flooding and coastal erosion. Many of the recommendations contained in the Pitt Review have been enacted through the Act. The Act reinforces the need to manage flooding holistically and in a sustainable manner and places a number of roles and responsibilities on councils. The preparation of this Local Flood Risk Management Strategy is just one of the duties placed upon Monmouthshire County Council as a Lead Local Flood Authority under this legislation.

The key duties and powers for LLFA's under this Act are summarised below.

Duty / Activity	Description	FWMA Ref.
Local Flood Risk Management Strategy	A Lead Local Flood Authority for an area in Wales must develop, maintain, apply and monitor a strategy for local flood risk management in its area. Local flood means risk from, surface runoff, ground water and ordinary watercourse.	Section 10
Co-operation with others	A relevant authority must co-operate with other relevant authorities in the exercise of their flood and coastal erosion risk management functions.	Section 13
Power to request information from others	LLFA's may request a person to provide information in connection with the authority's flood and coastal erosion risk management functions.	Section 14
Flood Investigations and reporting	On becoming aware of a flood in its area, a lead local flood authority must, to the extent that it considers it necessary or appropriate, investigate: (a) which risk management authorities have relevant flood risk management functions, and (b) whether each of those risk management authorities has exercised, or is proposing to exercise, those functions in response to the flood. As LLFA, MCC will investigate all reports of flooding and in line with the National Flood Strategy, will publish a Section 19 Flood Report where 20 or more properties have been affected.	Section 19
Duty to maintain an asset register	A lead local flood authority must establish and maintain:	Section 21

	(a) a register of structures or features which, in the opinion of the authority, are likely to have a significant effect on a flood risk in its area, and (b) a record of information about each of those structures or features, including information about ownership and state of repair.	
Sustainable Development	In exercising a flood or coastal erosion risk management function, an authority must aim to make a contribution towards the achievement of sustainable development.	Section 27
SuDS Approval Body (SAB)	As of 7th January 2019, all construction work in Wales with drainage implications, of 100m² or more, is required to have Sustainable Drainage Systems (SuDS) to manage on-site surface water. These SuDS must be designed and constructed in accordance with the Welsh Government Standards for Sustainable Drainage. Schedule 3 establishes Monmouthshire County Council as a SuDS Approval Body (SAB), having statutory responsibility for approving, and in some cases adopting and maintaining the approved drainage systems. Enforcement powers are also available to the SAB to ensure construction works are compliant with Welsh Government's Standards.	Schedule 3

Planning Policy Wales 2024

Planning Policy Wales (PPW) sets out the land use planning policies of the Welsh Government. The primary objective of PPW is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales. It is supplemented by a series of Technical Advice Notes (TANs), with TAN 15 Development, flooding and coastal erosion, being the key document relating to development and flood risk.

TAN15 provides technical guidance which supplements the policies set out in Planning Policy Wales and Future Wales in relation to flooding and coastal erosion. The TAN helps local planning authorities manage flood risk and prevent development in high-risk areas. Welsh Government released a new version of TAN 15 which came into effect on 1st April 2025.

Flood Risk Regulation 2009 (revoked as part of the Retained EU Legislation Action on 31st December 2023).

The Flood Risk Regulations came into force in December 2009 and transpose the EU Floods Directive into law for England and Wales. This provides a consistent approach to managing flood risk across Europe, through a six year planning cycle based on a four stage process of: undertaking a Preliminary Flood Risk Assessment (PFRA), identifying Flood Risk Areas, preparing flood hazard and risk maps and preparing flood risk management plans.

Under the Regulations, and in line with responsibilities under the Flood and Water Management Act (the Act), LLFAs are responsible for undertaking a PFRA for local sources of flood risk, primarily from surface runoff, groundwater and ordinary watercourses. The PFRA is a high level screening exercise which involves collecting information on past (historic) and

future (potential) floods, assembling it into a preliminary assessment report, and using it to identify Flood Risk Areas which are areas where the risk of flooding is significant.

Water Environment Regulations 2017

The Water Environment (Water Framework Directive) (England & Wales) Regulations 2017 (referred to as the WFD Regulations) provide a framework for managing the water environment in England and Wales. The Directive aims for "good status" of all ground and surface water (rivers, lakes, transitional water, and coastal waters).

Under the WFD Regulations, a River Basin Management Plan must be prepared for each river basin district. The plan includes environmental objectives and a summary of the programmes of measures required to achieve those objectives. Monmouthshire is covered by the Severn River Basin Management Plan 2021-2027.

Environment (Wales) Act 2016

The Environment Wales Act sets out the requirement for the sustainable management of natural resources, to provide for targets for reducing emissions of greenhouse gases, to reform the law on charges for carrier bags, to provide for the separate collection of waste, prohibit disposal of food waste to sewers and provide for prohibiting or regulating disposal of waste by incineration, to make provision about several and regulated fisheries for shellfish, to make provision about fees for marine licences, to establish the Flood and Coastal Erosion Committee, and to make minor changes to the law about land drainage and byelaws made by the Natural Resources Body for Wales.

Wellbeing of Future Generations (Wales) Act 2015

The Wellbeing of Future Generations (Wales) Act 2015 is a law in Wales that helps us all work together to improve our environment, our economy, our society and our culture. Its aim is to ensure that future generations have at least the same quality of life as we do now. The act provides for better decision-making by ensuring that public bodies:

- take account of the long term
- help to prevent problems occurring or getting worse
- take an integrated approach
- take a collaborative approach, and
- consider and involve people of all ages and diversity.

There are 7 connected well-being goals for Wales. They are:

- A prosperous Wales
- A resilient Wales
- A healthier Wales
- A more equal Wales
- A Wales of more cohesive communities
- A Wales of vibrant culture and thriving Welsh language
- A globally responsible Wales.

Other Relevant Legislation

Flood risk management is affected by a range of other legislation and guidance, including:

- Land Drainage Act 1991
- Civil Contingencies Act 2024

- Highways Act 1980
- Reservoirs Act 1975
- Climate Change Act 2008

Appendix C - Public Consultation Outcomes

Table with dates of consultation events and key outcomes to be completed following public consultation and prior to publication of final document.

Appendix D - Glossary of Terms used within this Local Strategy

- **Act:** a Bill approved by both the House of Commons and the House of Lords and formally agreed to by the reigning monarch (known as Royal Assent).

- **AEP:** Annual Exceedance Probability. An AEP is the probability of a certain size flood occurring in a single year.

- **Business Case:** A project management document that provides justification for undertaking a scheme that may include financial and nonfinancial benefits, and explains how the benefits outweigh the costs and why it should be delivered.

- **Business Justification Case (BJC):** A 'lighter', single-stage, Business Case that is intended to be used for the appraisal of smaller, simpler and less contentious FCERM projects.

- **Catchment:** An area that serves a river with rainwater that is every part of land where the rainfall drains to a single watercourse is in the same catchment.

- **Climate Change:** The change in average conditions of the atmosphere near the Earth's surface over a long period of time.

- **Coastal Flooding:** Occurs when coastal defences are unable to contain the normal predicted high tides that can cause flooding, possible when a high tide combines with a storm surge (created by high winds or very low atmospheric pressure).

- **Culvert**: A covered structure under road, embankment, etc, to direct the flow of water.

- **Dŵr Cymru Welsh Water (DCWW):** A not-for-profit company which supplies drinking water and wastewater services to most of Wales and parts of western England that border Wales.

- **Defences:** A structure that is used to reduce the probability of floodwater or coastal erosion affecting a particular area.

- **Flood and Coastal Erosion Committee (FCEC):** An independent advisory body to the Welsh Ministers and Welsh Risk Management Authorities on matters relating to flood and coastal erosion risk management.

- **Flood and Coastal Erosion Risk Management (FCERM):** The activity of understanding the probability and consequences of flooding and seeking to modify these factors to reduce flood risk to people, property and the environment. This should take account of other water level management and environmental requirements and opportunities and constraints

- **Flood and Water Management Act 2010:** An Act of Parliament updating and amending legislation to address the threat of flooding and water scarcity, both of which are predicted to increase with climate change.

- **Flood Hazard:** The product of the depth and velocity of floodwaters.

- **Flood Risk**: The product of the probability of flooding occurring and the consequences when flooding happens.

- **Flood Risk Assessment Wales (FRAW):** A national assessment of risk from all sources of flooding for public and professionals.

- **Flood Risk Regulations 2009:** Regulations which transpose the EC Floods Directive (Directive 2007/60/EC on the assessment and management of flood risks) into domestic law and to implement its provisions. These Regulations were revoked as part of the Retained EU Legislation Act on 31st December 2023.

- **Full Business Case:** The completed business case and third stage in the development of a business case for a significant project, which identifies the most economically advantageous option following procurement, confirms affordability and puts in place the detailed arrangements for successful delivery.

- **Green Infrastructure:** Provides flood risk management solutions, traditionally done with hard engineering, by utilising the natural properties of native vegetation. Green measures involve exclusive use of natural materials to manage risk.

- **Groundwater:** Water held underground in the soil or in pores and crevices in rock.

- **Groundwater Flooding**: Occurs when water levels in the ground rise above the natural surface. Low lying areas underlain by permeable strata are particularly susceptible.

- **Habitats Regulations Assessment (HRA):** HRA aims to avoid any new “plan” or “project” proposal having a significant effect on certain protected sites.

- **Internal Drainage District (IDD):** Drainage districts are typically found in low-lying land where boundaries are determined by physical, not, political attributes. Drainage districts are at risk from various sources of flooding. Without flood risk and water level management, drainage districts would be unsuitable to live in and would not protect and provide for the variety of agricultural land, utilities and transport networks that have developed within their boundaries.

- **Land Drainage Act (1991):** An Act to consolidate the enactments relating to internal drainage boards, and to the functions of such boards and of local authorities in relation to land drainage.

- **Local Development Plan (LDP):** Sets an overarching land-use and development strategy, along with a policy framework and site-specific allocation for a range of development types.

- **Lead Local Flood Authority (LLFA):** Local Authority (the County Council or County Borough Council) for the area as defined in the Flood and Water Management Act.

- **Likelihood:** A term describing the chance of something happening, normally in terms of very low, low, medium or high likelihood, and with the everyday phrases 'possible but not expected', 'possible', 'probable' and 'expected'. Can also be expressed as a percentage, e.g. 1% chance of flooding each year.

- **Local Flood Risk:** Defined within the Flood and Water Management Act 2010 as flood risk from surface runoff, groundwater and ordinary watercourses.

- **Local Flood Risk Management Strategy (LFRMS):** Section 10 of the Flood and Water Management Act 2010 requires Local Flood Risk Management Strategies to be prepared by Lead Local Flood Authorities setting out how they will manage local flood risks within their areas.

- **Local Resilience Forum:** A group required under the Civil Contingencies Act, 2004, who are responsible for the coordination of emergency planning in local areas.

- **Main River:** A watercourse shown as such on the Main River Map, and for which Natural Resources Wales has responsibilities and powers to mitigate flood risk.

- **National Strategy for Flood and Coastal Erosion Risk Management:** A requirement of Section 8 of the Flood and Water Management Act 2010 for the Welsh Government to produce, which sets the direction and objectives for managing flood and coastal erosion risks in Wales.

- **Natural Flood Management:** Natural flood management (NFM) involves working with nature to reduce the risk of flooding for communities through restoring or mimicking the natural functions of rivers, floodplains and the wider catchment. It aims to store water in the catchment and slow the rate at which water runs into rivers, to help reduce flooding downstream. NFM is also often referred to as 'working with natural processes' or 'nature-based solutions'.

- **Natural Resources Wales:** A Welsh Government sponsored body formed in April 2013, largely taking over the functions of the Countryside Council for Wales, Forestry Commission Wales and the Environment Agency (Wales).

- **Ordinary Watercourse:** All watercourses that are not designated as Main River.

- **Outline Business Case (OBC):** The 'intermediate' business case and second stage in the development of a business case for a significant project, which identifies the

option offering best public value for spend and puts in place the arrangements for successful delivery.

- **Planning Policy Wales (PPW):** Sets out the Welsh Government's land use planning policies and is supplemented by a series of Technical Advice Notes (TANs).

- **Pre-feasibility Studies**: Used to assess the viability of a range of project options and ensure that future investment decisions are made on a consistent, prioritised basis.

- **Preliminary Flood Risk Assessment (PFRA):** As required by the Flood Risk Regulations 2009 a preliminary flood risk assessment is a high-level assessment of local flood risk and historic and potential floods to help identify where future floods may cause a risk.

- **Property Flood Resilience (PFR):** A way of managing flooding which work alongside traditional engineered defences and natural flood management. PFR measures can help to prevent flood water ingress into a building or aid rapid recovery following a flood event. Can include measures such as flood doors, demountable barriers, sealed air bricks, non-return valves etc.

- **Risk Management Authority (RMA):** A Welsh Risk Management Authority is defined in Section 6 of the Flood and Water Management Act 2010 as NRW; a Lead Local Flood Authority; a district council for an area where there is no unitary authority, or a highway authority wholly in Wales; an internal drainage board for an internal drainage district that is wholly or mainly in Wales; a water company that exercises functions in relation to an area in Wales.

- **River Basin Management Plan (RBMP):** Under the Water Framework Directive, a management plan is required for each River Basin District. The RBMP describes the challenges that threaten the water environment and how these challenges can be managed and funded.

- **Risk:** Measures the significance of a potential event in terms of likelihood and impact. In the context of the Civil Contingencies Act 2004, the events in question are emergencies.

- **Risk Assessment:** A structured and auditable process of identifying potential significant events, assessing their likelihood and impacts and then combining these to provide an overall assessment of risk to inform further decisions and actions.

- **South East Wales Flood Risk Management Group (SEWFRMG):** Regional working group established across South East Wales Local Authorities to facilitate best practice, consistency in interpretation and collaborative working.

- **Strategic Environmental Assessment (SEA):** A legal requirement in the UK for certain plans and programmes stipulated by the SEA Directive (2001/42/EC), to undergo Strategic Environmental Assessment (SEA). The SEA Directive is

implemented in Wales by the Environmental Assessment of Plans and Programmes (Wales) Regulations 2004 (SI 2004No. 1656, W170). The purpose of SEA is to provide for a high level of protection of the environment, to ensure the integration of environmental considerations into the preparation and adoption of plans and programmes, and to contribute to the promotion of sustainable development and environmental protection.

- **Sewer:** An artificial conduit, usually underground, for conveying sewage (a foul sewer) or rainwater (a storm sewer) or both (a combined sewer).

- **Shoreline Management Plans (SMPs):** A large-scale assessment of the risks associated with coastal processes and helps reduce these risks to people and the developed, historic, and natural environments.

- **Strategic Flood Consequences Assessment (SFCA):** Provides the evidence to inform policies and site selection processes for all strategic and local development plans.

- **Strategic Outline Business Case (SOC):** The first stage in the development of a business case for a significant project, which makes the strategic case for change and appraises the available options.

- **Sustainable Drainage Systems (SuDS):** Surface water management features which helps to deal with excesses of water by mimicking natural drainage processes.

- **Sustainable Drainage System Approval Body (SAB):** A statutory function under the Flood and Water Management Act 2010 for the Local Authority to ensure that drainage proposals for all new development of more than a single dwelling or over 100m² of construction area is fit for purpose, designed and built in accordance with the National Standards for Sustainable Drainage published by Welsh Ministers.

- **Surface Water Flooding:** In the urban context, usually means that surface water runoff rates exceed the capacity of drainage systems to remove it. In the rural context, it is where surface water runoff floods something or someone.

- **Surface Water Runoff:** This occurs when the rate of rainfall exceeds the rate that water can infiltrate the ground or soil.

- **Technical Advice Note 15 Development, flooding and coastal erosion:** Supports Planning Policy Wales and makes it clear how local authorities should make decisions about different types of development on flood plains, providing clear tests for justification and acceptability of flooding consequences, and enabling the consideration of risks over the lifetime of the new development.

- **Water Framework Directive (WFD) 2000:** An important piece of environmental legislation which aims to improve water quality. It applies to rivers, lakes, groundwater, estuaries and coastal waters.

- **Water Resources Act 1991:** An Act of Parliament that regulates water resources, water quality and pollution, and flood defence.

- **Water Resource Management Plan**: A statutory requirement under the Water Industry Act 1991 for water companies to produce once every 5 years, and which plays a crucial role in securing the public water supply for the region.

- **Welsh Local Government Association (WLGA):** Represents the interests of Local Authorities in Wales. The three fire and rescue authorities, four police authorities and three national park authorities are associate members.

- **Wider benefits:** Wider benefits help to deliver the Wellbeing of Future Generations objectives providing additional gain. In the context of this Strategy, those gains or benefits would be through the delivery of flood and coastal erosion risk management. This means that aside from reducing the flood or coastal erosion risk to a community, a scheme may deliver other benefits such as recreation, tourism and/or biodiversity.